

PARTICIPANTS

- CDFW
- DWR
- NMFS
- SWRCB
- USBR
- USFWS
- Kearns & West

ACTION ITEMS

- CDFW to share SLS 3 catch data once processing is complete.
- SMT members to discuss a new PTM run request at the next meeting.

MEETING SUMMARY

PART 1: Updates on Water Operations and Biological Updates

SMT members confirmed that larval fish sampling would begin this year at the Tracy Fish Collection Facility on February 15th and at the Skinner Fish Facility on February 22nd.

Relevant Actions & Triggers

USBR reported on the OMR management measures currently in effect and whether they have been triggered; CDFW reported on the ITP Conditions of Approval that are currently in effect and whether they have been triggered. Those measures with yellow background are those that are in effect but not triggered; in green are triggered measures; in grey are measures that are no longer relevant. The descriptions below are intended as summaries and do not provide all the details related to each action or trigger. For full descriptions, please see the OMR guidance document or ITP as relevant.

Proposed Action

OMR Management Measures	Requirement	Time Frame	Trigger	Triggered?
Integrated Early Winter Pulse Protection (“First Flush” Turbidity Event)	Reduce exports for 14 consecutive days so that the 14-day averaged OMR index for the period shall not be more negative than -2,000 cfs	Dec 1 to Jan 31	(1) Running three-day average of daily flows at Freeport >25,000 cfs; and (2) Running three-day average of daily turbidity at Freeport ≥50 NTU ¹ ; or (3) Real-time monitoring indicates a high risk of migration and dispersal into areas at high risk of	No

¹ The current instrumentation measures turbidity in Formazin Nephelometric Units (FNU).

OMR Management Measures	Requirement	Time Frame	Trigger	Triggered?
			future entrainment or a spent delta smelt has been collected in monitoring surveys.	
OMR Management	Manage to a more positive OMR than -5,000 cfs	From the onset of OMR management to the end		Yes (initiated on 1/1/2021 for salmon)
Turbidity Bridge Avoidance ("South Delta Turbidity")	If the daily average turbidity at Bacon Island cannot be maintained less than 12 NTU, manage exports to achieve an OMR no more negative than -2,000 cfs until the daily average turbidity at Bacon Island drops below 12 NTU.	After the first flush or Feb 1 (whichever comes first) and until a ripe or spent female is detected or April 1 (whichever is first)	Average daily turbidity in Old River at Bacon Island (OBI) at a level of more than 12 NTU.	No
Larval and Juvenile Delta Smelt	Run hydrodynamic models and forecasts of entrainment, informed by the EDSM or other relevant survey data to estimate the percentage of larval and juvenile delta smelt that could be entrained. If necessary, manage exports to limit entrainment to be protective based on the modeled recruitment levels.	On or after March 15 of each year until off-ramp criteria are met	If QWEST is negative AND larval or juvenile delta smelt are within the entrainment zone of the pumps based on real-time sampling of spawning adults or young of year life stages	No

ITP Conditions of Approval

Condition of Approval	Requirement	Time Frame	Trigger	Triggered?
8.1.5.2 (Smelt Monitoring Team Risk Assessment)	Outlines contents for weekly risk assessments of Delta Smelt and Longfin Smelt required under 8.1.5 and 8.1.1	Nov 1 st through June 30 th or until off-ramped by 8.8		Yes
8.3.1 (Integrated Early Winter Pulse Protection)	Reduce south Delta exports for 14 consecutive days to maintain a 14-day average OMR index no more negative than -2,000 cfs, and convene the Smelt Monitoring Team	Dec 1 to Jan 31	Three day running average daily flows at Freeport greater than, or equal to, 25,000 cfs, AND Three day running average of daily	No

Condition of Approval	Requirement	Time Frame	Trigger	Triggered?
	within one day of triggering. After maintaining a 14-day average OMR index no more negative than -2,000 cfs for 14 days, Permittee shall maintain a 14-day average OMR index no more negative than -5,000 cfs, initiating the OMR Management season.		turbidity at Freeport is greater than, or equal to, 50 FNU OR The Smelt Monitoring Team determines that real-time monitoring of abiotic and biotic factors indicates a high risk of DS migration and dispersal into areas at high risk of future entrainment.	
8.3.3 (Adult Longfin Smelt Entrainment Protection)	After December 1, if an Integrated Early Winter Pulse Protection (Condition of Approval 8.3.1) has not yet initiated, Permittee shall reduce south Delta exports to maintain a 14-day average OMR index no more negative than -5,000 cfs and initiate OMR Management if: Cumulative expanded salvage, Dec 1 st through Feb 28 th , exceeds most recent FMWT Index divided by 10, or SMT determines that there is a high risk of entrainment.	Dec 1 through Feb 28 th	Salvage threshold is three Longfin Smelt for WY 2021.	No
8.4.1 (OMR Management for Adult Longfin Smelt)				Off-ramped due to detection of Longfin Smelt larvae on December 28 th
8.4.2 (Larval and Juvenile Longfin Smelt Entrainment Protection)	If triggered, it will restrict south Delta exports for seven consecutive days in order to maintain a seven-day average OMR index no more negative than -5,000 cfs and convene the SMT to recommend an OMR flow limit between -1,250 and -5,000 cfs.	January 1 st through June 30 th or until the temperature offramp occurs	(1) Longfin Smelt larvae or juveniles are found in four or more of the 12 SLS or 20 mm stations in the central or south Delta, Or (2) Longfin Smelt catch per tow exceeds five larvae or juveniles in two or more of the 12 stations in the central or south Delta. The relevant stations are: 809, 812, 815, 901, 902, 906, 910, 912, 914, 915, 918 and 919	Yes (1/26, 2/2)
8.4.3 High flow offramp for Longfin Smelt	If triggered, Conditions of Approval 8.4.1 and 8.4.2 are not required or would cease if previously required.	Throughout OMR management	When river flows are (a) greater than 55,000 cfs in the Sacramento River at Rio Vista or (b) greater than 8,000 cfs in the San Joaquin	No

