

Smelt Working Group  
April 4, 2016

**Meeting Summary**

The Working Group agreed that given present distribution, current salvage, and Delta conditions, there was no indication that the projected combined exports of approximately 1500 cfs for the week (potentially resulting in daily average OMR flows of approximately -1800 cfs) need to be modified for the protection of Delta Smelt adults and larvae.

The Working Group discussed the risk of entrainment under the Service-provided advice framework. Under this framework the relative risk of entrainment for OMR flow ranges is discussed and assessed. For the current week, the risk of entrainment of larval and juvenile Delta Smelt for each of the flow ranges is characterized as follows:

- -1250 to -2000 cfs has a low risk of entrainment,
- -2000 to -5000 cfs has a medium to high risk of entrainment.

This entrainment risk assessment would change, should exports levels change from what was reported for the week (1500 cfs resulting in -1800 cfs OMR).

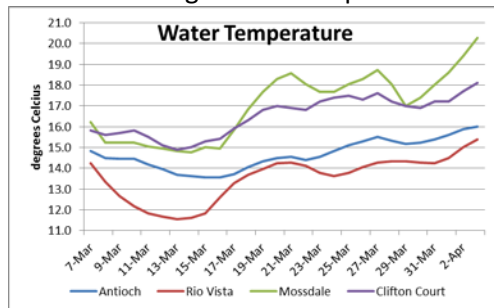
The Working Group is following guidance for entrainment protections from both Action 2 (adult Delta Smelt) and Action 3 (juvenile Delta Smelt). The Working Group will continue to monitor Delta Smelt survey and salvage data and Delta conditions, and will meet again on Monday, April 11, 2016 at 10 am.

**Reported Data**

1. Current environmental data

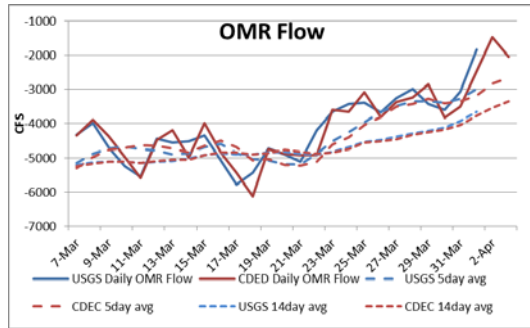
a. Temperature

3 station average water temperature is 17.2°C.



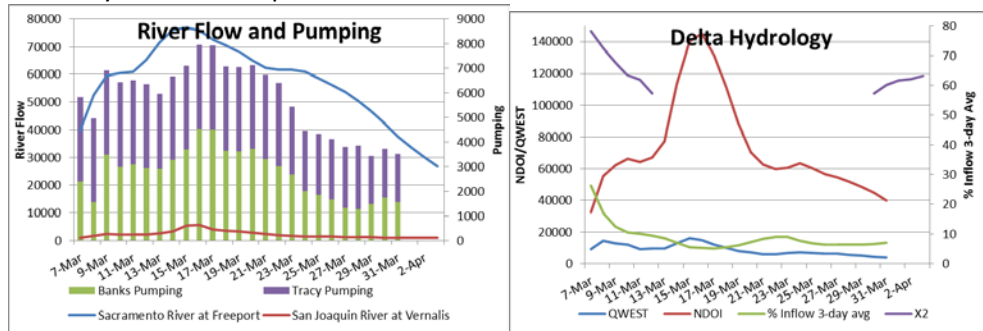
b. OMR flow

USGS OMR daily, 5-day, and 14-day average flows on April 1 are -1827, -2979, and -3660 cfs, respectively. The CDEC OMR daily, 5-day, and 14-day average flows for April 3 were -2044, -2664, and -3339 cfs, respectively.

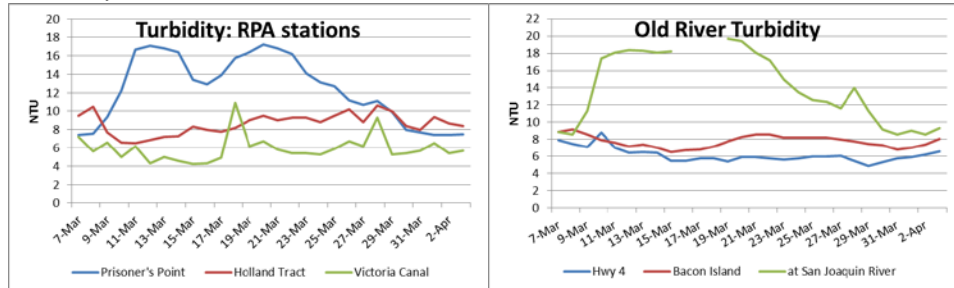


c. River Flows and pumping

Sacramento River at Freeport flow for April 3 was 26,707 cfs. San Joaquin River at Vernalis river flow for April 3 was 902 cfs. X2 is at 63.25km. Combined exports are 1500 cfs today. Qwest for April 3 was 3853 cfs



d. Turbidity



2. Delta fish monitoring

CDFW has released the 2015 FMWT indices:  
 The 2015 Delta Smelt annual FMWT index is 7.  
 The 2015 Longfin Smelt annual FMWT index is 4.  
 Both indices are the lowest on record (i.e. since 1967).

Smelt Larva Survey (SLS) #6 was in the field the week of March 21. Eight Delta Smelt were detected (5 mm length). SLS # 6 was the final SLS of the year.

Spring Kodiak Trawl #4 is in the field this week.

20-mm survey #2 was in the field last week. Sample processing is ongoing. So far, one larval Delta Smelt was detected at station 723. 20-mm Survey #3 is in the field next week.

The Early Warning Survey began November 30 and ended on March 30.

Date	Location	Delta Smelt Catch
3/28	Prisoners Point	0
3/29	Jersey Point	0
3/30	Station 902	0

The Early Warning Survey concluded last week.

### 3. Modeling

DWR is no longer planning to provide turbidity forecast modeling to the DCT; no turbidity forecast modeling results were provided or reviewed this week.

PTM runs were requested for review this week. The model input limited exports to comply with NMFS RPA IV.2.1 (1500 cfs), and therefore the results for all PTM runs with OMRs greater than about 2000 cfs do not actually reflect these more negative OMRs, because the increased level of exports to achieve these OMRs were not part of the input. See “Discussion” section for more.

### 4. Salvage

No Delta Smelt salvage has occurred since February 22. The cumulative season total of salvaged adult Delta Smelt is 12, which represents 29% of the concern level of the WY 2016 adult Delta Smelt incidental take.

No adult Longfin Smelt have been observed in salvage sampling at either the federal or state Delta facilities during the current water year. Two juvenile Longfin Smelt were salvaged on March 9 at the SWP; eight juvenile Longfin Smelt were salvaged on March 11 at the CVP. Combined salvage of >20 mm Longfin Smelt is ten for the season

Larval sampling has been conducted since March 1st at both the SWP and CVP. No larval Delta Smelt has been detected in the samples processed so far this season. Larval Longfin Smelt were detected at the SWP on March 16.

### 5. Expected Project Operations

Jones pumping plant is pumping 1000 cfs today. The daily average intake to Clifton Court (CC) is 500 cfs. Combined pumping is 1500 cfs today. Pumping is constrained to 1500 cfs to comply with NMFS RPA IV.2.1.

### 6. Delta Conditions Team

DCT met on April 1. DWR is no longer planning to distribute turbidity forecast modeling to the DCT; no turbidity forecast modeling results were provided to or reviewed by the Working Group this week.

### 7. Assessment of Risk:

#### BiOp Background

RPA Component 1, Action 2 states, “An action implemented using an adaptive process to tailor protection to changing environmental conditions after Action 1. As in Action 1, the intent is to

protect pre-spawning adults from entrainment and, to the extent possible, from adverse hydrodynamic conditions.” “The range of net daily OMR flows will be no more negative than -1,250 to -5,000 cfs. Depending on extant conditions specific OMR flows within this range are recommended by the Working Group from the onset of Action 2 through its termination...”

RPA Component 2, Action 3: “The objective of this RPA component (which corresponds to Action 3 in Attachment B), is to improve flow conditions in the Central and South Delta so that larval and juvenile delta smelt can successfully rear in the Central Delta and move downstream when appropriate” (page 282).

The WY 2016 adult Delta Smelt incidental take (IT) is 56, as stated in the Service’s December 23, 2015 memo to the Bureau of Reclamation. The concern level is 42. The method to calculate the adult IT is described on p 386 of the 2008 BiOp, with the corrections described in both the February 22, 2013, and December 23, 2015 memos. The alternative approach that the Service presented to the 2015 independent review panel at the Long-term Operation Biological Opinions annual science review will be piloted this year.

The WY 2016 larval/juvenile Delta Smelt incidental take is 392, and the concern level is 261. The method to calculate the larval/juvenile IT is described on p 389, with revision provided in the February 22, 2013 Service memo to the Bureau of Reclamation.

#### 2015 Delta Smelt abundance

The four primary 2015 annual abundance indices for all Delta Smelt life stages are the lowest on record.

	2014	2015
SKT	30.1	13.8
20-mm	1.1	0.3
TNS	0.5	0.0
FMWT	9	7

#### Discussion

As discussed in previous notes, the Working Group continues to conclude that overall risk of entrainment of adult Delta Smelt into the south Delta continues to be low.

The Working Group concluded that the current export and corresponding OMR flow levels for this week do not need to be reduced for the protection of Delta Smelt. Members expect Delta Smelt hatching to continue for some time in the Delta, and the central Delta in particular.

The Working Group assumes spawning occurred, and may still be occurring, in the lower San Joaquin River, as well as potentially in the Old River corridor. The Working Group has continuing concerns regarding larvae in the Old River corridor as well as the lower San Joaquin River, given the continued decline of catch in surveys this year. Members indicated the possibility that much of the larvae in the system have not grown sufficiently yet to be detectable in survey and salvage efforts. Hatching is expected to continue in the lower San Joaquin River, and possibly Old River, over the next several weeks. Some members indicated great concern that only one larval Delta Smelt has been detected from the 20-mm Survey 2 samples so far, and that this could be additional evidence of the continued decline of the species. Other members cautioned

that given historical results, most larvae may not have reached sufficient size to be detected by the 20-mm Survey (or salvage operations). The SWG expects subsequent 20-mm Surveys to detect a greater number of larvae.

