

Smelt Working Group
March 14, 2016

Meeting Summary

The Working Group reviewed current Delta Smelt distribution, salvage data, and Delta conditions. The Working Group agreed that the relative risk of entrainment to adult Delta Smelt likely has decreased. Members noted that spawning likely is well underway, and adults are most likely holding their positions, rather than continuing migration. In light of this, the group's discussions primarily focused on the entrainment risk to larval and juvenile Delta Smelt.

The Working Group described 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:

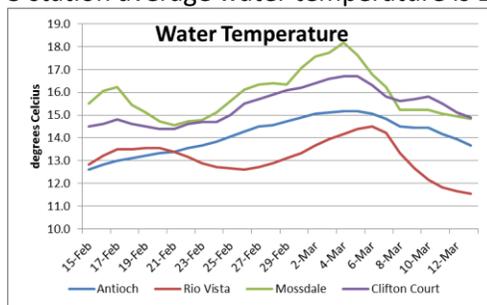
- -1250 to -2000 cfs has a low risk of entrainment,
- -2000 to -3500 cfs has a low risk of entrainment,
- -3500 to -5000 cfs has a medium risk of entrainment.

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, March 21, 2016 at 10 am.

Reported Data

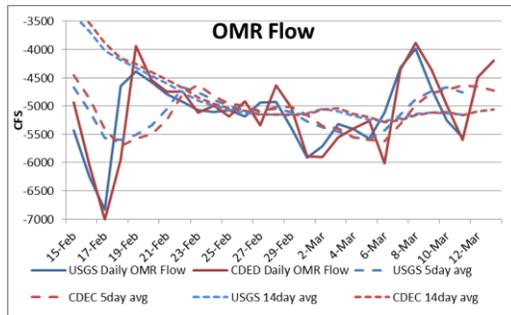
1. Current environmental data
 - a. Temperature

3 station average water temperature is 13.4°C.



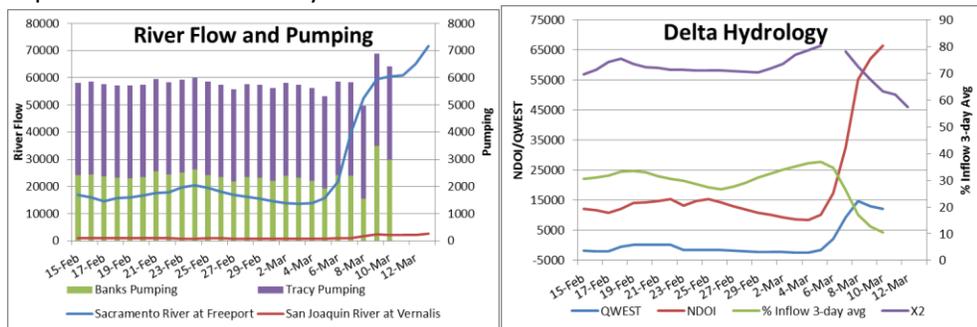
- b. OMR flow

USGS OMR daily, 5-day, and 14-day average flows on March 11 are -5550, -4758, and -5150 cfs, respectively. The CDEC OMR daily, 5-day, and 14-day average flows for March 13 were -4149, -4723, and -5063 cfs, respectively.

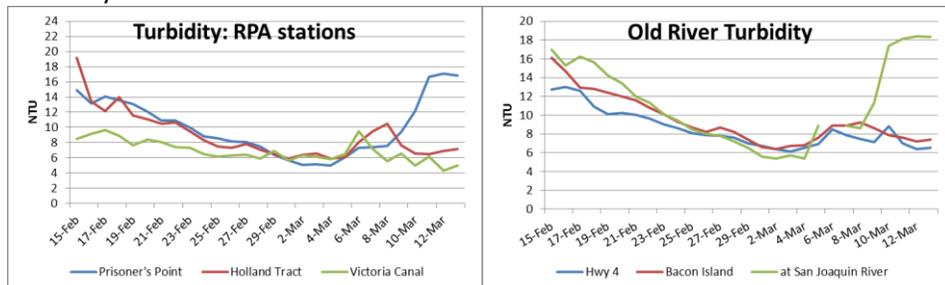


c. River Flows and pumping

Sacramento River at Freeport flow for March 13 was 71,785 cfs. San Joaquin River at Vernalis river flow for March 13 was 2,627 cfs. X2 is downstream of 57km. Combined exports are 6700 cfs today.



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) #5 was in the field the week of February 29. Sample processing is complete. No Delta Smelt were detected. A total of 101 young of the year Longfin Smelt have been identified, ranging in length from 6-18mm. SLS # 6 is in the field this week.

Spring Kodiak Trawl #3 was in the field last week. A total of seven adult Delta Smelt were collected, six from station 719 and one from station 606. Most fish were either spent or ripe.

20-mm survey #1 and SLS #6 are in the field this week.

The Early Warning Survey began November 30.

Early Warning Survey Results, March 7 though

Date	Location	Delta Smelt Catch
3/7	Prisoners Point	0
3/8	Jersey Point	0
3/9	Prisoners Point	0
3/10	Jersey Point	0
3/11	Station 902	0

During the meeting an update was given for the early warning survey at Prisoner's Point this morning. One 63 mm Delta Smelt was collected.

3. Modeling

Particle Tracking modeling (PTM) runs were reviewed (attached).

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

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 operations have begun at both the SWP and CVP. No larval Delta Smelt or Longfin Smelt have been detected in the samples processed so far this season.

5. Expected Project Operations

Jones pumping plant is pumping 3400 cfs today. The daily average intake to Clifton Court (CC) is 3300 cfs. Combined pumping is 6700 cfs today. Pumping may increase later in the week to match the actual flow at Vernalis.

6. Delta Conditions Team

DCT met on March 11. 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

The Working Group concluded that overall risk of entrainment of adult Delta Smelt into the south Delta has decreased from last week. Catch for the early warning survey at Prisoners Point and Jersey Point was zero from February 25 through March 11, turbidity levels over most of the southern Delta were below 8 NTUs over the past several weeks (see DWR turbidity transect between February 24 through March 9), and water temperatures have been gradually increasing (although temperatures have declined slightly over the last few days). Members do not expect to see detection of adults at the levels seen when catches peaked (>8 at Jersey and >4 at Prisoners at the end of December-beginning of January) in the early warning survey. Given that detections of ripe females in the Early Warning Survey as early as January 16, on February 8 in the Spring Kodiak Trawl Survey, and again at the SWP export facilities on February 18, and the elevated water temperatures since, members indicated that migration likely has tapered off, that spawning is well underway, and that young of the year Delta Smelt are likely present in the system.

The Working Group concluded that the overall risk to larval and juvenile Delta Smelt has decreased as well. Last week’s rainfall has resulted in significant flow increases to the Delta from the Sacramento River side. The March 8 PTM runs that were provided and reviewed to the

Working Group today capture this increased observed river flow. As in the current week, last week's PTM runs were based on observed river flows. River forecasts indicate that Freeport will peak at approximately 78,000 cfs on Wednesday, March 16, and that Vernalis will peak at approximately 4,800 cfs tomorrow, March 15.