Condition of Approval	Requirement	Time Frame	Trigger	Triggered?
			River at Vernalis. If flows subsequently drop below 40,000 cfs in the Sacramento River at Rio Vista or below 5,000 cfs in the San Joaquin River at Vernalis, the OMR limit previously required as a part of Conditions of Approval 8.4.1 and 8.4.2 shall resume.	
8.5.1 Turbidity Bridge Avoidance	maintain daily average turbidity in Old River at Bacon Island (OBI) at a level of less than 12 NTU. If the daily average turbidity at OBI is greater than 12 NTU, Permittee shall restrict south Delta exports to achieve an OMR flow that is no more negative than -2,000 cfs until the daily average turbidity at OBI is less than 12 NTU.	After the first flush or Feb 1 until end of OMR management or until CDFW is in agreement that the action may be ended or modified.	Turbidity at OBI > 12 FNU	No
8.5.2 (Larval and Juvenile Delta Smelt Protection)	If triggered, this Condition of Approval will restrict south Delta exports for seven consecutive days in order to maintain a seven-day average OMR index no more negative than -5,000 cfs and SMT members will meet to assess the risk of entrainment. The SMT may provide further advice to restrict exports in order to maintain an OMR index more positive than -5,000 cfs. In their assessment, SMT members will determine if risk of entrainment is low, medium, or high; subsequent OMR restrictions will be based on level of risk. Furthermore, if salvage of Delta Smelt exceeds 11 in three days, this Condition of Approval will restrict south Delta exports for seven consecutive days in order to maintain a seven-day average OMR index no more negative than -3,500 cfs.	Nov 1 st through June 30 th or until off-ramped by 8.8	When the five-day salvage of juvenile Delta Smelt is greater than or equal to one plus the average prior three years' FMWT index (rounded down). The threshold for this year is one.	No
8.12 (Barker Slough Pumping Plant Longfin and Delta)	Barker Slough Pumping Plant will reduce exports so the maximum 7-day average is <60 cfs.	From January 15 through March 31 in dry and critical water	Larval Smelt are detected at SLS Station 716 during the period identified for each species, and/or when recommended by the SMT	Yes, for Longfin Smelt (1/19/21, 2/2/21)

Condition of Approval	Requirement	Time Frame	Trigger	Triggered?
Smelt Protection)		years for Longfin Smelt, and from March 1 st through June 30 th for Delta Smelt		

Current Operations & Outlook

USBR and DWR shared operations updates from the Outlook. Their observations included:

- USBR CVO reported that a mild to moderate storm event is anticipated later this week (Thursday to Sunday), with some valley floor precipitation and snow at higher elevations.
- Releases from Whiskeytown Dam on Clear Creek are currently 200 cfs with no anticipated changes.
- Releases on the Sacramento River from Keswick Dam are currently at minimum winter flows of 3,250 cfs; USBR does not anticipate changes.
- American River releases from Nimbus Dam are at 950 cfs. Discussions are ongoing regarding a potential reduction to the minimum reservoir releases of 850 cfs.
- Releases from Goodwin Dam on the Stanislaus River are currently at 400 cfs to address electrical conductivity concerns at Vernalis. There is the potential to integrate a February instability flow (over two days, 200 to 950 cfs), ideally coinciding with a storm, but plans have not been confirmed.
- Jones Pumping Plant exports are currently at 1,900 cfs; CVO will look for opportunities to increase exports if possible.
- The Delta Cross-channel Gates are currently closed and are not expected to open for any water quality requirements this week; construction activities on the gates remain ongoing. DCC gates will remain closed until mid-May per the PA and D-1641 criteria.
- DWR reported that Feather River releases are at 1,250 cfs with no anticipated changes.
- Freeport flows were 11,000 cfs yesterday and will continue to decrease over the next couple of days.
- Vernalis flows ranged between 1,300 and 1,400 cfs yesterday and will increase by 100 to 200 cfs in the coming days.
- Clifton Court inflows were 2,000 cfs over the weekend and 3,700 cfs today (February 9th).
- If Sacramento River flows at Freeport remain the same and the upcoming storm does not produce any substantial in-Delta precipitation, the Project's Delta operations will continue to target exports that maintain a minimum running 3-day Delta outflow of 7,100 cfs to meet the Collinsville electrical conductivity/ X2 requirement.
- The OMR index is currently around -4,500 cfs and is anticipated to be closer to -3,500 cfs if Freeport flows remain around 10,500 cfs. OMR Index values will become more negative if Freeport flows increase or in-Delta precipitation leads to increased exports. If exports increase by 1,500 to 2,000 cfs, OMR Index values will approach -5,000 cfs.
- QWEST was near zero yesterday, -2000 cfs today, and will be near -1,000 cfs tomorrow.
- Turbidity is less than 12 FNU in the central and south Delta and less than 20 FNU in the north Delta (Sacramento River). The upcoming storm event is not anticipated to increase turbidity in the central and southern Delta.

Review of Environmental Conditions and Survey Updates

CDFW shared survey updates.