The earlier life stages of Delta Smelt are at greater risk for entrainment, given that they behave more like a particle than older life stages. Older life stages have greater ability to control their position in the water column.

The Working Group based their risk assessment for larval Delta Smelt on a portion of the PTM runs distributed April 4. A discussion occurred regarding the various modeling runs which indicated that for OMR flows of -2000, -3500, and -5000 cfs, the output was constrained to exports no greater than 1500 cfs. As OMR flows would not be expected to become more negative than -1800cfs (current OMR flow rate with an export rate of 1500 cfs) with an export rate of 1500 cfs, the percent of particles entrained on these modeling runs do not reflect what could happen if exports increased until OMR flows became -2000, -3500, and -5000 cfs. Therefore, only the model run with -1250cfs OMR flow was used to generate a risk assessment.

The above discussion points influenced and contributed to all three flow ranges described below:

#### Advice Framework OMR Level Risk Ranking and Discussion—**Larval Delta Smelt**

- OMR flow of -1250 to -2000 cfs: There is a low risk of entrainment under this flow range. This is the most protective range for larval Delta Smelt.
  - Risk factors: lowest annual indices on record, low likelihood of detection.
  - Salvage: None so far this season, geographic influence of the pumps does not extend to central Delta under this flow range
  - Unknowns: detection ability in salvage and trawl surveys has been severely reduced, given the record low abundance indexes.
  - Persistence of risk: expected to continue at least through April 4.
- OMR flow of -2000 to -5000 cfs: There is a medium to high risk of entrainment under this flow range. The SWG is unable to provide a more specific risk assessment for these flow ranges, as PTM model output did not describe percentage of particles entrained under these higher flow ranges (see earlier discussion).

#### Advice Framework OMR Level Risk Ranking and Discussion—**Adult Delta Smelt**

- OMR flow of -1250 to -2000 cfs: There is a low risk of entrainment under this flow range. This is the most protective range for Delta Smelt.
  - Risk factors: lowest annual indices on record.
  - Salvage: None since February 22, geographic influence of the pumps does not extend to central Delta under this flow range
  - Unknowns: detection ability in salvage and trawl surveys has been severely reduced, given the record low abundance indexes; low Sacramento River catch densities (unable to assess percentage of population in the lower San Joaquin River).
  - Persistence of risk: expected to continue through remainder of the season
- OMR flow of -2000 to -3500 cfs: There is a low risk of entrainment under this flow range, given conditions listed below:

- Risk factors: lowest annual indices on record.
- Salvage: none since February 22, geographic influence of the pumps not likely to extend to central Delta under this flow range
- Unknowns: detection ability in salvage and trawl surveys has been severely reduced, given the record low abundance indexes, low Sacramento River catch densities (unable to assess percentage of population in the lower San Joaquin River).
- Persistence of risk: expected to continue through remainder of the season.
- OMR flow of -3500 to -5000 cfs: There is a medium risk of entrainment under this flow range. Some members indicated this flow range had a high risk of entrainment.
  - Risk factors: lowest annual indices on record, reduced turbidity in the south Delta (although elevated turbidity at Prisoner’s Point this morning coincided with the catch of a Delta Smelt at the same location).
  - Salvage: none since February 22, geographic influence of the pumps is likely to extend to central Delta under this flow range.
  - Unknowns: detection ability in salvage and trawl surveys has been severely reduced, given the record low abundance indexes, low Sacramento River catch densities (unable to assess percentage of population in the lower San Joaquin River).
  - Persistence of risk: expected to continue until spawning has completed

The Working Group will continue to monitor conditions and smelt distribution and will meet again on Monday, April 11, 2016.

## WEEKLY ADVICE FOR THE DEPARTMENT OF FISH AND WILDLIFE FOR LONGFIN SMELT

### **Advice for week of April 4, 2016:**

The Smelt Working Group does not have any advice for Longfin Smelt based on recent information.

The period of potential Barker Slough operations restriction is over for 2016 (see #5 below).

### **Basis for advice:**

The 2009 State Water Project 2081 for Longfin Smelt states that advice to WOMT and the DFW Director shall be based on:

1. Adult Salvage – total adult ( $\geq 80$  mm) Longfin Smelt salvage (SWP+CVP) for December through February  $> 5$  times the Fall Midwater Trawl Longfin Smelt annual abundance index.
2. Adult abundance, distribution or other information indicates that OMR flow advice is warranted.
3. Larva distribution in the Smelt Larva Survey or the 20-mm Survey finds Longfin Smelt larvae present at 8 of 12 central and south Delta sampling stations in 1 survey (809, 812, 815, 901, 902, 906, 910, 912, 914, 915, 918, 919; see Figure 1).

4. Larva catch per tow exceeds 15 Longfin Smelt larvae or juveniles in 4 or more of the 12 survey stations listed.
5. During the period January 15 through March 31 of a dry or critically dry water year only, advice for Barker Slough pumping plant operations may be warranted if larval Longfin Smelt are detected at station 716 and other information indicates risk of entrainment.

### **Discussion of Criteria**

1. No Longfin Smelt were salvaged during the week of March 28. On March 9, 2016, the first Longfin Smelt was salvaged for the water year, a young-of-the-year ( $\geq 20$  mm); additional young-of-the-year were salvaged on March 11 for a total salvage of 10. A larva was collected at the CVP on March 16. Salvage of young-of-the-year does not count toward the adult salvage limit for advice. The **Longfin Smelt adult salvage threshold for advice is 20** based on a Fall Midwater Trawl abundance index of 4 for 2015 (see criterion in #1 above). No advice is warranted based on this criterion.

2. There is no new adult distribution information. No Bay Study sampling was conducted in March to date and no sampling was conducted in February. January Bay Study sampling detected no Longfin Smelt in the lower San Joaquin or Sacramento rivers. Chipps Island trawling most recently collected Longfin Smelt on February 22 (n=1) and 24 (n=2), but none during February 28 through March 12. December Bay Study sampling collected no Longfin Smelt in the San Joaquin River. The December Fall Midwater Trawl sampled the region and did not detect Longfin Smelt in the San Joaquin River or the south Delta. Distribution information does not indicate advice is warranted based on this criterion.

3 & 4. The second 20-mm Survey was conducted during the week of March 28 and processing is only partially complete (Table 1, Figure 1). No larvae were detected among the 12 criteria stations (Table 1, Figure 1). Neither the distribution (Basis for advice #3) nor the catch density (Basis for advice #4) criterion was achieved. Over all, catches of Longfin Smelt larvae remain very low.

5. The Barker Slough criterion terminated for the water year on March 31.

**Current conditions:** The Sacramento River flow decreased to 26,707 cfs on April 3 and the San Joaquin River at Vernalis was 902 cfs. Also on April 3, Qwest was +3,853 cfs. Combined State and federal exports were dropped to a combined 1,500 cfs (health and safety minima) on April 1 to comply with NMFS criteria.

There is no new adult distribution information. Bay Study sampling was not conducted in February or March. During January sampling, Bay Study detected no Longfin Smelt within the Delta and Suisun Bay. Chipps Island Trawl sampling has collected very few Longfin Smelt this water year (almost all adult size): one adult and one juvenile on February 24<sup>th</sup>, one adult on February 22<sup>nd</sup>, three on February 8<sup>th</sup>, one each on the 11<sup>th</sup> and the 12<sup>th</sup>; eight Longfin Smelt were collected January 13<sup>th</sup>; two adults on December 18 and the third adult on December 23.

20-mm Survey 2 results for the first tow conducted at central or south Delta criteria stations detected no Longfin Smelt larvae (Table 1) and thus did not achieve either trigger criterion (Criteria 3 & 4 above). The Barker Slough criterion expired on March 31 for the water year.

No larval or juvenile Longfin Smelt were detected in sampling at the salvage facilities during the week of March 28. Beginning March 9 and 11, 10 young-of-the-year Longfin Smelt ( $\geq 20$  mm) have been salvaged this water year and a single larvae ( $< 20$  mm) was detected at the CVP on March 16. There is no young-of-the-year salvage target for advice. In contrast, the threshold salvage of adults for advice is 20 for this water year. No adults have been salvaged to date.

**Summary of Risk:** Risk of entrainment in the south Delta is very low due to a moderately positive Qwest, very low exports and no recent detections of larvae in central and south Delta criteria stations. Qwest will likely remain positive into the near future. Beginning April 1, NMFS criteria limited south Delta exports to match San Joaquin River inflow. There is a decreasing likelihood of additional Longfin Smelt larvae hatching in the lower San Joaquin River, and larva numbers are likely to remain low (Table 1). We currently have no information indicating much or any spawning in the central or south Delta.

The Barker Slough concern period ended March 31.