The Delta 3-station water temperature surpassed 12°C on February 11 and as of March 13 is 13.4°C. The Working Group discussed that if spawning began in mid-February (concurrency of ripe females and appropriate water temperatures in mid-February), and given the subsequent water temperatures, there is a good chance that at least some larvae are in the system. The additional detection of spent fish last week in the SKT survey, further supports the conclusion that larval or juvenile Delta Smelt are in the system. Members expressed concern that larvae were not detected in SLS #5. A review of the historical survey data, given similar Delta conditions, and smelt maturation data, indicate that young of the year Delta Smelt presence was confirmed in early- to mid-March in previous years (presence confirmed in 2014 and 2015 20-mm survey 1; the first week of March). Should this week's SLS Survey #6 have zero catch, the Working Group indicated larval density (much like adult density) may be too low for detection, making risk assessments challenging.

Last week, members stressed the importance of providing adequate protection for larval fish, even if surveys have zero catch and there is no detection of small larvae or salvage of larvae 20 mm or larger. Additionally, the Working Group does not anticipate sufficient catch of Delta Smelt larvae in the 20mm Survey to determine distribution. Given that the last consistent detections of ripe Delta Smelt were in the lower San Joaquin River, the Working Group assumes spawning occurred, or is occurring, in the lower San Joaquin River, as well as potentially in the Old River corridor.

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. Given data from the past six years, members noted that the typical first detection of larval Delta Smelt is mid-March, while data from the previous two years indicates the first detection to be early March, a shift potentially associated with drought conditions and warmer temperatures.

The Working Group based their risk assessment for larval Delta Smelt on the attached PTM runs. The runs from March 8 include some of the increased Sacramento River flow from last week's storms. Insertion points were Jersey Point and Prisoner's Point at OMR flows of -5000, -2500, -2000 cfs and -1250 cfs. Members stressed the importance of weighing more heavily the results from inserting at Prisoner's Point, given the consistent catch of adults there this year and the hydrologic proximity of that location to the south Delta (as compared to Jersey Point). For OMR flow of -5000 cfs, approximately 20% of the particles inserted at Prisoners Point were entrained into the South Delta. For an OMR flow of -2500 cfs, approximately 10% of particles inserted at Prisoners Point were entrained into the South Delta. For an OMR flow of -1250 cfs, less than 10% of particles inserted at Prisoners Point were entrained into the South Delta.

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 March 20.
- 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 so far this season, 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.
 - Persistence of risk: expected to continue at least through March 20.
- OMR flow of -3500 to -5000 cfs: There is a medium risk of entrainment under this flow range.
 - Risk factors: lowest annual indices on record.
 - Salvage: none so far this season, 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.
 - Persistence of risk: expected to continue at least through March 20
 - Substantial levels of particle entrainment in the PTM runs at this OMR flow level.

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, reduced turbidity in the south Delta.
 - 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, reduced turbidity in the south Delta.
 - 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 low to medium risk of entrainment under this flow range.
 - 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 through remainder of the season

The Working Group will continue to monitor conditions and smelt distribution and will meet again on Monday, March 21, 2016.

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

Advice for week of March 14, 2016:

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

Longfin Smelt larvae were detected at stations influenced by Barker Slough operations, but based on recent operations (zero exports), no advice is necessary (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 (≥ 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. On March 9, 2016, the first Longfin Smelt was salvaged for the water year, a young-of-the-year; additional young-of-the-year were salvaged on March 11 for a total salvage of 11. Salvage of young-of-the-year does not count toward 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. No sampling was conducted in February or so far in March by the Bay Study. 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 5. 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 fifth Smelt Larva Survey (SLS) of 2016 was completed during the week of February 29th and sample processing completed on March 11. Only a single Longfin Smelt larvae was detected at 1 of 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 were very low.

5. The February 1 water supply index forecast at 50 percent exceedance remains within the “dry” range of water year types, and triggers review of larva distribution and Barker Slough operations. Three larva each were detected at stations 716 and 723 during SLS survey 5 (Table 1, Figure 1). Barker Slough exports dropped to zero on March 2. The current Barker Slough operations are protective of Longfin Smelt.

Current conditions: The Sacramento River flow increased to 71,785 cfs on March 13 and the San Joaquin River at Vernalis was 2,627 cfs. Also on March 12, X2 declined to less than 57 km; Qwest was +9,607 cfs; combined State and federal exports reached almost 6,700 cfs targeting an OMR of -5,000 cfs. Export facilities will continue to target -5,000 cfs, so exports will increase with increasing San Joaquin River inflow. Barker Slough exports dropped to 0 cfs on March 2 and have remained at that level through March 10.

Bay Study sampling was not conducted in February and may not be in 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 24th, one adult on February 22nd, three on February 8th, one each on the 11th and the 12th; eight Longfin Smelt were collected January 13th; two adults on December 18 and the third adult on December 23. In December, a few Longfin Smelt were collected by the Fall Midwater Trawl, one each in Carquinez Strait, Grizzly Bay and just upstream of Chipps Island. These were the first and only collections of Longfin Smelt by the

Fall Midwater Trawl this year. Also in December, a single Longfin Smelt was collected by the Bay Study in Carquinez Strait. No Longfin Smelt was collected in the San Joaquin River or south Delta by either survey in December.

The Smelt Larva Survey #5 caught only a single larvae at a single station in the central and south Delta (Table 1), and thus did not achieve either trigger criterion (Criteria 3 & 4 above). Three larva were detected at station 716, the criterion station for potential advice on Barker Slough operations during dry and critical water-year types.

Beginning last week (March 9 and 11), 10 young-of-the-year Longfin Smelt have been salvaged this water year. There is no young-of-the-year salvage target for advice, in contrast for adults for which the target this year is 20.

Summary of Risk: Risk of entrainment in the south Delta is low due to a strong positive Qwest and extremely limited detections of larvae in central and south Delta criteria stations. Qwest will likely remain positive for several more days as high runoff enters from eastern Delta tributaries. A decreasing likelihood continues of additional larvae hatching in the lower San Joaquin River, and larva numbers are likely to be low (Table 1). We currently have no information indicating much or any spawning in the central or south Delta.

The Barker Slough distribution trigger (presence at Smelt Larva Survey station 716) was maintained with three larvae (Table 1, Figure 1). Nonetheless, Barker Slough exports stopped as of March 2, so there is no risk of entrainment at this location.

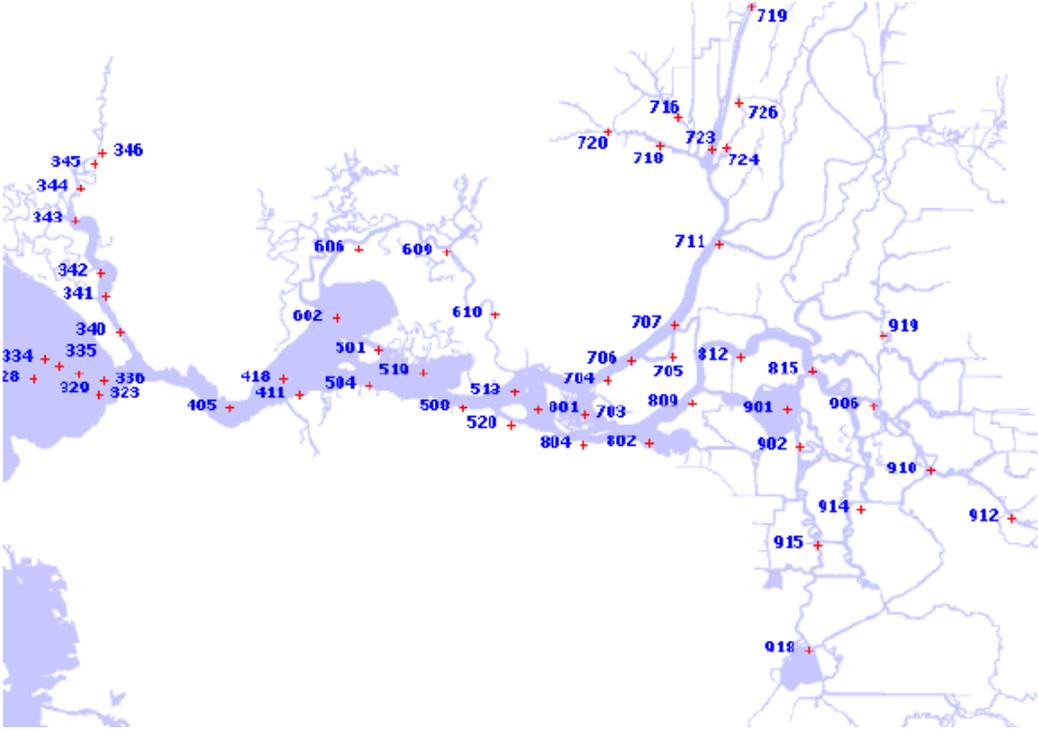
Table 1. Longfin Smelt catch by station in Smelt Larva Survey 5. Sample processing is complete.