- Spring Kodiak Trawl (SKT) survey 2 sampled last week (February 1st to 5th).
 - Zero Delta Smelt were collected.
 - One Longfin Smelt was detected at Station 501 in Suisun Bay (78 mm).
- Smelt Larva Survey (SLS) 2 processing is complete. CDFW circulated catch data to SMT members via email.
- SLS 3 is sampling this week (February 8th to 10th). Six of twelve central and south Delta stations have been processed so far.
 - Zero Delta Smelt were collected.
 - Station 809: 11 Longfin Smelt (7 to 10 mm).
 - Station 812: One Longfin Smelt (7 mm).
 - Stations 815, 906, 910, and 915: Zero Longfin Smelt detected.
 - Results from Station 716 (Barker Slough; being sampled today) are anticipated by the end of the week.
- The Bay Study resumed sampling on February 4th and will continue through February 16th.

USFWS reported on the Enhanced Delta Smelt Monitoring (EDSM) Program.

- Zero Delta Smelt were detected last week (February 1st to 4th), so there was no abundance estimate generated.
- Last week, 34 Longfin Smelt were detected:
 - 7 in Suisun Marsh (57 to 83 mm, no expression)
 - 25 in Suisun Bay strata (61 to 107 mm; one at 80 mm was expressing eggs)
 - 2 in the lower San Joaquin strata (both 80 mm; one expressing eggs)
- Two crews will be on the water this week (February 8th to 12th) and three crews will be sampling next week. One EDSM crew continues to assist with Fish Culture and Conservation Laboratory (FCCL) Broodstock Collection.
- Crews are sampling the lower San Joaquin and Cache Slough strata today. The western Delta strata will not be sampled this week.
- Six Longfin Smelt (86 to 104 mm) were detected by the Chipps Island Trawl last week (February 2nd to 8th). All fish were transferred to FCCL.

CDFW provided a salvage update (February 1st to 5th).

- No salvage of Delta Smelt or Longfin Smelt.
- There were no power outages or stoppage in pumping or salvage counts during this period.

USBR shared water quality data (three-station average daily water temperature as of February 8th was 11.25°C; daily average turbidity at Old River at Bacon Island (OBI) was 3.32 FNU and is currently 2.70) and the seven-day weather forecast for Antioch (mostly cloudy to clear with a 60 percent chance of rain (0.1 to 0.25 inches) Thursday and a chance of showers into the weekend; winds from the W to S below 8 mph). X2 is >82 km, with estimated X2 for the Sacramento River at 84.5 km and the San Joaquin River at 85.0 km.

PART 2: Open Discussion on Species Status (Structured-Unstructured Time)

SMT members discussed the results of the particle tracking model (PTM) run requested on February 2nd (Appendix A) and how it could inform the likelihood of entrainment for Longfin Smelt.

- CDFW noted that the projected OMR Index (-3,500 cfs) prior to the arrival of the upcoming storm is bounded by the two PTM scenarios (OMR Index values of -2,500 and -4,000 cfs), thus basing this week's Longfin Smelt assessment on this PTM run is valid.
- CDFW observed that SLS catch data indicates decreased larval Longfin Smelt densities in the central Delta, likely due to a flushing effect from the recent substantially positive QWEST values. However, the presence of a ripe female Longfin Smelt in the lower San Joaquin River suggests spawning may still occur in this region. Furthermore, QWEST is no longer positive and thus no longer mitigating against more negative OMR Index values.
- SMT members agreed to retain the lower export scenario from last week's ITP Risk Assessment (-2,500 cfs) and that risk for Longfin Smelt at this OMR Index value remains moderate.
- USFWS suggested that losses might be compounded over time and weekly assessments will not reflect losses at a monthly scale.
- DWR asked if the PTM results incorporate the observed QWEST values (i.e., starting positive and becoming negative).
 - DWR confirmed that the modelled QWEST values are aligned with actual values and current projections.
- USFWS proposed that an OMR Index of -3,000 cfs represents a high-risk scenario for Longfin Smelt due to the loss of the QWEST mitigating effect and critical water year conditions shifting X2 farther upstream (thus Longfin Smelt will spawn farther upstream).
- DWR suggested that the latest distribution data supports a moderate risk for an OMR Index of -3,500 cfs but agreed that negative QWEST supports higher risk.
- CDFW recommended classifying an OMR Index of -5,000 cfs as high risk for Longfin Smelt in the lower San Joaquin River, given the life history of Longfin Smelt, QWEST being near zero, and spawning distribution shifting higher upstream in a critical year. In addition, as discussed in the January 29th SMT meeting, entrainment events have occurred in previous years at an OMR Index of -5,000 cfs and neutral QWEST flows.
- CDFW noted that if Longfin Smelt were to spawn in the lower San Joaquin River now that QWEST is more negative, risk of entrainment would be greater than what is portrayed in the PTM run. This supports classifying an OMR Index of -3,500 cfs as a high-risk scenario.
- CDFW pointed out that this risk could be mitigated if the upcoming storm results in substantially more positive QWEST flows.
- CDFW agreed that an OMR Index of -3,500 cfs should be considered high risk, and supported a more cautious approach since the processing of SLS 3 stations is not yet complete, thus current Longfin Smelt larval distribution is uncertain.
- DWR recommended the SMT consider how to track their application of PTM results in developing risk assessments going forward.

PART 3: Live-edit Assessments

ITP Longfin Smelt Risk Assessment

CDFW reiterated that the OMR Index is projected to be -3,500 cfs, which the group agreed to classify as a high-risk scenario. CDFW asked if the SMT should therefore provide advice to reduce exports.

- CDFW suggested that if current Longfin Smelt larval distribution was similar to densities observed in SLS 2, advice might be warranted, but without the SLS 3 catch data, advice could not be adequately formulated.

- State Board recommended that an OMR Index of -3,500 cfs represent the demarcation between “high risk” and “higher risk”.
- SMT members agreed to indicate that an OMR Index less negative than -3,500 cfs would be moderate risk while an OMR Index more negative than -3,500 cfs represents high risk.
- DWR recommended removing the -5,000 cfs risk bin, given any OMR Index values more negative than -3,500 cfs are already classified as high risk and the PTM run scenario uses an OMR Index of -4,000 cfs.
- SMT members agreed to remove the -5,000 cfs risk bin, and also agreed that interpolation between PTM scenarios was appropriate.