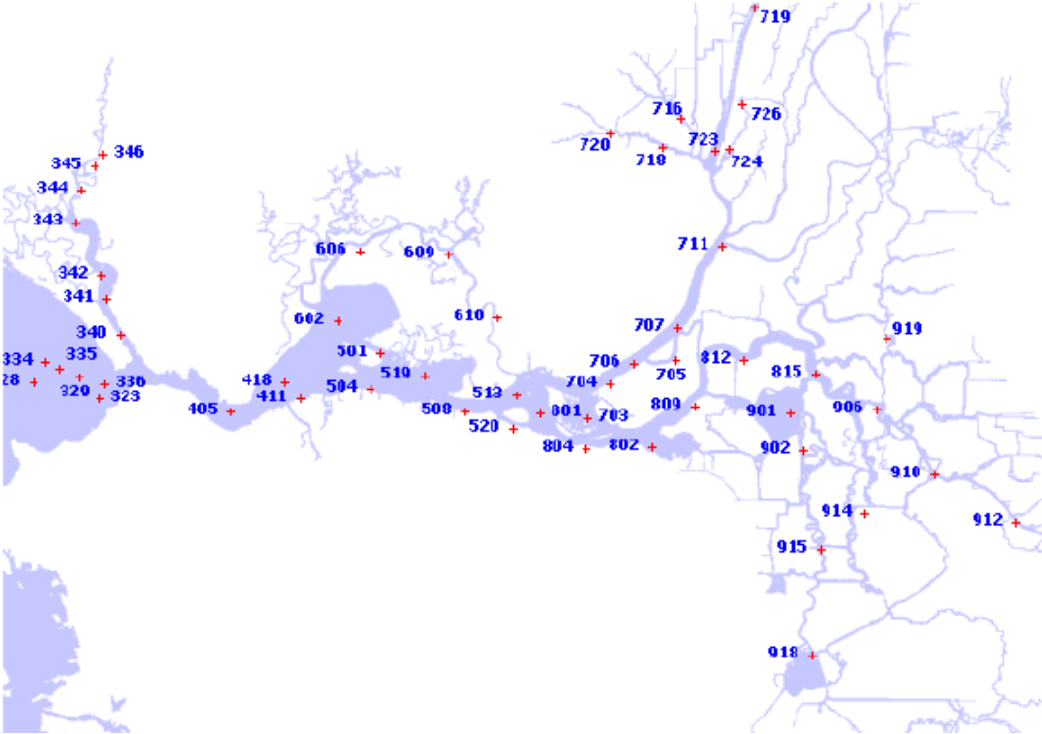


Table 1. Longfin Smelt catch by station in the 20-mm Survey, #2. Sample processing is incomplete.

Year	Survey	Station	Date	# Tows Processed	Species	Total Catch	Min Length	Max Length	Avg Length	
2016	2	323		0	Not Yet Processed	0				Suisun Bay & West
2016	2	340		0	Not Yet Processed	0				
2016	2	342		0	Not Yet Processed	0				
2016	2	343		0	Not Yet Processed	0				
2016	2	344		0	Not Yet Processed	0				
2016	2	345		0	Not Yet Processed	0				
2016	2	346		0	Not Yet Processed	0				
2016	2	405		0	Not Yet Processed	0				
2016	2	411		0	Not Yet Processed	0				
2016	2	418		0	Not Yet Processed	0				
2016	2	501		0	Not Yet Processed	0				
2016	2	504		0	Not Yet Processed	0				
2016	2	519		0	Not Yet Processed	0				
2016	2	602		0	Not Yet Processed	0				
2016	2	606		0	Not Yet Processed	0				
2016	2	609		0	Not Yet Processed	0				
2016	2	610		0	Not Yet Processed	0				
2016	2	508		0	Not Yet Processed	0				Confluence
2016	2	513		0	Not Yet Processed	0				
2016	2	520		0	Not Yet Processed	0				
2016	2	801		0	Not Yet Processed	0				
2016	2	804		0	Not Yet Processed	0				
2016	2	703	29-Mar-16	1	No Longfin Catch	0				Sac. River System
2016	2	704		0	Not Yet Processed	0				
2016	2	705	28-Mar-16	1	No Longfin Catch	0				
2016	2	706		0	Not Yet Processed	0				
2016	2	707		0	Not Yet Processed	0				
2016	2	711		0	Not Yet Processed	0				
2016	2	716		0	Not Yet Processed	0				
2016	2	718		0	Not Yet Processed	0				
2016	2	719		0	Not Yet Processed	0				
2016	2	720		0	Not Yet Processed	0				
2016	2	723		0	Not Yet Processed	0				
2016	2	724		0	Not Yet Processed	0				
2016	2	726		0	Not Yet Processed	0				
2016	2	809	29-Mar-16	1	No Longfin Catch	0				Central & South Delta
2016	2	812	29-Mar-16	1	No Longfin Catch	0				
2016	2	815	29-Mar-16	1	No Longfin Catch	0				
2016	2	901	28-Mar-16	1	No Longfin Catch	0				
2016	2	902	28-Mar-16	1	No Longfin Catch	0				
2016	2	906	29-Mar-16	1	No Longfin Catch	0				
2016	2	910	28-Mar-16	1	No Longfin Catch	0				
2016	2	912	28-Mar-16	1	No Longfin Catch	0				
2016	2	914	28-Mar-16	1	No Longfin Catch	0				
2016	2	915	28-Mar-16	1	No Longfin Catch	0				
2016	2	918		0	Not Yet Processed	0				
2016	2	919	29-Mar-16	1	No Longfin Catch	0				

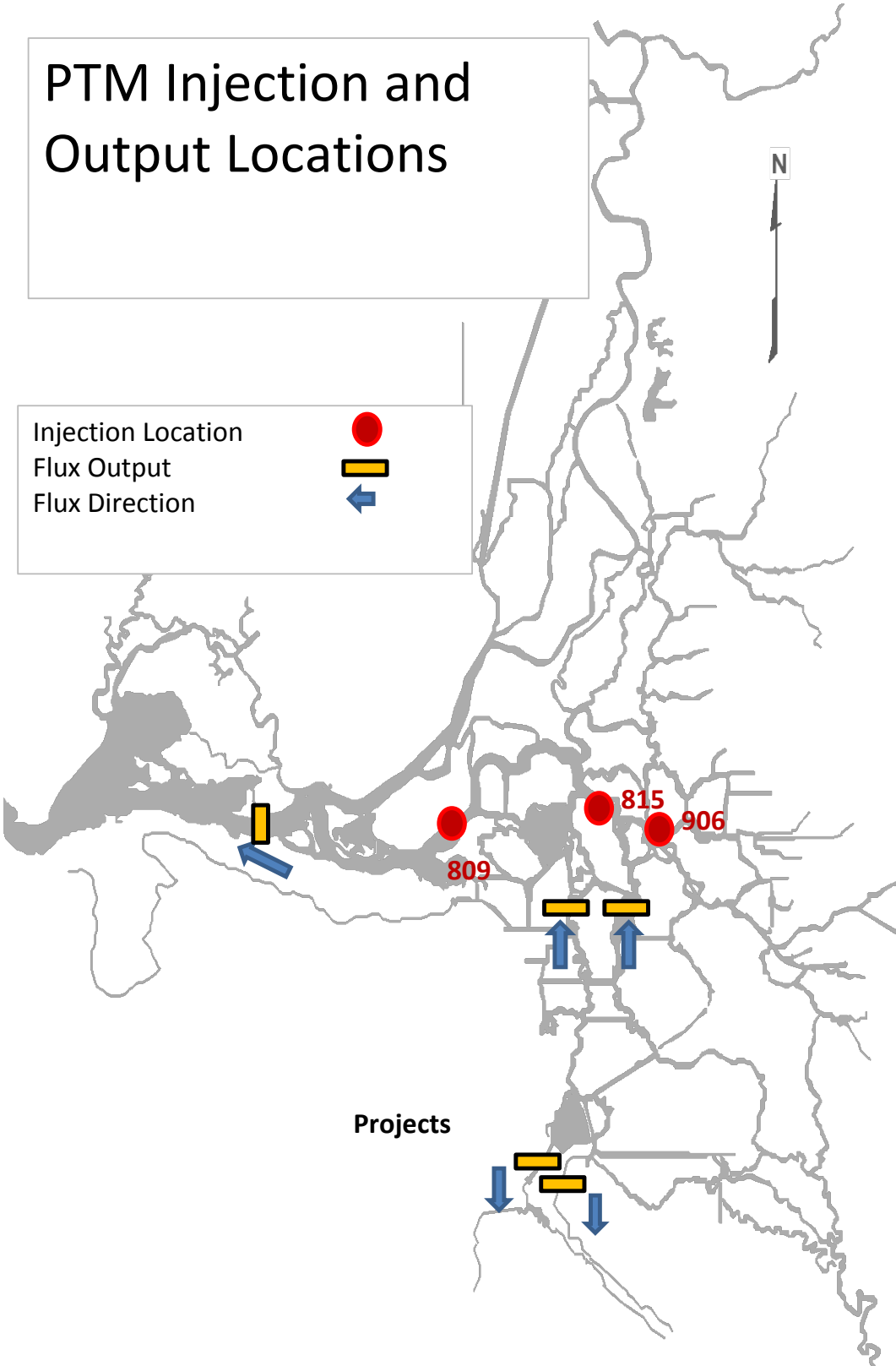
Processing is complete through 3/30/2016

Figure 1. DFW's Smelt Larva Survey/20-mm Survey station locations.