Year	Survey #	SLS Station	Sample Status	Species	Smelt Catch
2016	5	340	Processed		No Smelt Catch
2016	5	342	Processed		No Smelt Catch
2016	5	343	Processed		No Smelt Catch
2016	5	344	Processed		No Smelt Catch
2016	5	345	Processed		No Smelt Catch
2016	5	346	Processed	Longfin Smelt	2
2016	5	347	Processed	Longfin Smelt	1
2016	5	348	Processed		No Smelt Catch
2016	5	349	Processed	Longfin Smelt	1
2016	5	405	Processed		No Smelt Catch
2016	5	411	Processed		No Smelt Catch
2016	5	418	Processed		No Smelt Catch
2016	5	501	Processed	Longfin Smelt	1
2016	5	504	Processed	Longfin Smelt	1
2016	5	508	Processed	Longfin Smelt	4
2016	5	513	Processed	Longfin Smelt	5
2016	5	519	Processed	Longfin Smelt	5
2016	5	520	Processed	Longfin Smelt	3
2016	5	602	Processed		No Smelt Catch
2016	5	606	Processed	Longfin Smelt	15
2016	5	609	Processed	Longfin Smelt	34
2016	5	610	Processed		No Smelt Catch
2016	5	703	Processed	Longfin Smelt	5
2016	5	704	Processed	Longfin Smelt	7
2016	5	705	Processed		No Smelt Catch
2016	5	706	Processed	Longfin Smelt	5
2016	5	707	Processed	Longfin Smelt	12
2016	5	711	Processed		No Smelt Catch
2016	5	716	Processed	Longfin Smelt	3
2016	5	723	Processed	Longfin Smelt	3
2016	5	801	Processed	Longfin Smelt	2
2016	5	804	Processed		No Smelt Catch
2016	5	809	Processed		No Smelt Catch
2016	5	812	Processed	Longfin Smelt	1
2016	5	815	Processed		No Smelt Catch
2016	5	901	Processed		No Smelt Catch
2016	5	902	Processed		No Smelt Catch
2016	5	906	Processed		No Smelt Catch
2016	5	910	Processed		No Smelt Catch
2016	5	912	Processed		No Smelt Catch
2016	5	914	Processed		No Smelt Catch
2016	5	915	Processed		No Smelt Catch
2016	5	918	Processed		No Smelt Catch
2016	5	919	Processed		No Smelt Catch

SWP ITP Criteria Stations

Processing is complete through 3/11/16

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



Department of Water Resources
Division of Operations and Maintenance
SWP Water Operations Office

Delta Turbidity Conditions Report

For conditions through: March 10, 2016

General Conditions:

Inflows:

Freeport	60560 CFS
Yolo Bypass	1677 CFS
Vernalis	2248 CFS
Cosumnes	1993 CFS
Mokelumne	106 CFS
Calaveras	18 CFS

Exports:

Clifton Court	3098 CFS
Jones	3431 CFS

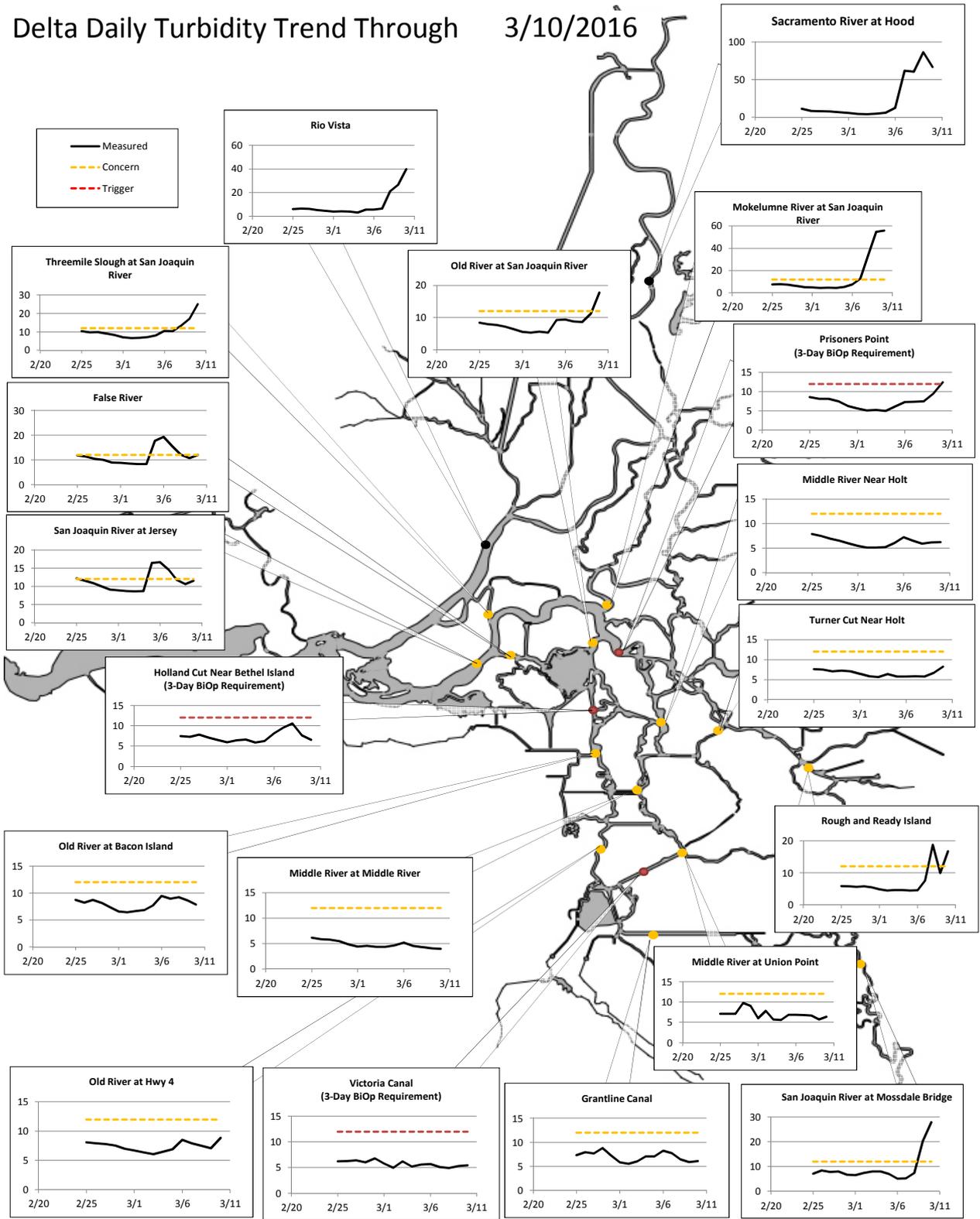
Other:

OMR (Index)	-5014 CFS
QWEST	12197 CFS
NDOI	66450 CFS

Missing/Suspect Data:

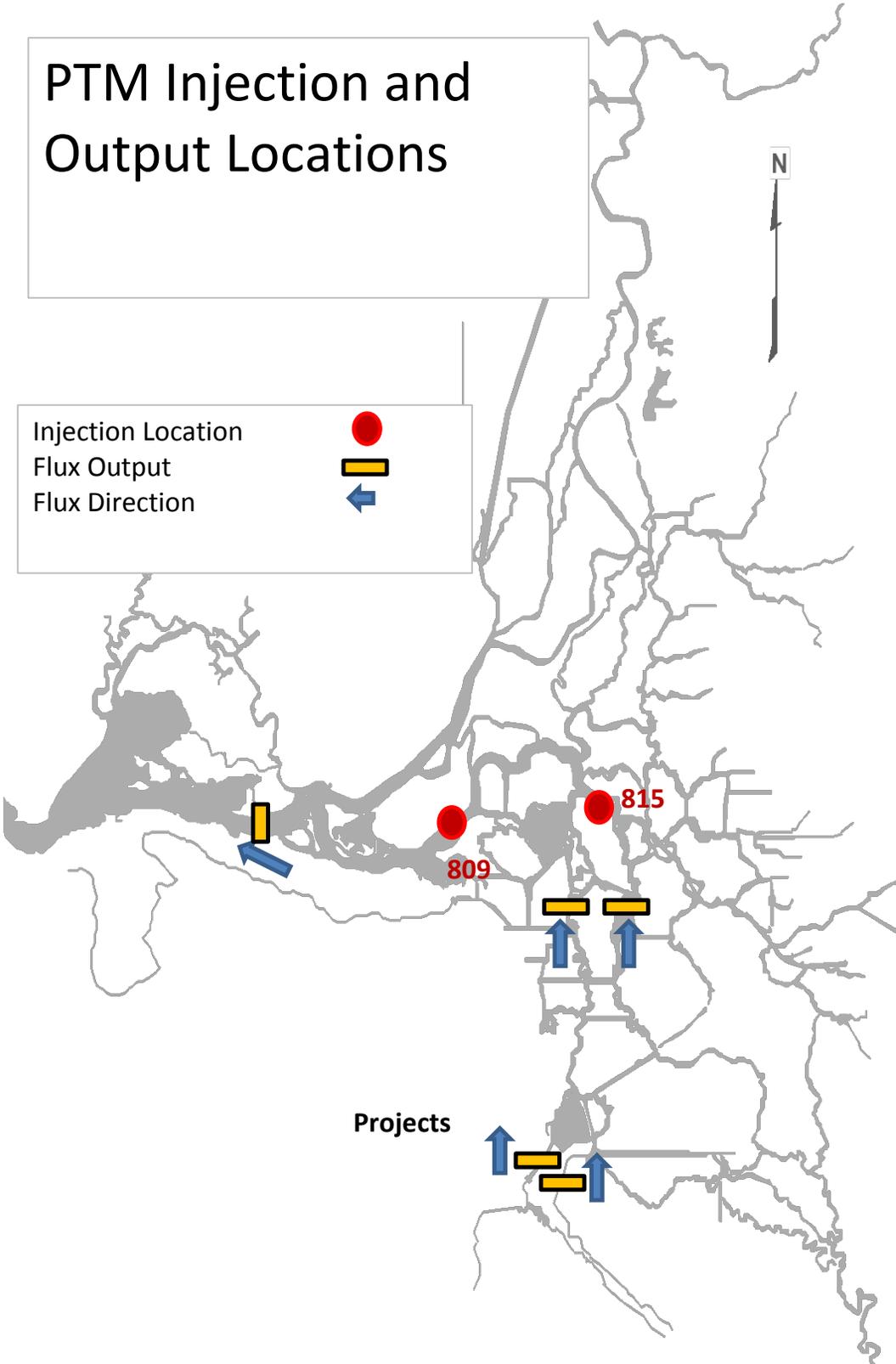
Delta Daily Turbidity Trend Through

3/10/2016

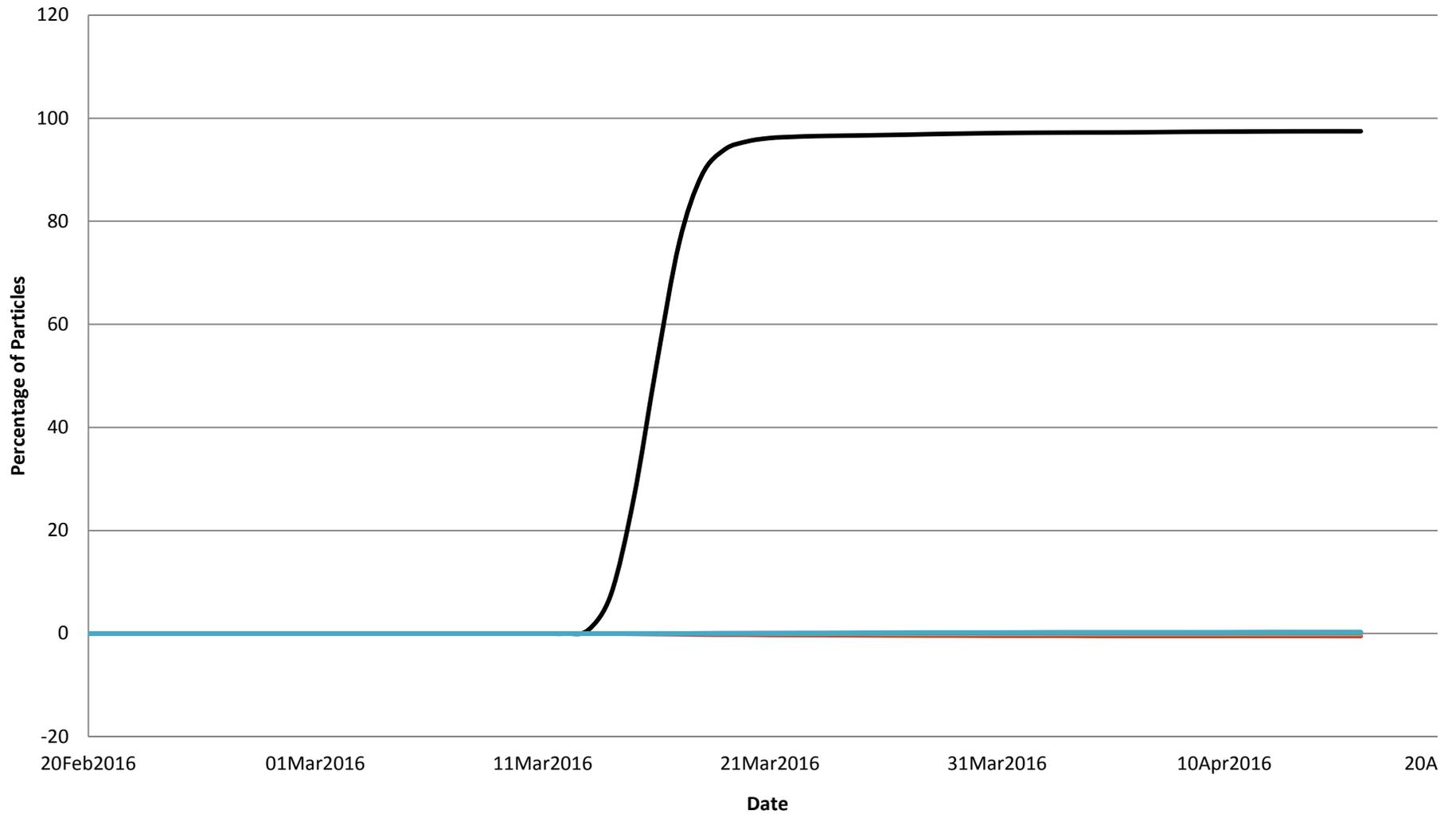


PTM Injection and Output Locations

Injection Location
Flux Output