CDFW summarized the group’s assessment for Longfin Smelt in the central Delta: the OMR Index is expected to be around -3,500 cfs; risk is moderate for OMR Index values more positive than -3,500 cfs; OMR Index values more negative than -3,500 cfs represent a high-risk scenario; positive QWEST values provided a flushing effect that reduced larval density in the lower San Joaquin River (i.e., SLS Stations 809, 812, and 815); the presence of a ripe female in the lower San Joaquin River indicates that spawning is ongoing, but newly hatched larvae in this region will not benefit from the flushing effect unless QWEST becomes substantially positive. In addition, the SMT is not providing a recommendation to operate to a specific OMR Index, but an OMR Index value more negative than -3,500 cfs could lead to a future salvage event.

CDFW suggested SMT members consider reconvening later this week if additional Longfin Smelt larvae are detected and if the OMR Index value becomes more negative.

CDFW noted that until new detection data is available, Condition of Approval 8.12 (Barker Slough) remains in effect. The SMT will reassess this Condition of Approval next week.

CDFW recommended postponing the next PTM run request to the next SMT meeting, as there was not sufficient information to justify a new request.

Proposed Action Weekly Evaluation of Delta Smelt, including Distribution, Abiotic Conditions, Risk Assessment Questions, and Executive Summary

USBR reviewed updates to the assessment, which largely focused on the latest detection data and anticipated changes in conditions (including turbidity, OMR Index, and QWEST values). Edits included:

- In the turbidity section, SMT members added language specifying that turbidity is now below 12 FNU at all central and south Delta stations.
- In the other environmental conditions section, SMT members added language noting that environmental conditions are expected to change based on the volume of precipitation received from the upcoming storm event and associated increases of in-river flow.

The group reviewed the relevant assessment questions: (1) Between December 1 and January 31, has any first flush condition been exceeded? (2) Do Delta Smelt have a high risk of migration and dispersal into areas at high risk of future entrainment? (3) Has a spent female been collected? (4) If OMR of -2,000 cfs does not reduce daily average OBI turbidity below 12 NTU/FNU, what OMR target is deemed protective between -2,000 and -5,000 cfs? (5) If daily average OBI turbidity is greater than 12 NTU/FNU, what do other station locations show? (6) If daily average OBI is greater than 12 NTU/FNU, is a turbidity bridge avoidance action not warranted? What is the supporting information?

- There were no changes to the responses to questions one and two.
- The responses to questions three and four were updated to reflect the latest data.
- The response to question five was updated to remove references to the recent turbidity event.

- The response to question six was updated to note a turbidity bridge avoidance action is not expected to be warranted in the next seven days.

USBR reviewed updates to the Executive Summary:




- The SMT agreed to add language noting turbidity at OBI is unlikely to reach 12 FNU in the upcoming week.
- The SMT agreed to replace language stating the projected OMR Index limits are sufficiently protective and with language noting more negative OMR Index values increase the likelihood of entrainment. The overall probability of Delta Smelt moving into the south Delta remains low, however.

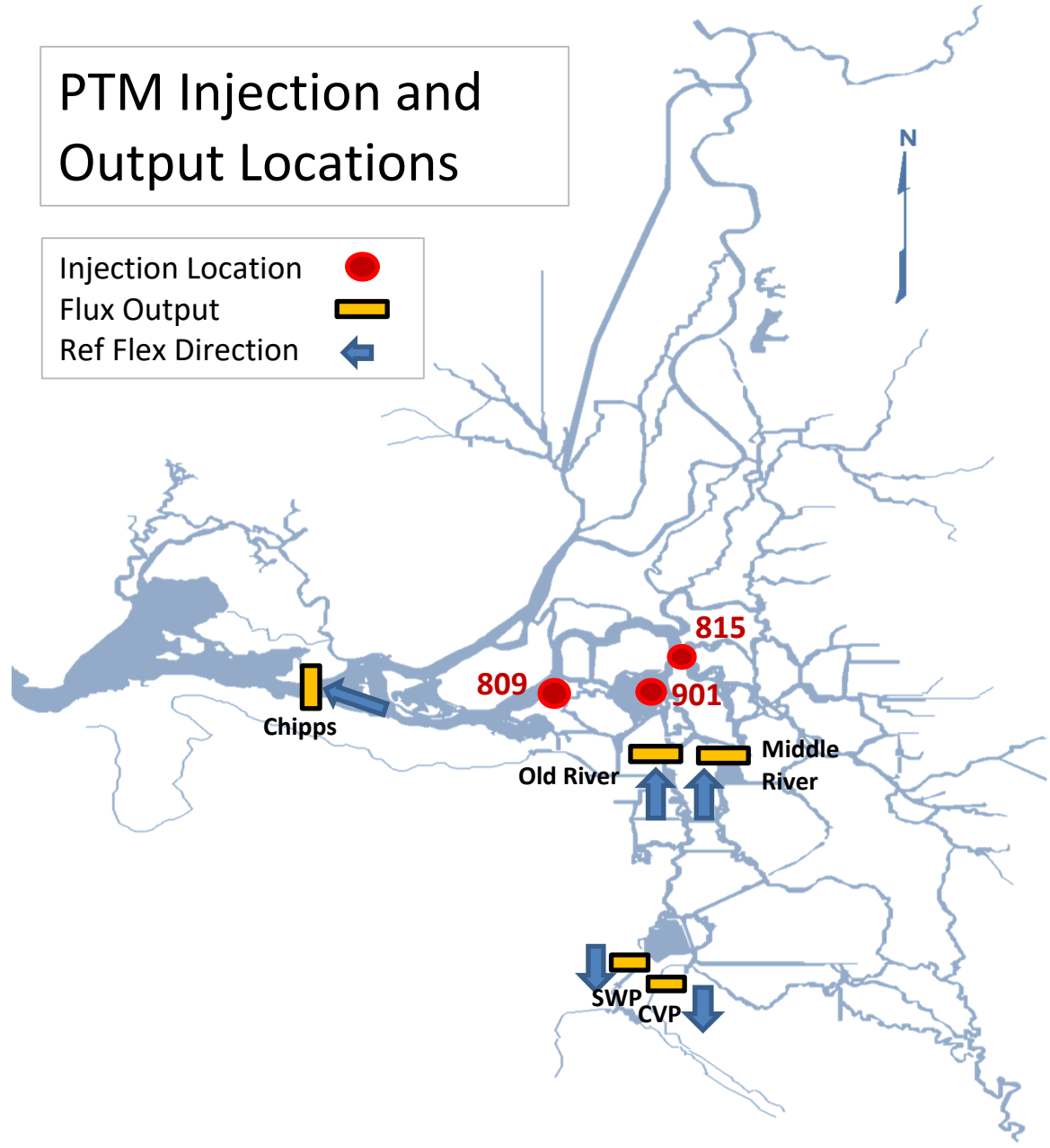
No non-consensus issues were identified.