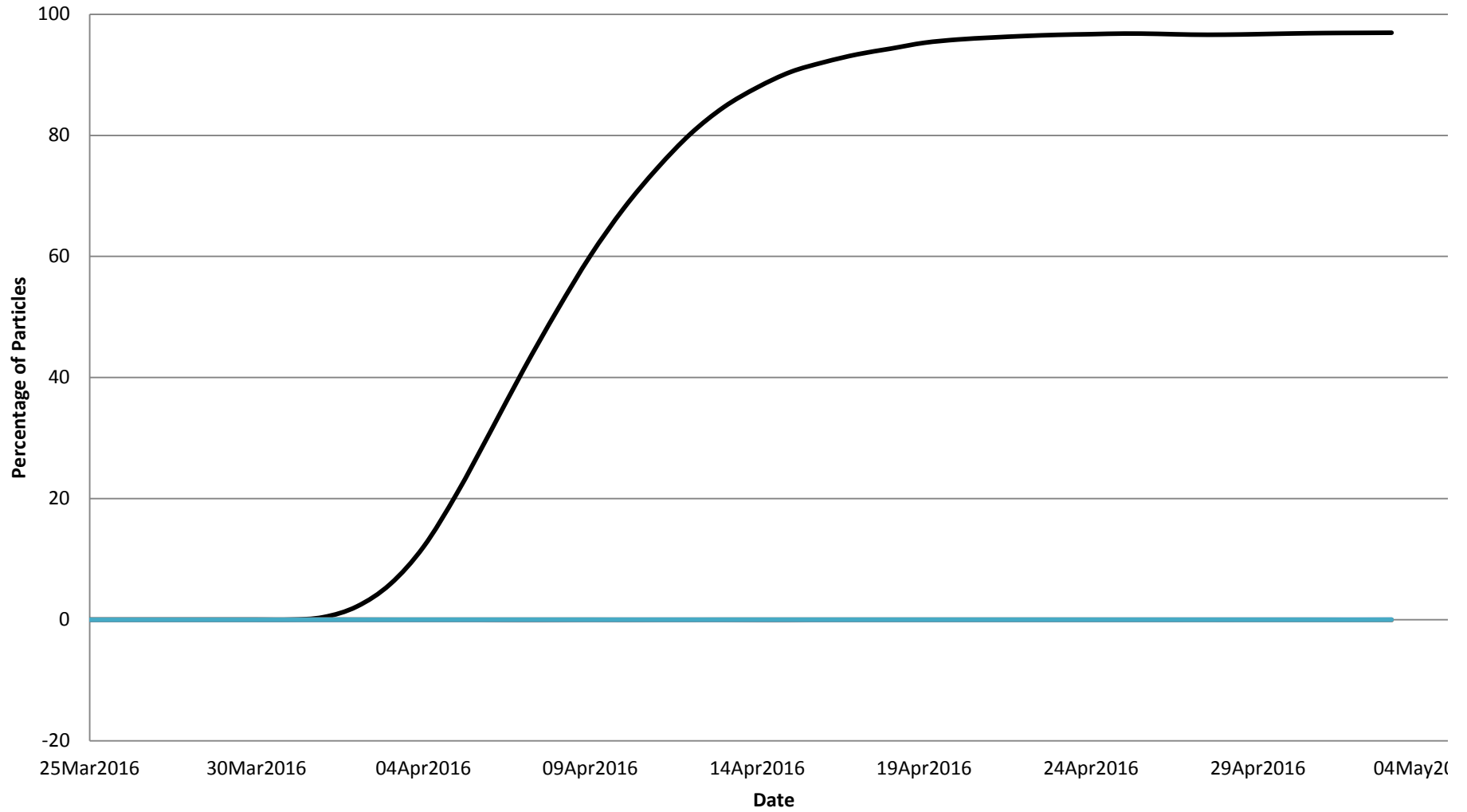


# PTM Injection and Output Locations

Injection Location  
Flux Output  
Flux Direction

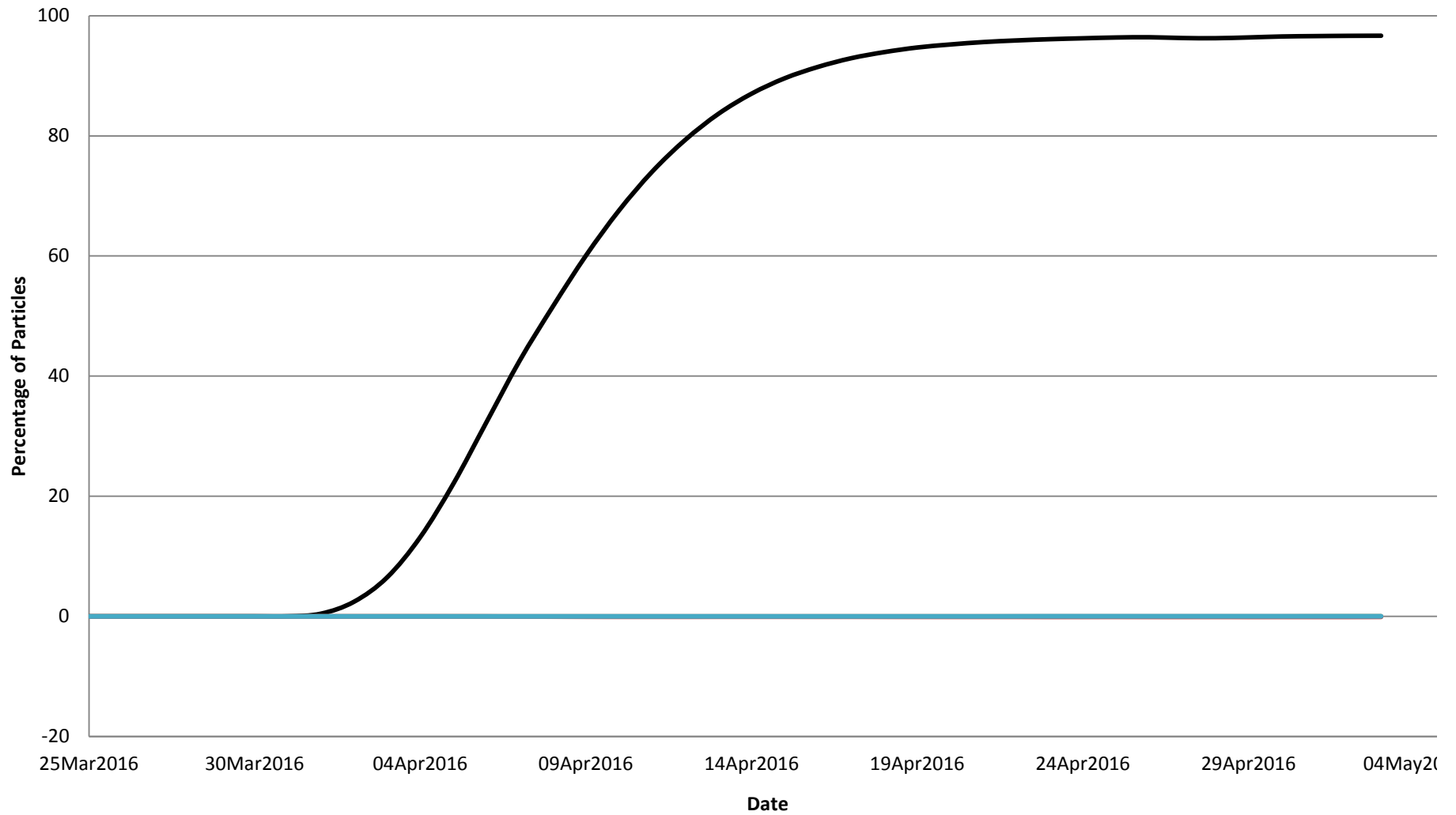


# Flux at OMR -1250 cfs Particles inserted at Jersey Point On Mar 30, 2016



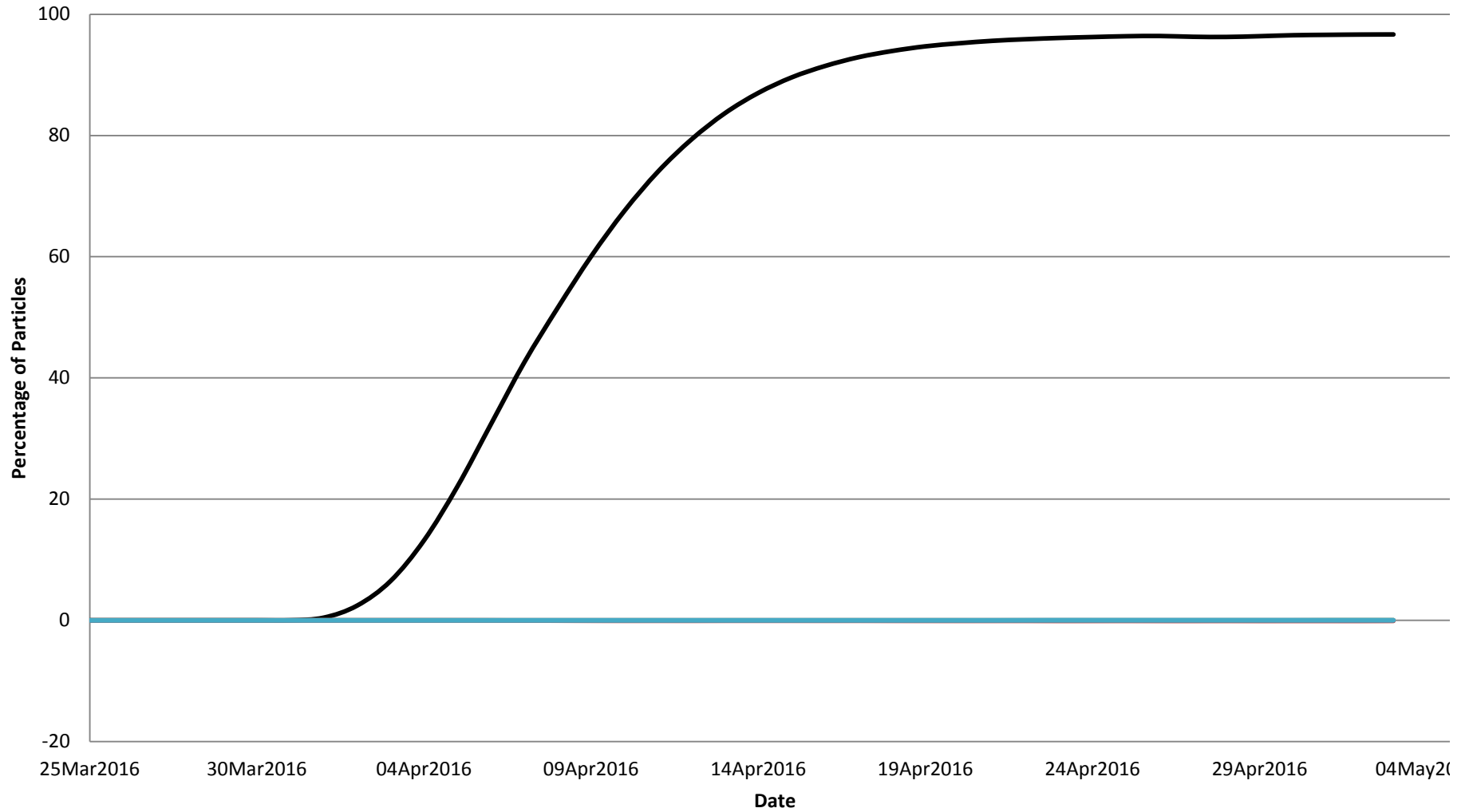
— Chipps — Old River adjacent to Holland Tract — Middle River adjacent to Bacon Island — SWP — CVP