Flux Direction

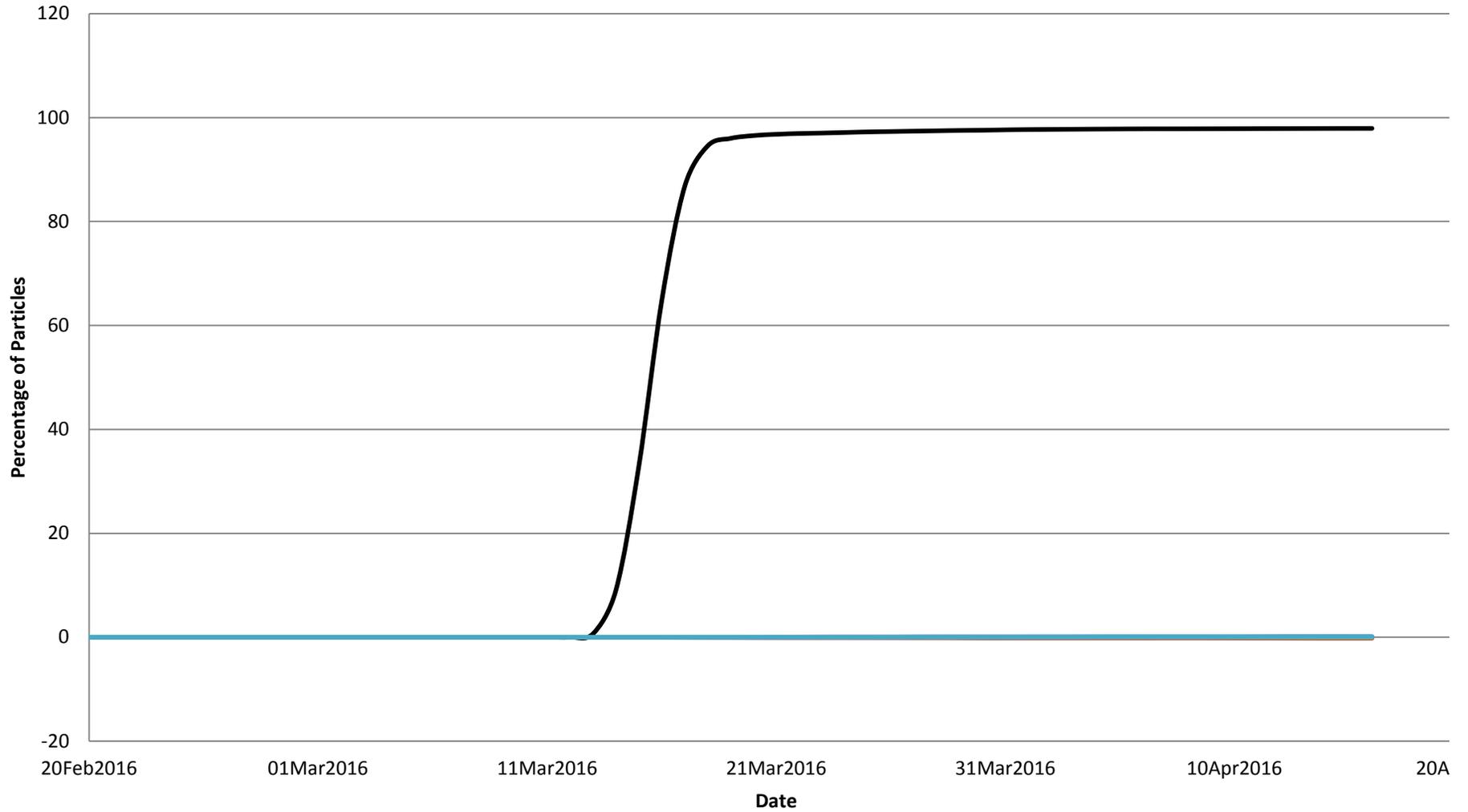


Flux for Base Case (OMR -5000 cfs) Particles inserted at Jersey Point on Mar 12, 2016



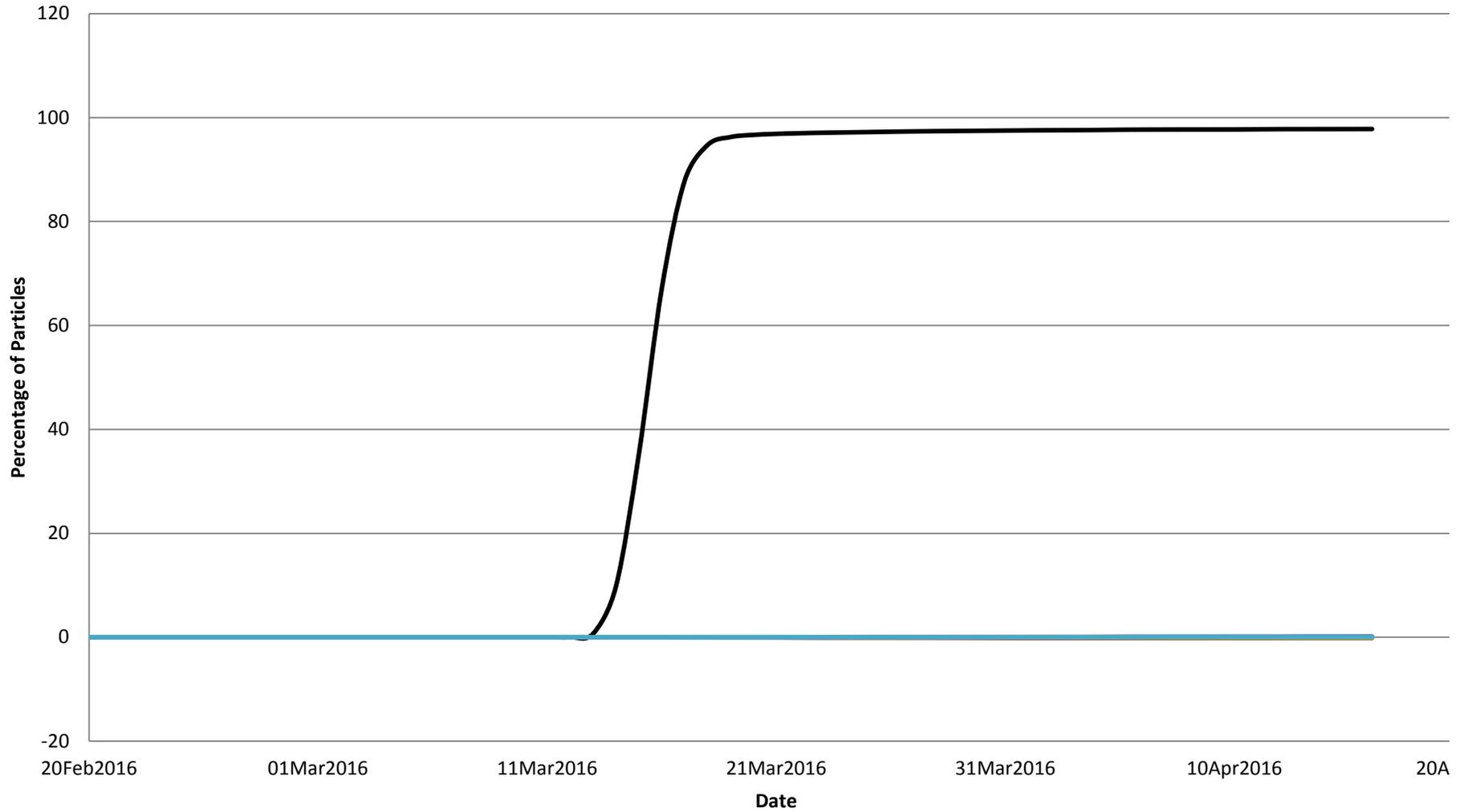
— Chipps — Old River adjacent to Holland Tract — Middle River adjacent to Bacon Island — SWP — CVP