Additional Considerations/Discussion

Agencies reported no items for elevation to WOMT.

PTM Injection and Output Locations

- Injection Location 
- Flux Output 
- Ref Flex Direction 



End of Week Summary

Particles Injected
2/2/2021

1 Week (02-09-2021)

		Particles Entrained by Projects	Particles in OMR Corridor	Particles Passed Chipps
809	-2500 cfs OMR	0%	0%	3%
	-4000 cfs OMR	0%	1%	2%
815	-2500 cfs OMR	0%	2%	0%
	-4000 cfs OMR	0%	5%	0%
901	-2500 cfs OMR	0%	19%	0%
	-4000 cfs OMR	6%	32%	0%

2 Weeks (02-16-2021)

		Particles Entrained by Projects	Particles in OMR Corridor	Particles Passed Chipps
809	-2500 cfs OMR	0%	1%	23%
	-4000 cfs OMR	1%	2%	16%
815	-2500 cfs OMR	1%	6%	2%
	-4000 cfs OMR	5%	12%	1%
901	-2500 cfs OMR	9%	19%	2%
	-4000 cfs OMR	31%	19%	1%

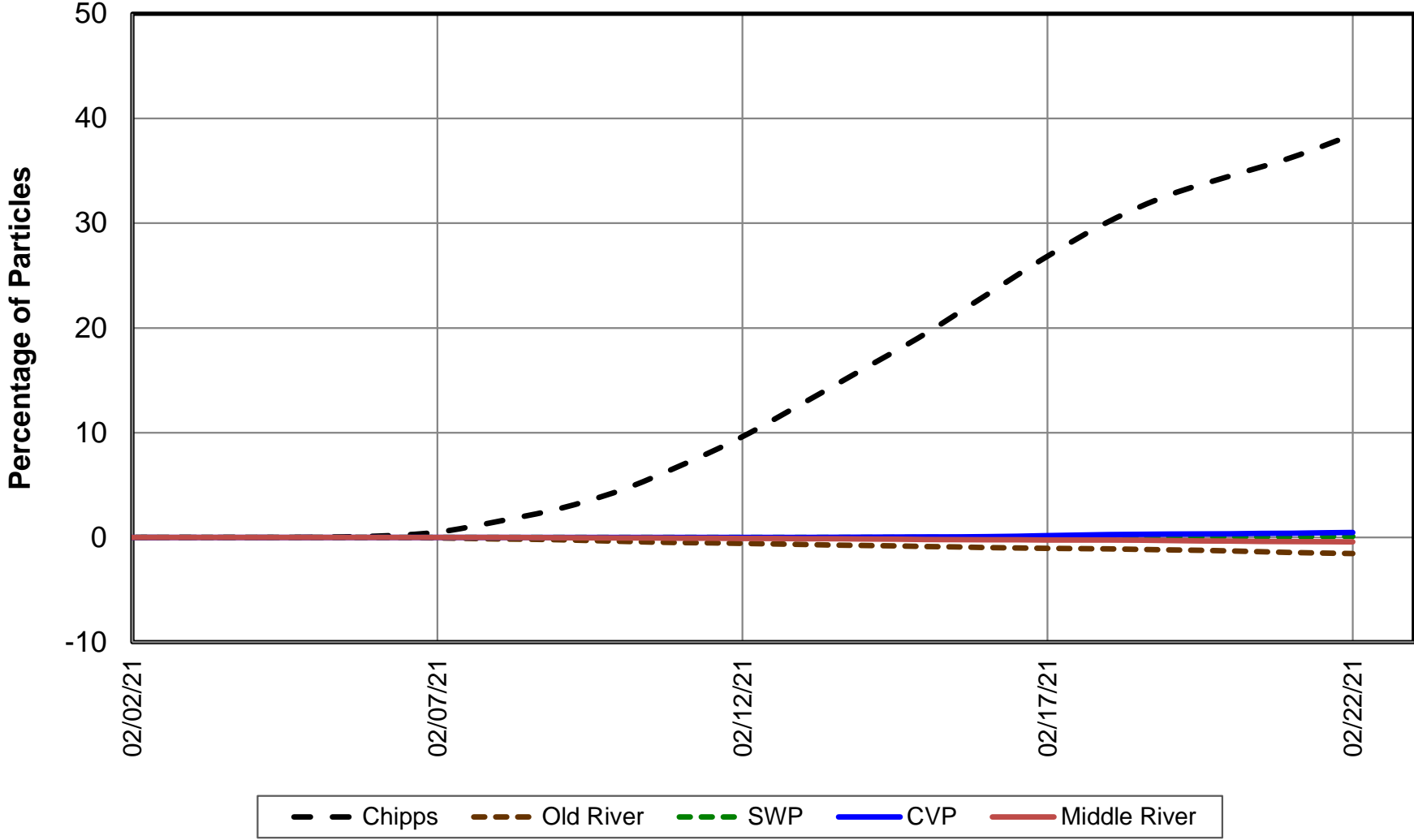
3 Weeks (02-22-2021)