# Flux at OMR -2000 cfs Particles inserted at Jersey Point on Mar 30, 2016



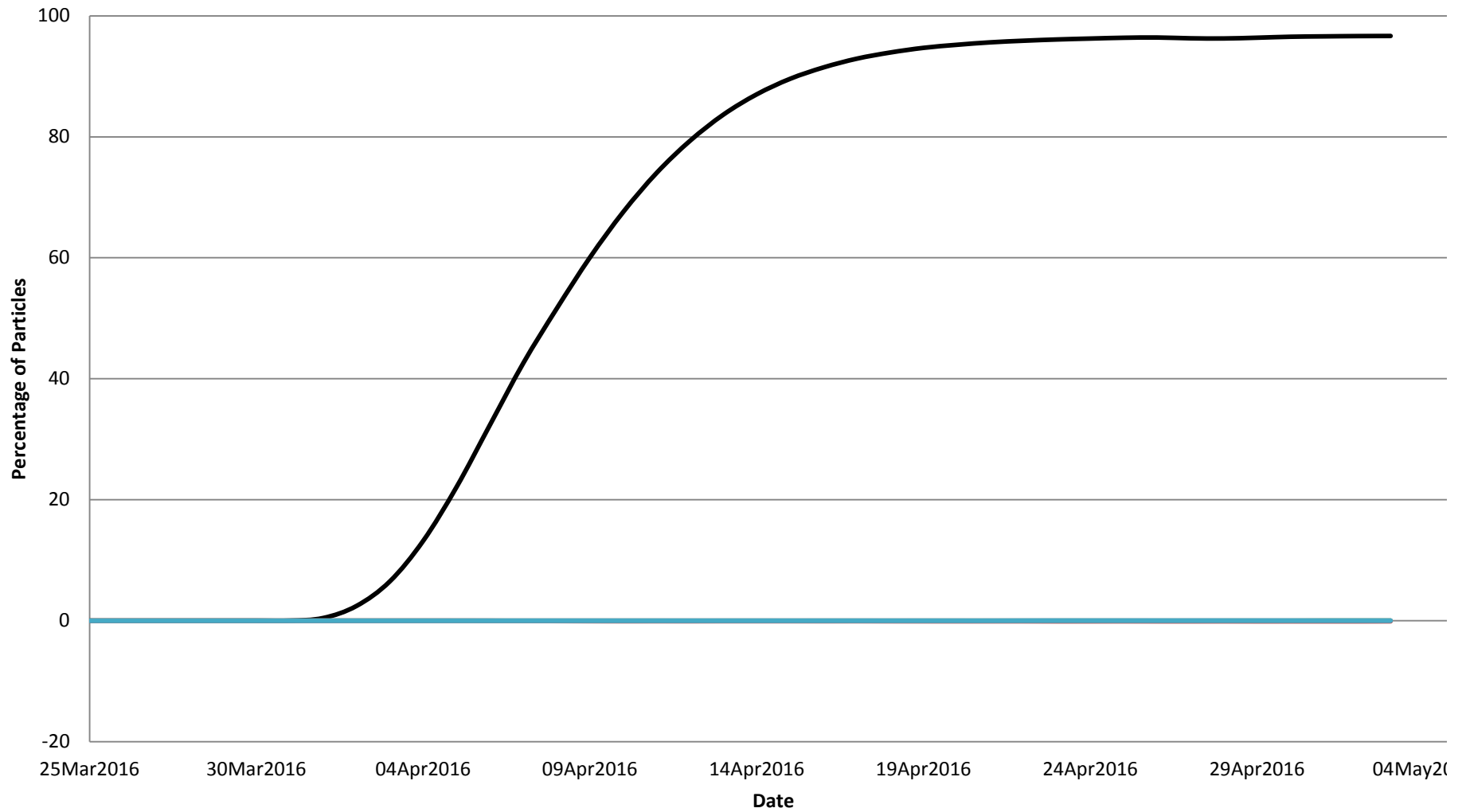
— Chipps — Old River adjacent to Holland Tract — Middle River adjacent to Bacon Island — SWP — CVP

# Flux at OMR -3500 cfs Particles inserted at Jersey Point On Mar 30, 2016



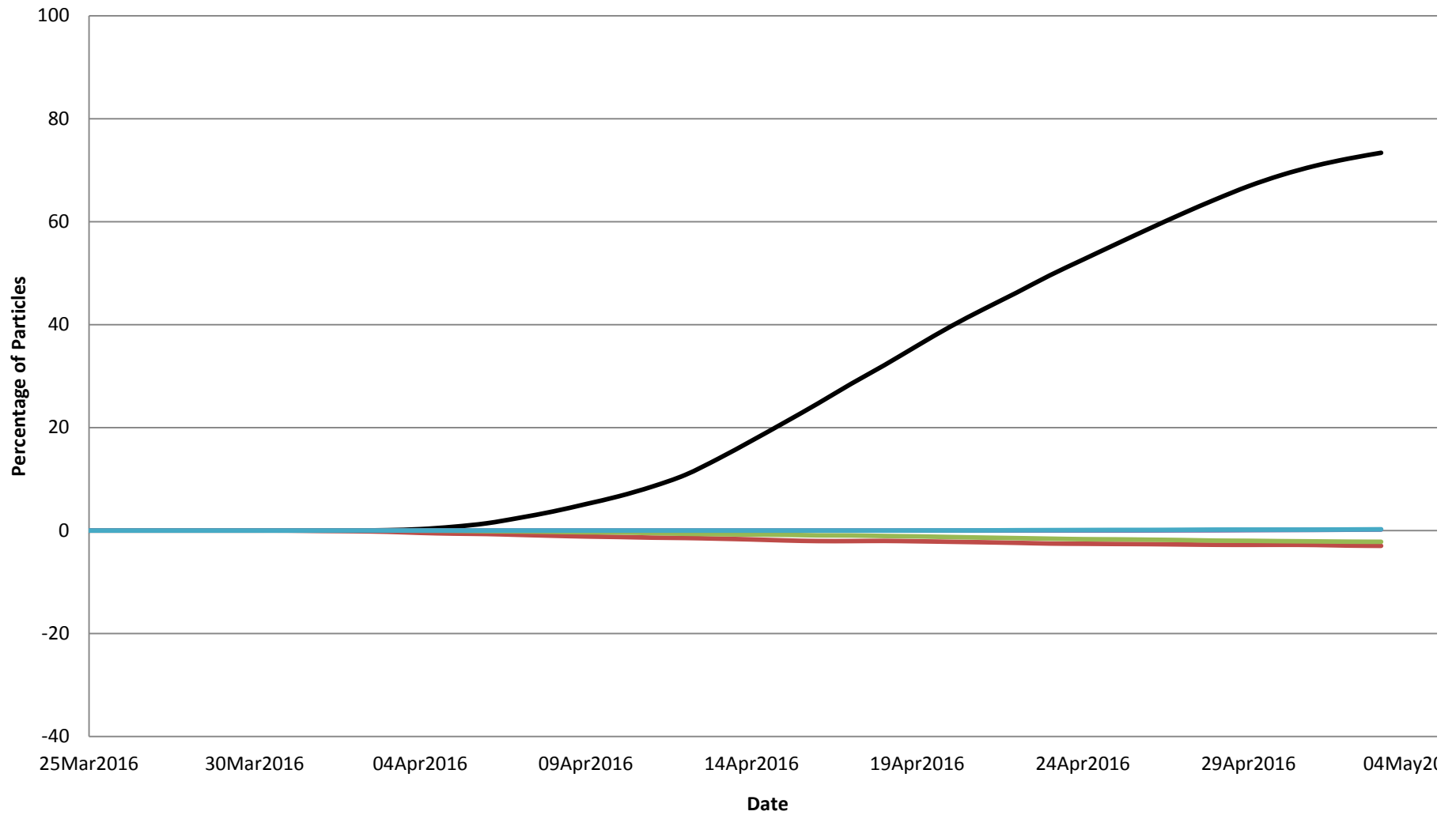
— Chipps — Old River adjacent to Holland Tract — Middle River adjacent to Bacon Island — SWP — CVP

# Flux at OMR -5000 cfs Particles inserted at Jersey Point on Mar 30, 2016



— Chipps — Old River adjacent to Holland Tract — Middle River adjacent to Bacon Island — SWP — CVP