Flux at OMR -2500 cfs Particles inserted at Jersey Point On Mar 12, 2016



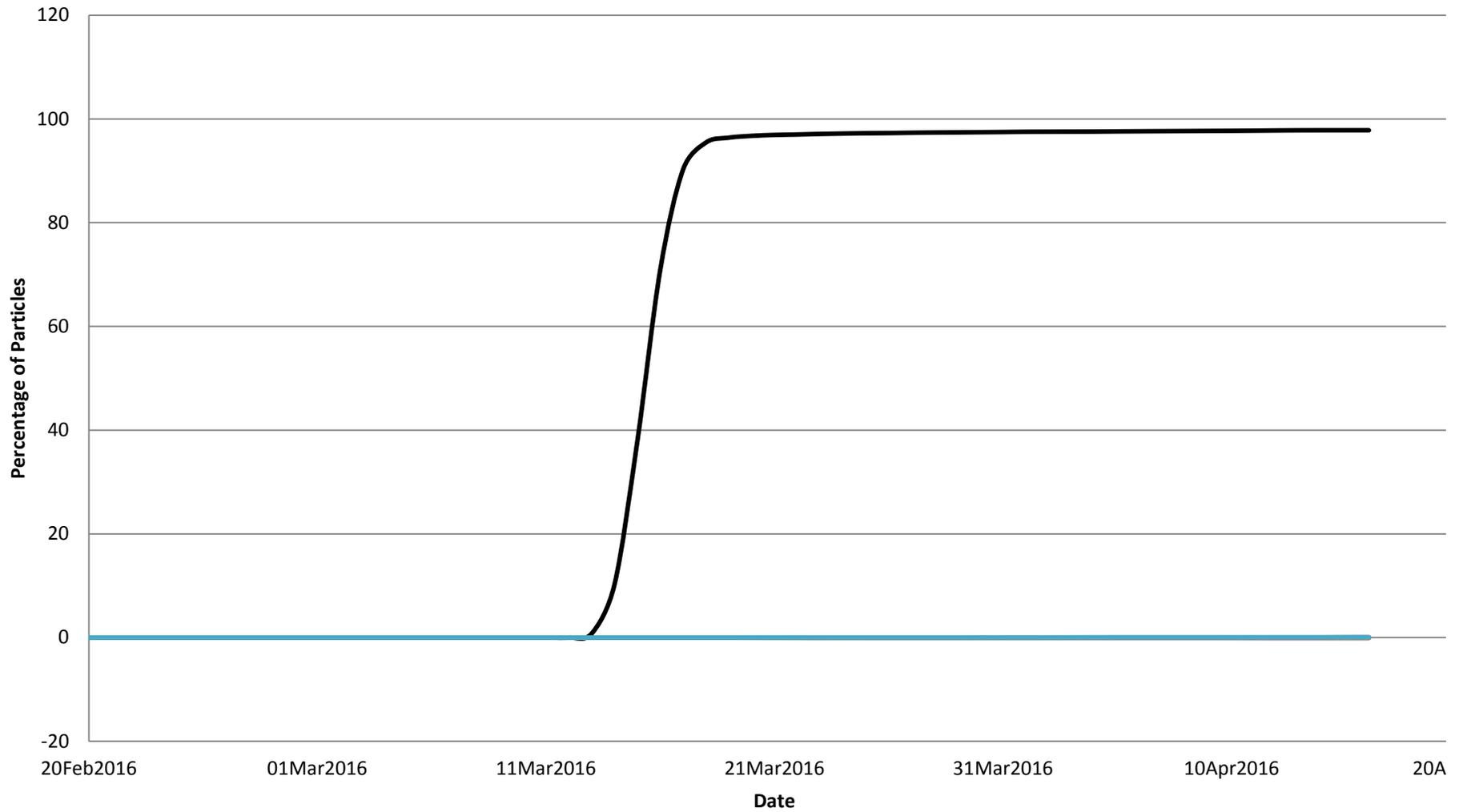
— Chipps — Old River adjacent to Holland Tract — Middle River adjacent to Bacon Island — SWP — CVP

Flux at OMR -2000 cfs Particles inserted at Jersey Point On Mar 12, 2016



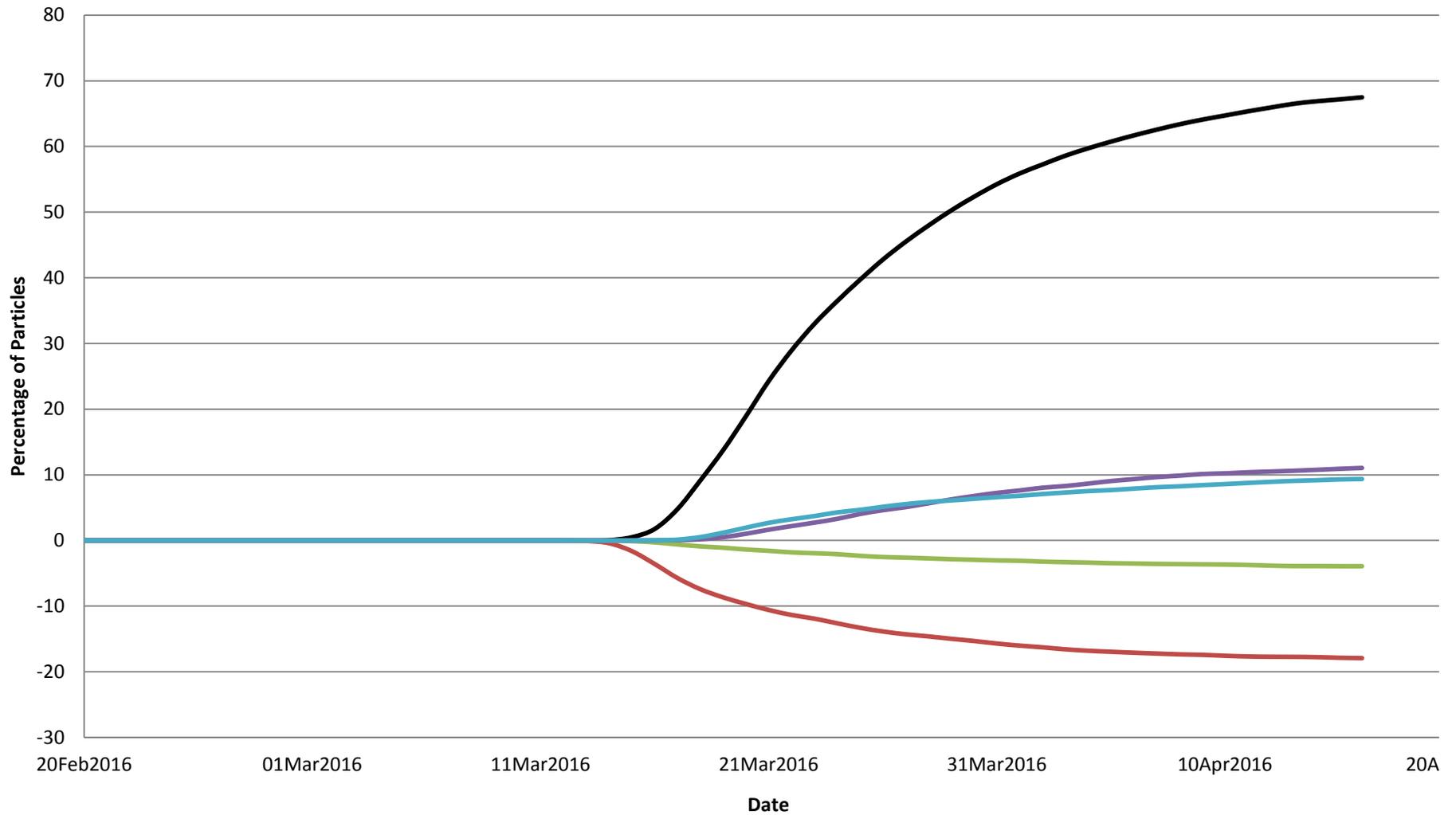
— Chipps — Old River adjacent to Holland Tract — Middle River adjacent to Bacon Island — SWP — CVP