		Particles Entrained by Projects	Particles in OMR Corridor	Particles Passed Chipps
809	-2500 cfs OMR	1%	1%	38%
	-4000 cfs OMR	3%	2%	26%
815	-2500 cfs OMR	4%	7%	6%
	-4000 cfs OMR	15%	11%	3%
901	-2500 cfs OMR	18%	15%	8%
	-4000 cfs OMR	44%	11%	4%

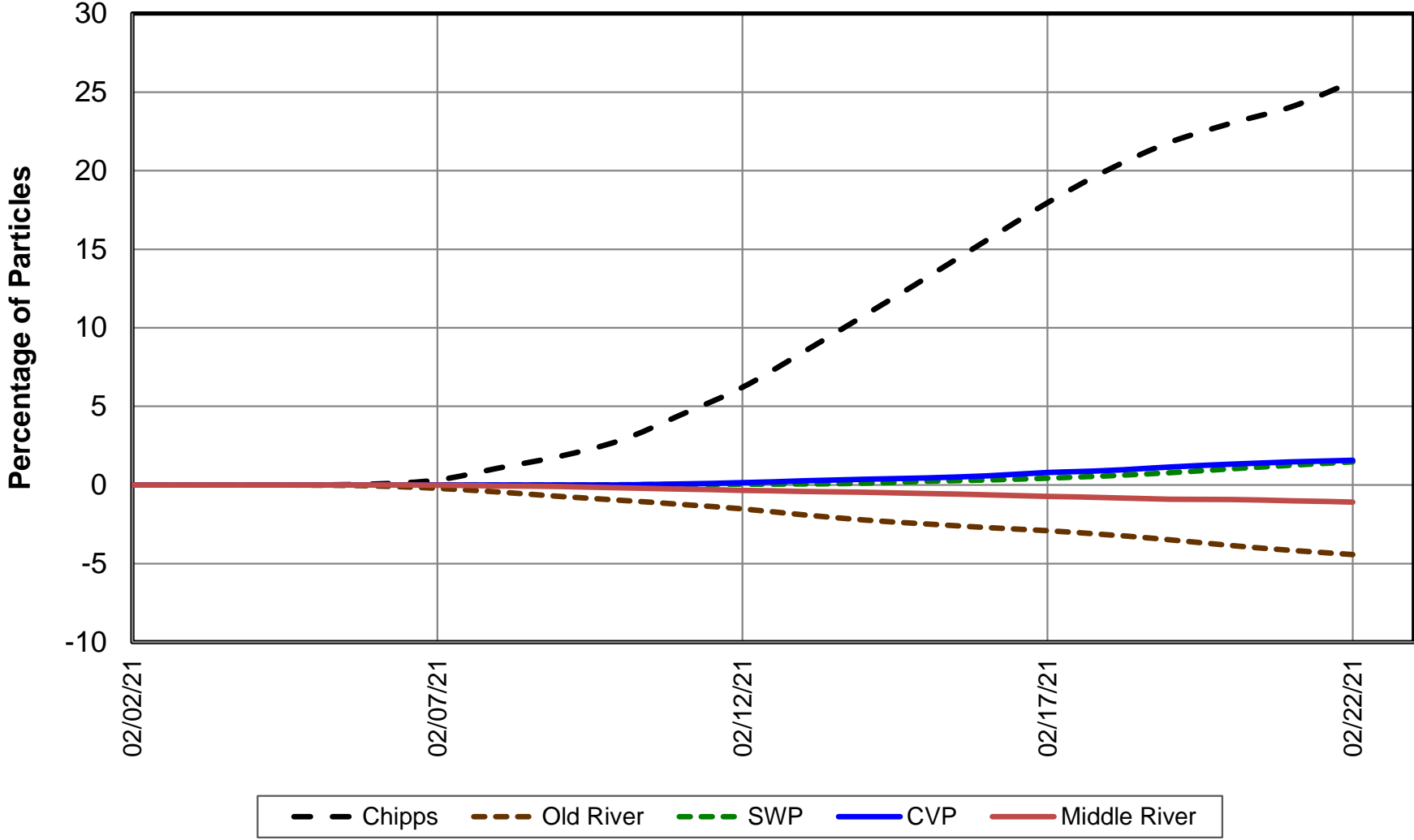
Notes:

- 1 Particles Entrained by Projects is the sum of CVP and SWP flux
- 2 Particles in OMR Corridor is the sum of Old River Flux and Middle River Flux minus Particles Entrained by Projects
- 3 Particles Passed Chipps is the chipps flux