# Flux at OMR -1250 cfs Particles inserted at Prisoner's Point on Mar 30, 2016

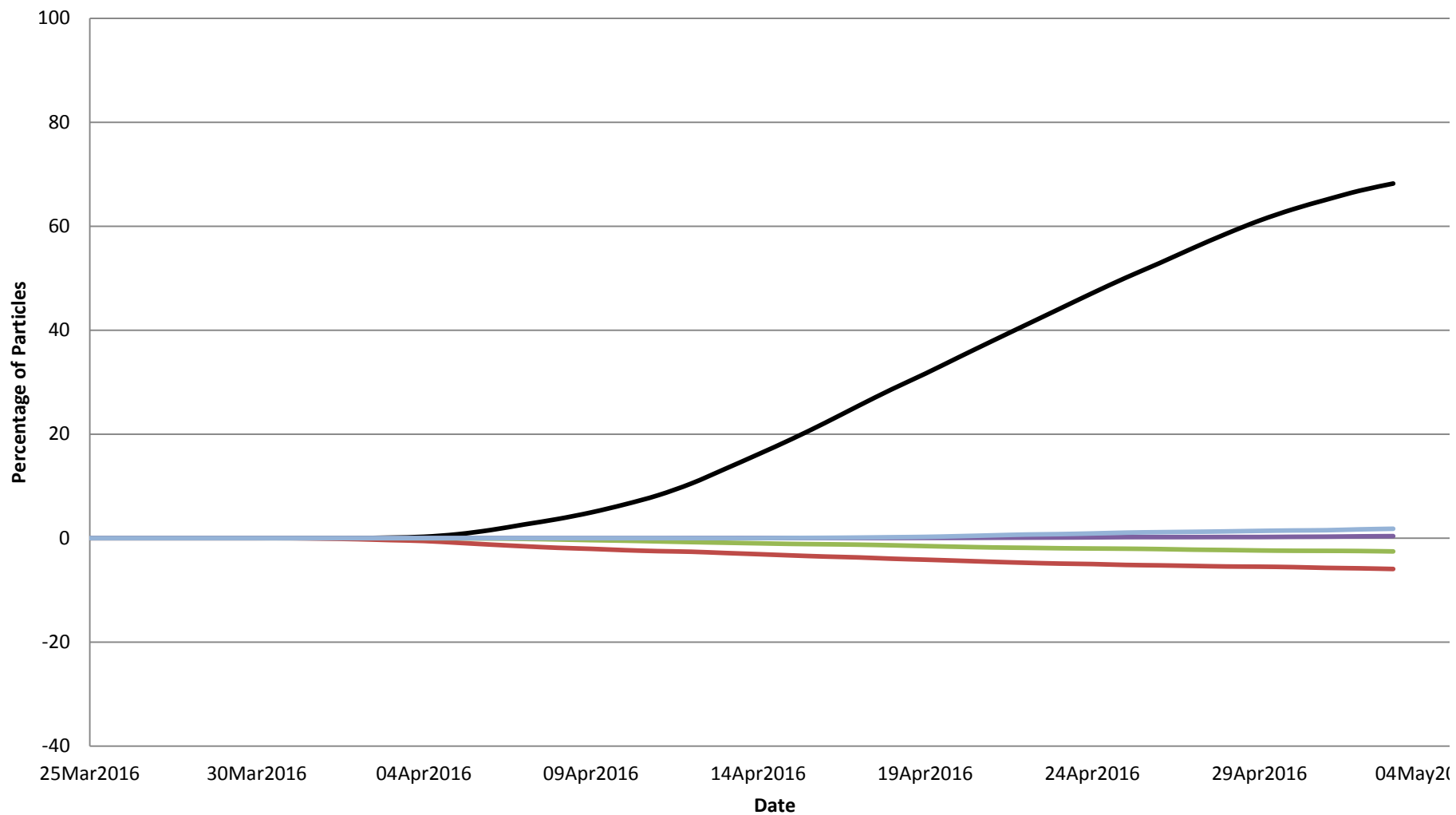


— Chipps — Old River adjacent to Holland Tract — Middle River adjacent to Bacon Island — SWP — CVP



# Flux at OMR -2000 cfs

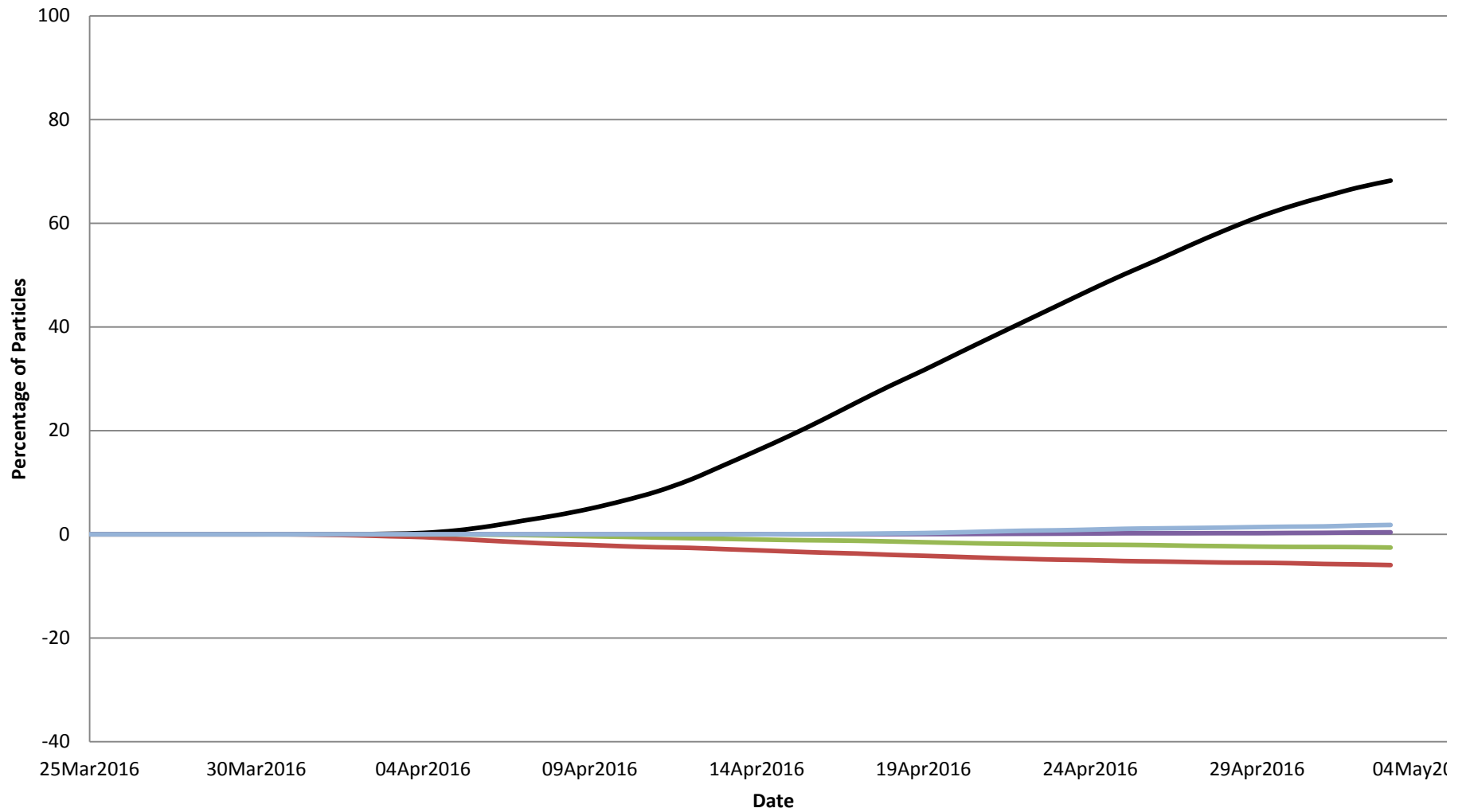
## Particles inserted at SJR at Prisoner's Point on Mar 30, 2016



— Chipps — Old River adjacent to Holland Tract — Middle River adjacent to Bacon Island — SWP — CVP

# Flux at OMR -3500 cfs

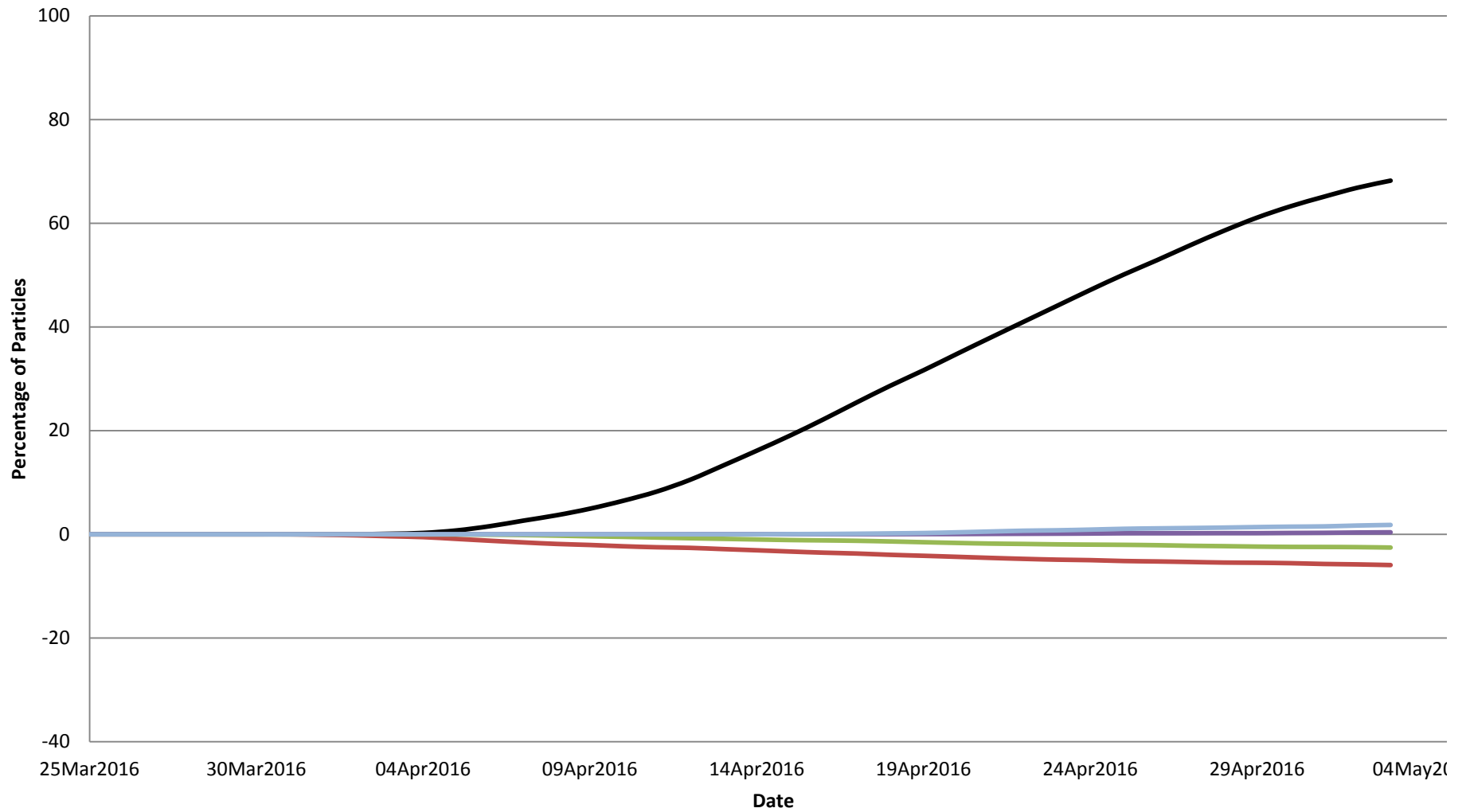
## Particles inserted at SJR at Prisoner's Point on Mar 30, 2016



— Chipps — Old River adjacent to Holland Tract — Middle River adjacent to Bacon Island — SWP — CVP