Flux at OMR -1250 cfs Particles inserted at Jersey Point on Mar 12, 2016



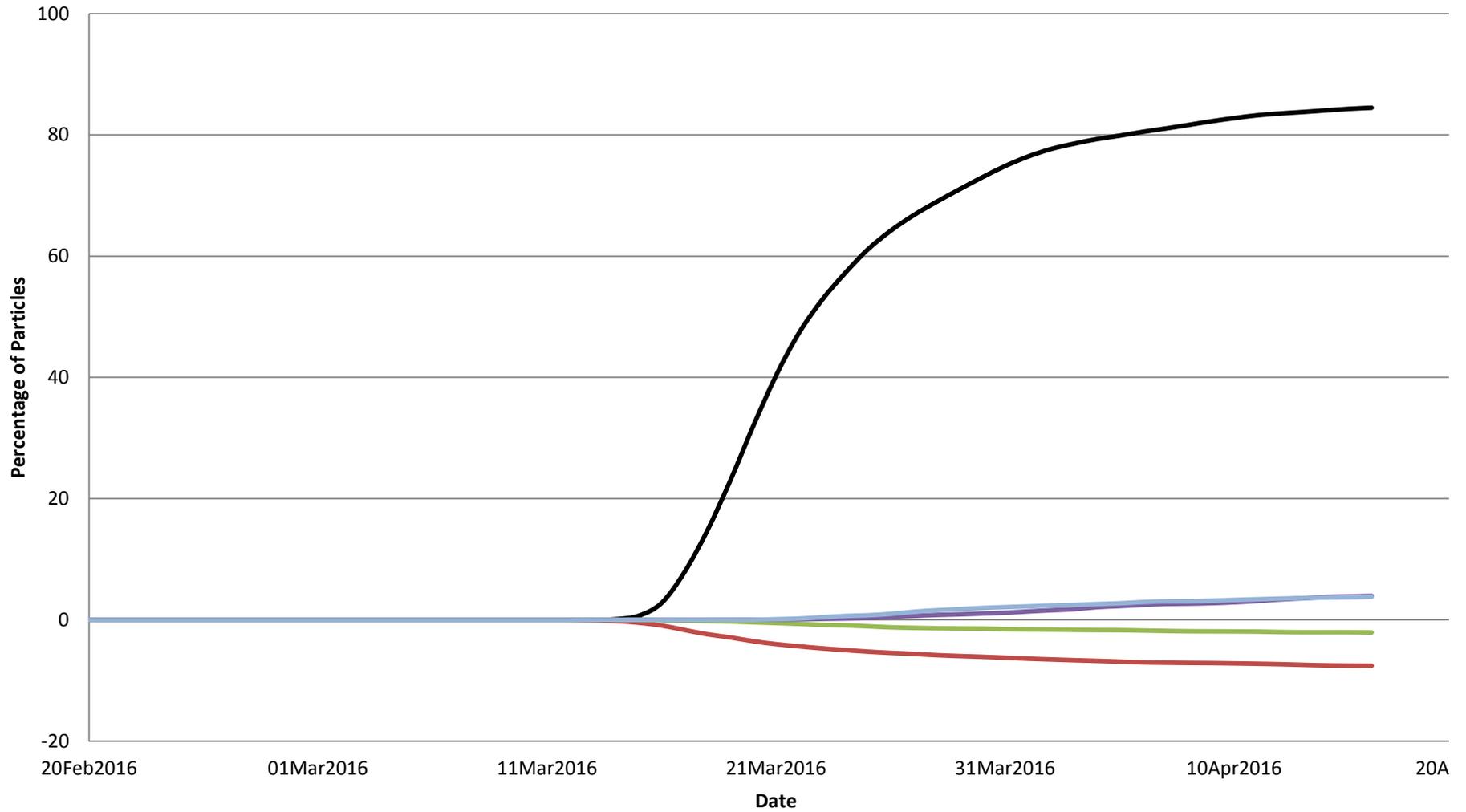
— Chipps — Old River adjacent to Holland Tract — Middle River adjacent to Bacon Island — SWP — CVP

Flux for Base Case (OMR -5000 cfs) Particles inserted at Prisoner's Point on Mar 12, 2016