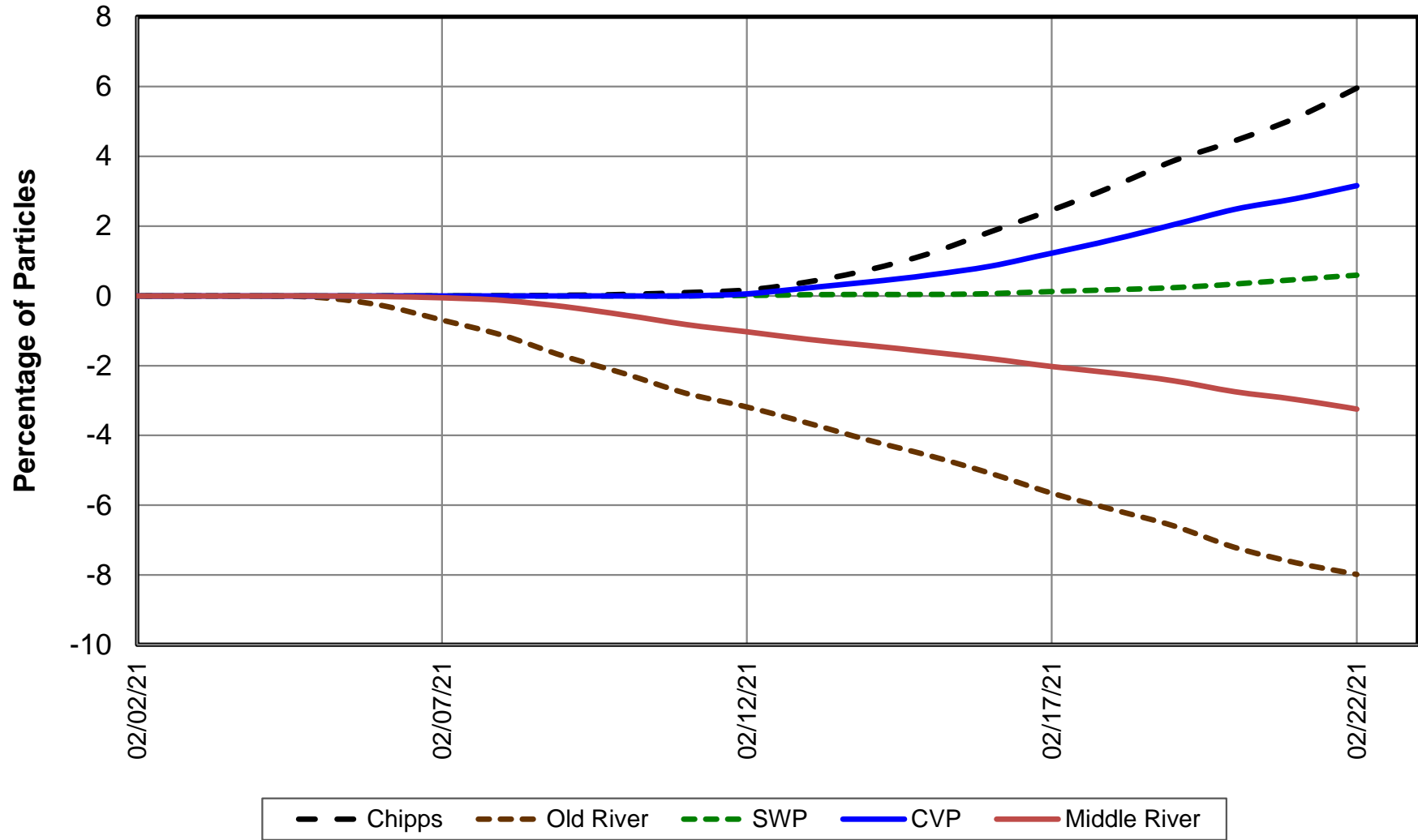
-2500 cfs OMR Case, Particles inserted at Sampling Site 809 on 02-02-2021



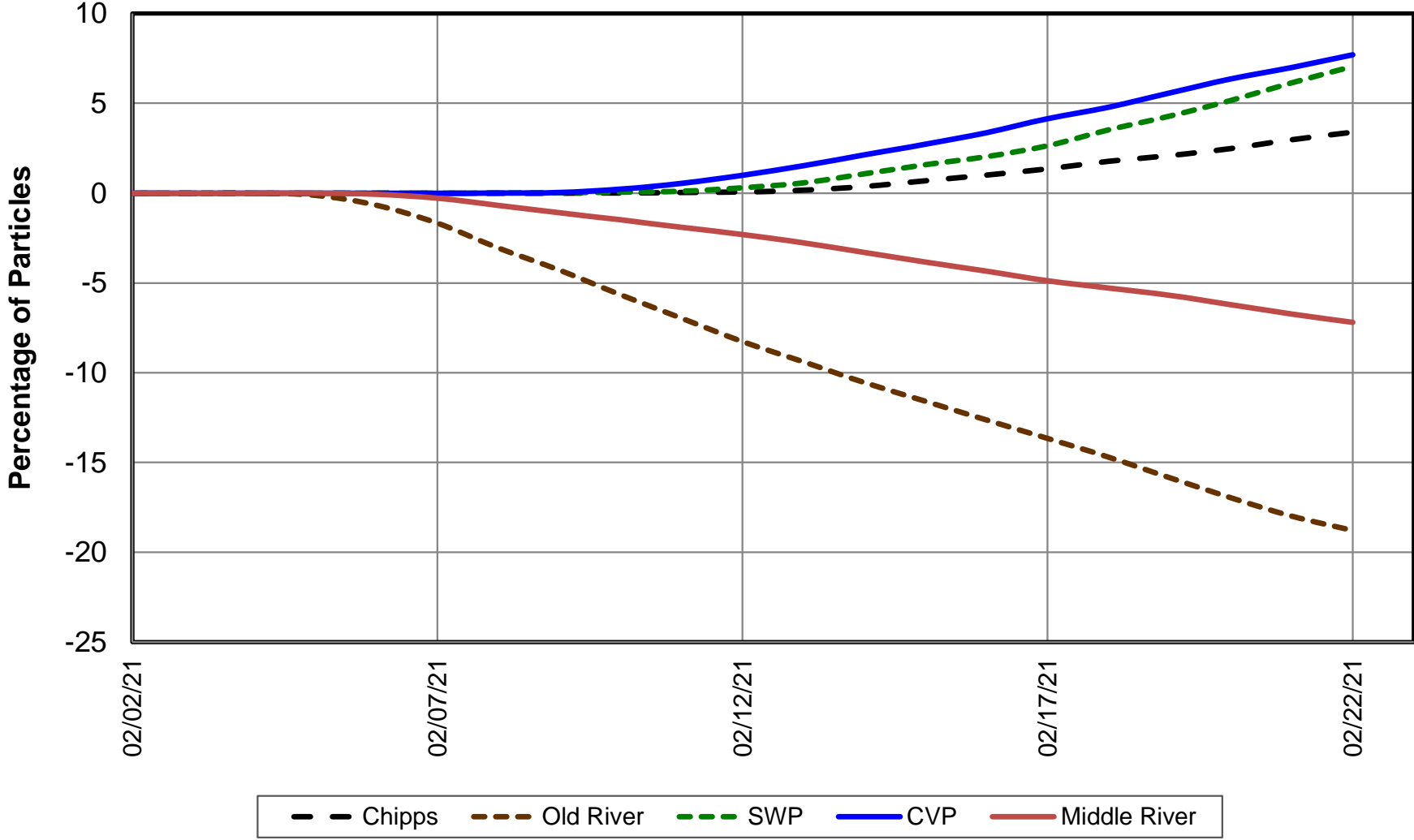
-4000 cfs OMR Case, Particles inserted at Sampling Site 809 on 02-02-2021