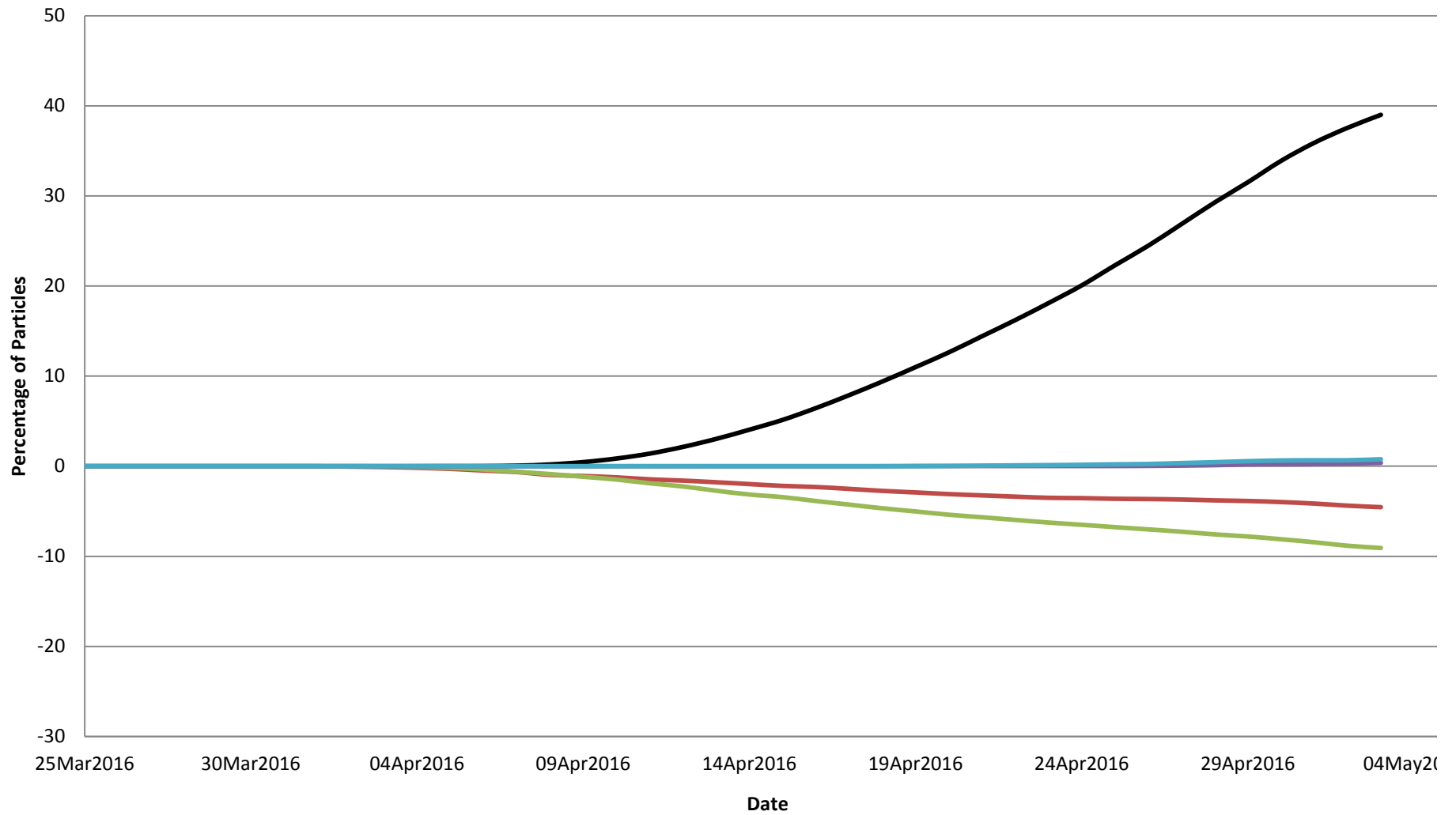
# Flux at OMR -5000 cfs

## Particles inserted at SJR at Prisoner's Point on Mar 30, 2016



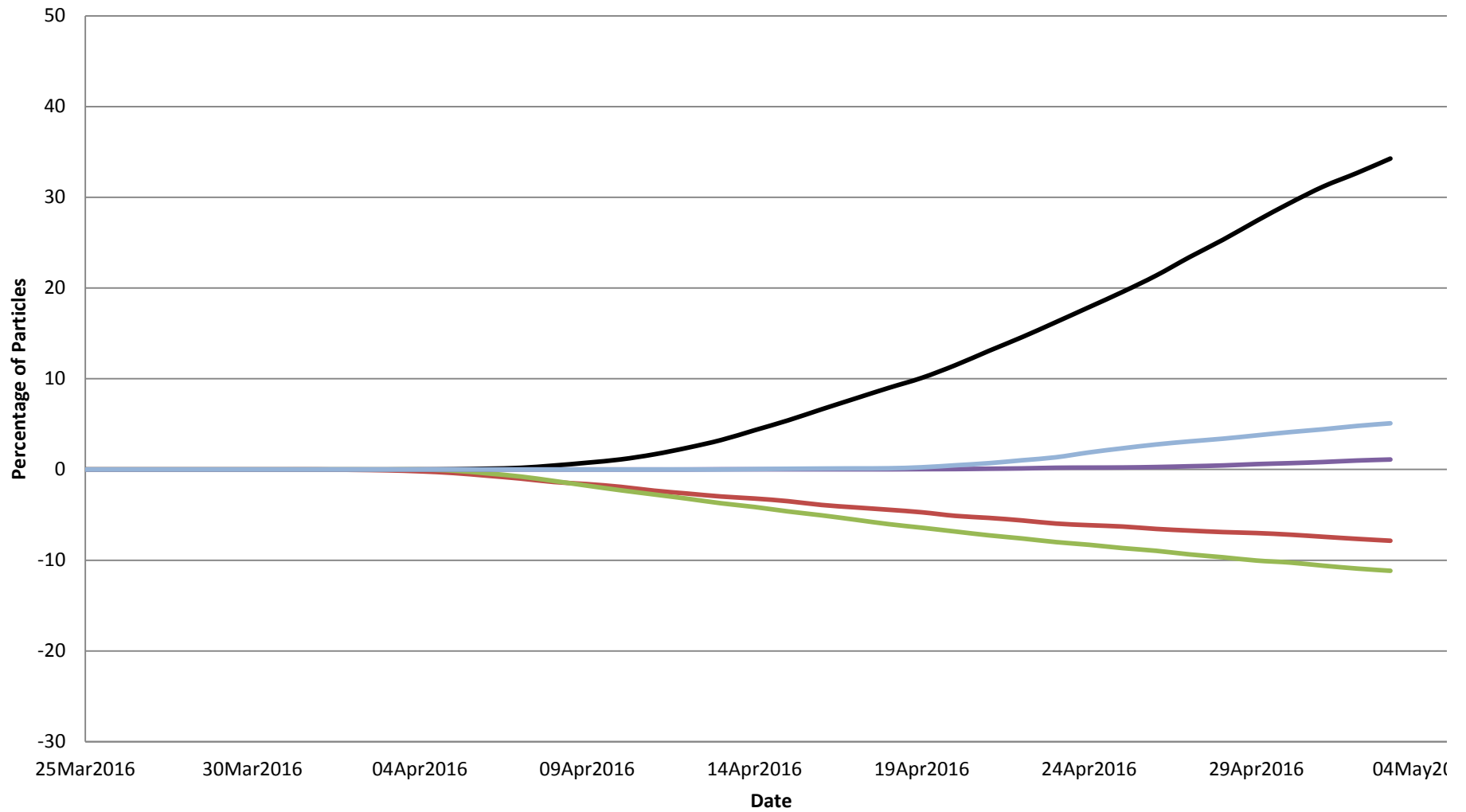
— Chipps — Old River adjacent to Holland Tract — Middle River adjacent to Bacon Island — SWP — CVP

# Flux at OMR -1250 cfs Particles inserted at SJR at Medford Island on Mar 30,2016



— Chipps — Old River adjacent to Holland Tract — Middle River adjacent to Bacon Island — SWP — CVP

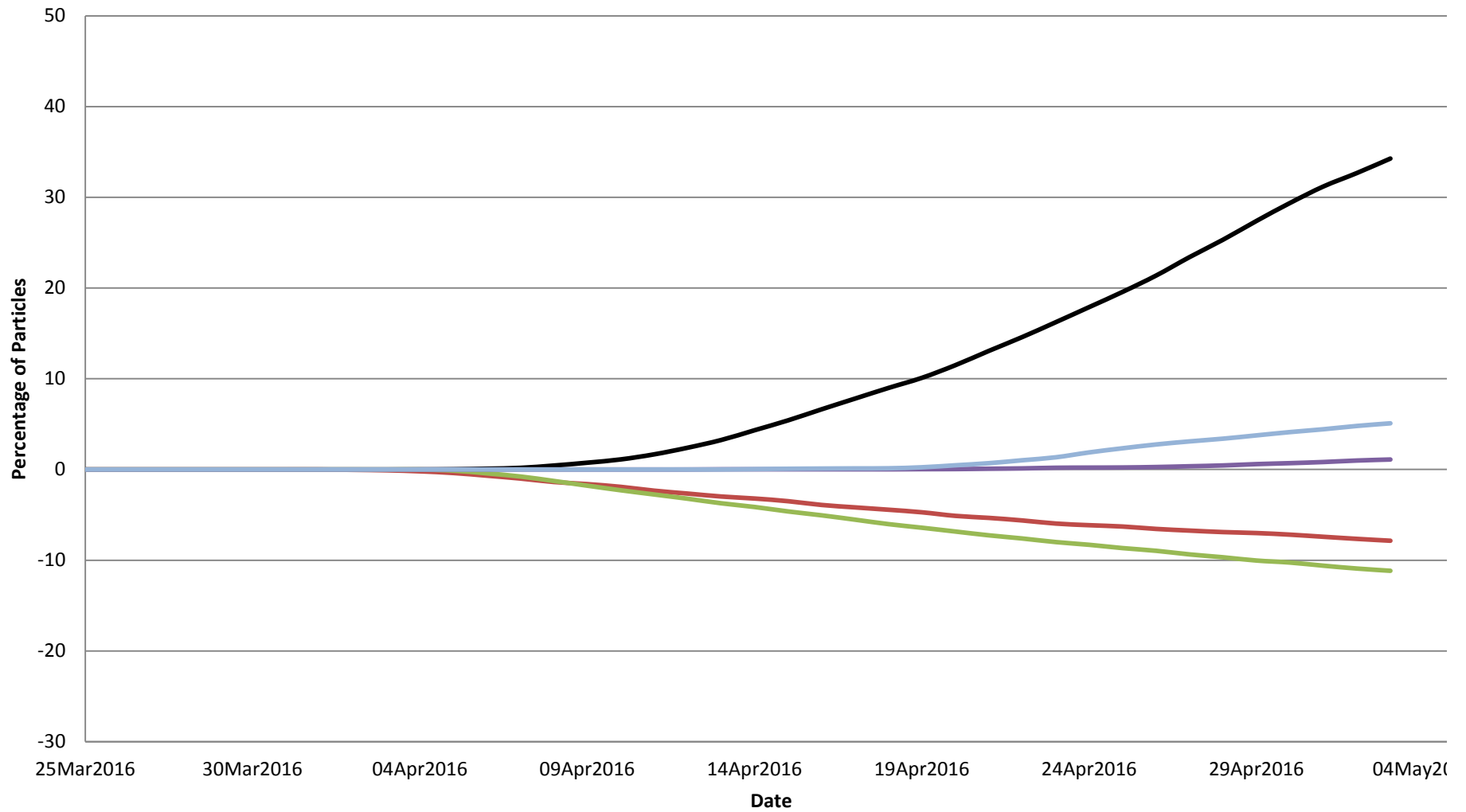
# Flux at OMR -2000 cfs Particles inserted at SJR at Medford Island on Mar 30,2016



— Chipps — Old River adjacent to Holland Tract — Middle River adjacent to Bacon Island — SWP — CVP

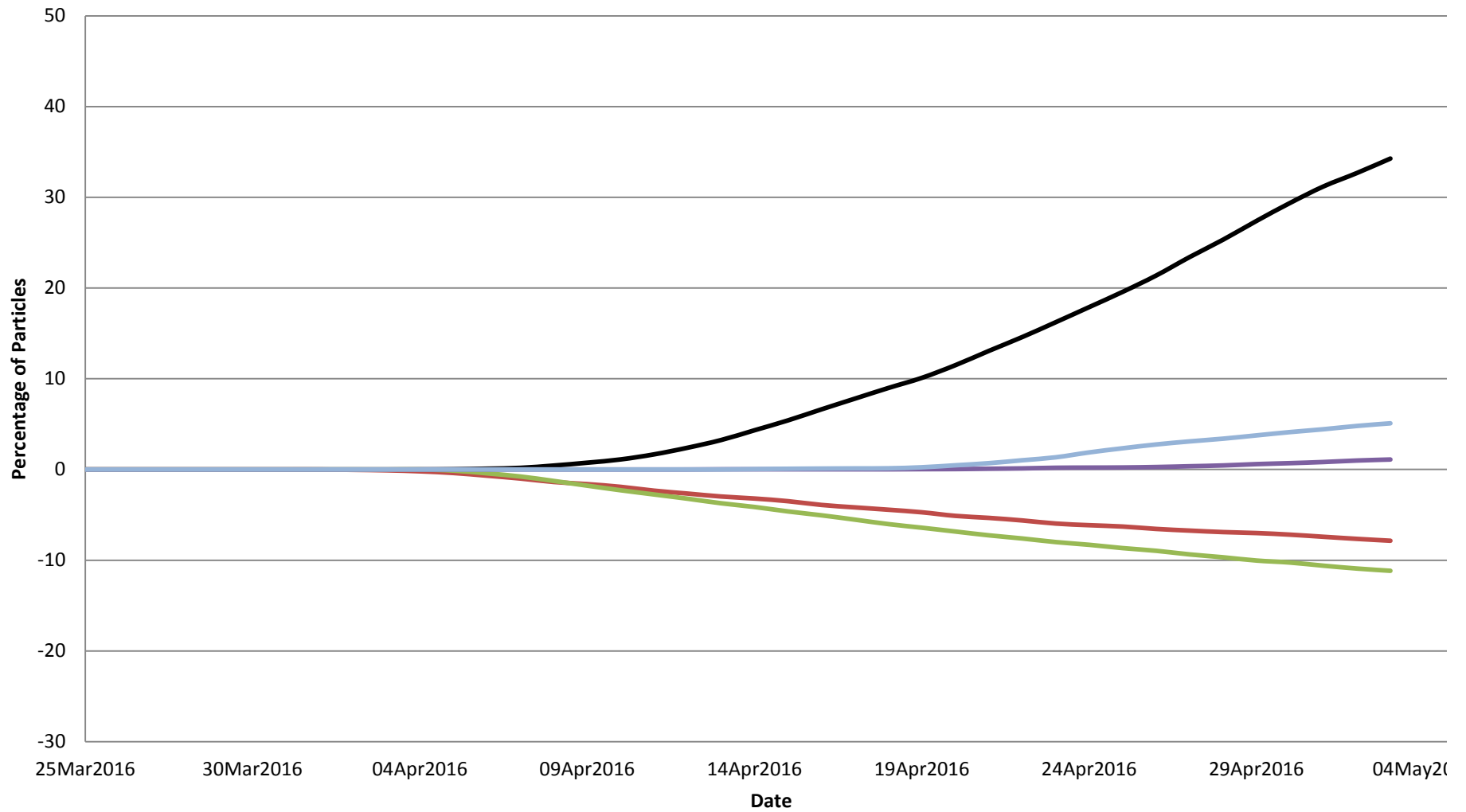
# Flux at OMR -3500 cfs

## Particles inserted at SJR at Medford Island on Mar 30,2016



— Chipps — Old River adjacent to Holland Tract — Middle River adjacent to Bacon Island — SWP — CVP

# Flux at OMR -5000 cfs Particles inserted at SJR at Medford Island on Mar 30,2016



— Chipps — Old River adjacent to Holland Tract — Middle River adjacent to Bacon Island — SWP — CVP

PTM Results on April 15, 2016

Location	OMR -1250			OMR -2000			OMR -3500			OMR -5000		
	809	815	906	809	815	906	809	815	906	809	815	906
<b>CVP</b>	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1
<b>SWP</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle River adj Bacon Island</b>	0.0	-0.8	-3.4	0.0	-1.1	-4.6	0.0	-1.1	-4.6	0.0	-1.1	-4.6
<b>Old River adj Holland Tract</b>	-0.1	-1.9	-2.2	-0.1	-3.3	-3.5	-0.1	-3.3	-3.5	-0.1	-3.3	-3.5
<b>Chipps</b>	90.5	21.0	5.1	89.6	19.1	5.4	89.6	19.1	5.4	89.6	19.1	5.4

PTM Results on Apr 22, 2016

Location	OMR -1250			OMR -2000			OMR -3500			OMR -5000		
	809	815	906	809	815	906	809	815	906	809	815	906
<b>CVP</b>	0.0	0.2	0.8	0.0	1.8	5.1	0.0	1.8	5.1	0.0	1.8	5.1
<b>SWP</b>	0.0	0.2	0.4	0.0	0.4	1.1	0.0	0.4	1.1	0.0	0.4	1.1
<b>Middle River adj Bacon Island</b>	0.0	-2.2	-9.1	0.0	-2.6	-11.2	0.0	-2.6	-11.2	0.0	-2.6	-11.2
<b>Old River adj Holland Tract</b>	0.0	-3.0	-4.5	-0.1	-5.9	-7.9	-0.1	-5.9	-7.9	-0.1	-5.9	-7.9
<b>Chipps</b>	97.0	73.4	39.0	96.7	68.2	34.3	96.7	68.2	34.3	96.7	68.2	34.3



**SWG Weekly Salvage Update**  
**Reporting Period: March 28-April 3, 2016**  
*Prepared by Bob Fujimura on April 4, 2016: 9:00*  
**Preliminary Results -Subject to Revision**

Species/Life Stage	Daily Salvage							Trend	
	28-Mar	29-Mar	30-Mar	31-Mar	1-Apr	2-Apr	3-Apr		
<b>Juvenile Delta Smelt</b>									
SWP	0	0	0	0	0	0	0		0
CVP	0	0	0	0	0	0	0		0
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	→	0.0
CUM TAKE	0	0	0	0	0	0	0		
% of 2016 CL	0%	0%	0%	0%	0%	0%	0%		0
<b>Juvenile Longfin Smelt</b>									
SWP	0	0	0	0	0	0	0		0
CVP	0	0	0	0	0	0	0		0
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	→	0
<b>SWP daily export</b>	2,530	2,931	3,454	3,072	910	1,101	901	↘	2,128
<b>CVP daily export</b>	5,095	3,867	3,912	3,908	2,001	1,977	1,976	↘	3,248
<b>SWP reduced counts</b>	0%	0%	0%	0%	0%	0%	0%	→	0%
<b>CVP reduced counts</b>	0%	0%	0%	0%	0%	0%	0%	→	0%
<b>SWP larval samples</b>	100%	100%	100%	100%	100%	100%	100%	→	100%
<b>CVP larval samples</b>	100%	100%	100%	100%	75%	100%	100%	↘	96%
<b>DS larvae present - SWP</b>	N	N	N	N	NA	NA	NA	→	
<b>DS larvae present - CVP</b>	N	N	N	N	N	N	N	→	
<b>LFS larvae present - SWP</b>	N	N	N	N	NA	NA	NA	→	
<b>LFS larvae present - CVP</b>	N	N	N	N	N	N	N		

TOTAL = combine daily salvages for CVP+SWP; daily water export = AF; Trend = compared to previous week

NA = not available at the time of this report; NS = not sampled

Reduced counts = percentage of time that routine salvage sample time were less than 30 min per 2 hours of salvage and export operations

Larval samples = percentage of daily scheduled samples taken during periods of water export

Yellow highlighted dates indicate fish salvage facility outage occurred.

Larvae present = whether Delta Smelt (DS) or Longfin Smelt < 20 mm was observed from daily fish larva collections at the SWP or CVP fish facilities