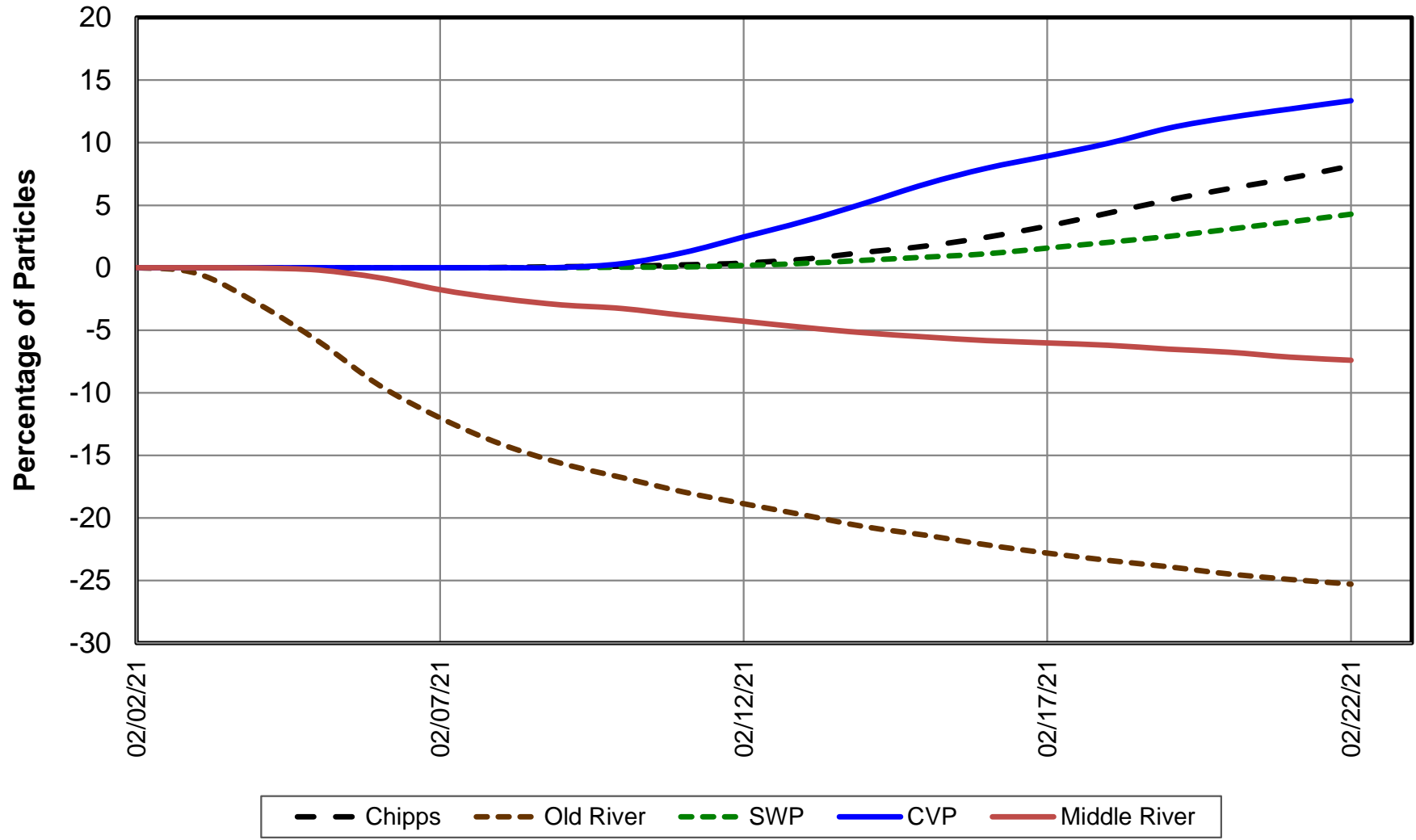
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-4000 cfs OMR Case, Particles inserted at Sampling Site 815 on 02-02-2021



-2500 cfs OMR Case, Particles inserted at Sampling Site 901 on 02-02-2021



-4000 cfs OMR Case, Particles inserted at Sampling Site 901 on 02-02-2021