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

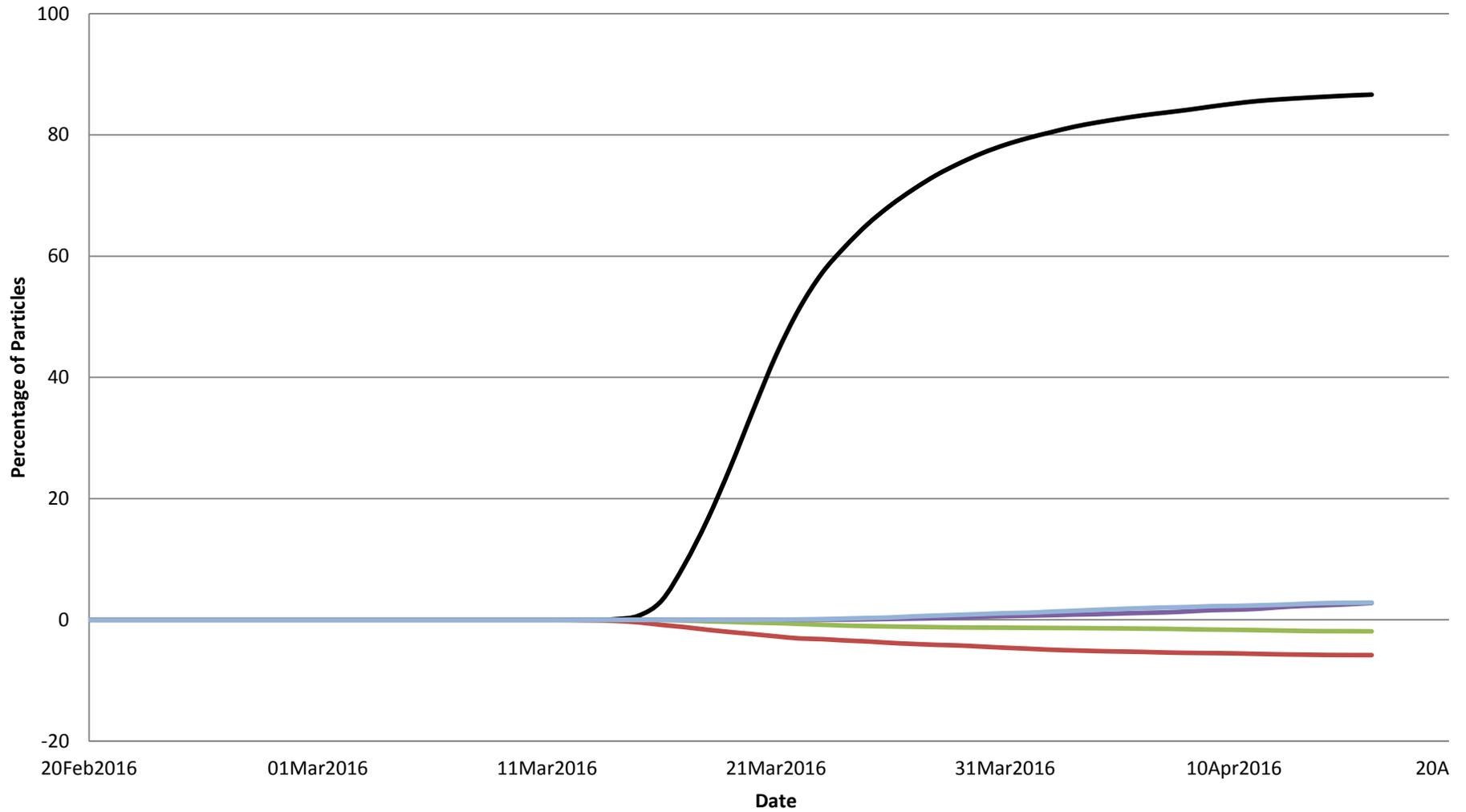
Flux at OMR -2500 cfs Particles inserted at at Prisoner's Point On Mar 12, 2016



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

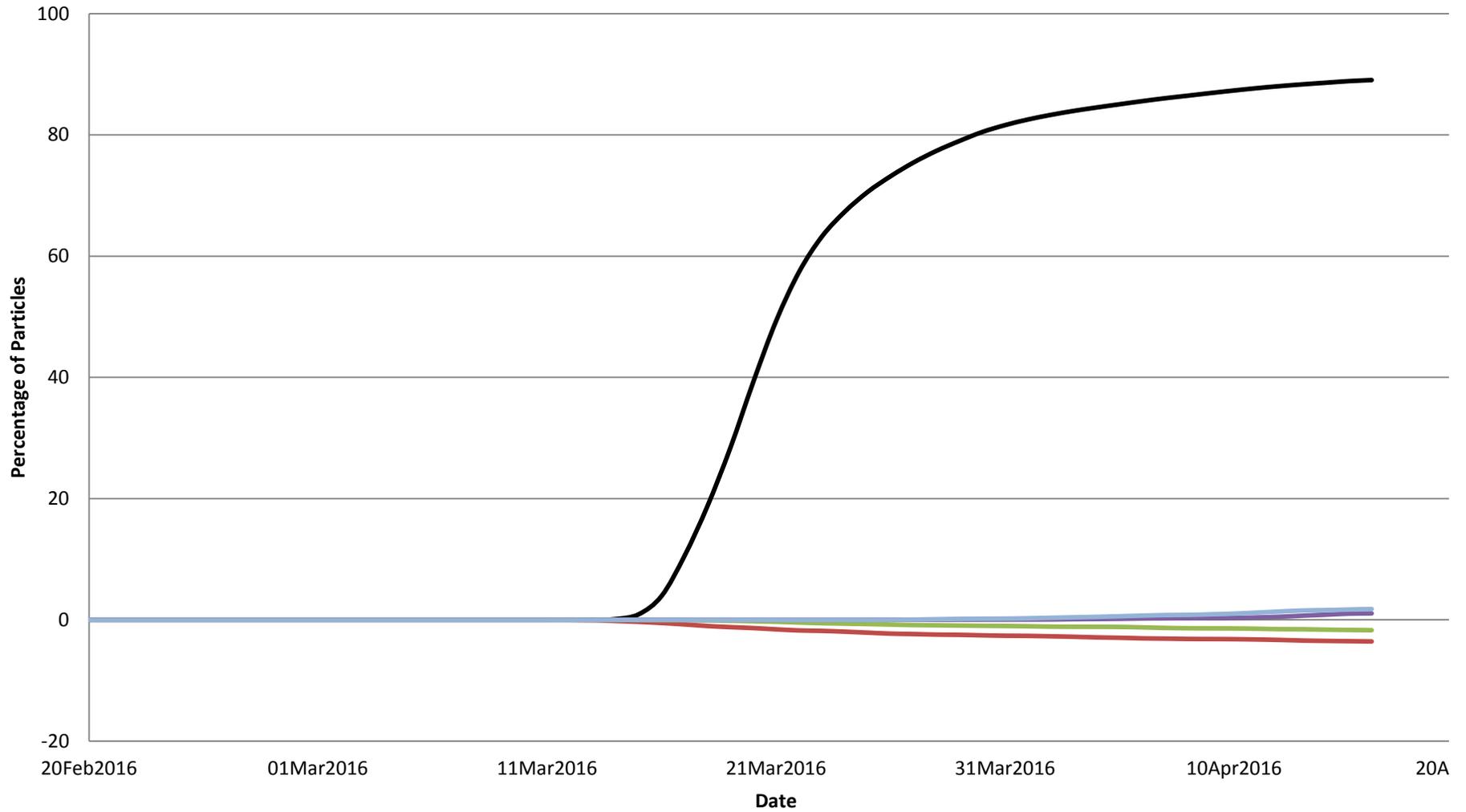
Flux at OMR -2000 cfs

Particles inserted at at Prisoner's Point On Mar 12, 2016



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

Flux at OMR -1250 cfs Particles inserted at at Prisoner's Point on Mar 12,2016



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

SWG Weekly Salvage Update
Reporting Period: March 7-13, 2016
Prepared by Bob Fujimura on March 14, 2016 9:50
Preliminary Results -Subject to Revision

Species/Life Stage	Daily Salvage							Trend	
	7-Mar	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar	13-Mar		
Adult Delta Smelt									
SWP	0	0	0	0	0	0	0		0
CVP	0	0	0	0	0	0	0		0
TOTAL	0	0	0	0	0	0	0	→	0.0
CUM TAKE	12	12	12	12	12	12	12		
% of 2016 CL	29%	29%	29%	29%	29%	29%	29%		0
Juvenile Longfin Smelt									
SWP	0	0	2	0	0	0	0		0
CVP	0	0	0	0	8	0	0		1
TOTAL	0	0	2	0	8	0	0	↗	1
SWP daily export	4,764	3,079	6,913	5,926	6,124	5,824	5,733	↗	5,480
CVP daily export	6,794	6,771	6,771	6,805	6,791	6,799	6,109	→	6,691
SWP reduced counts	0%	0%	0%	0%	0%	0%	0%	→	0%
CVP reduced counts	0%	0%	0%	0%	0%	0%	0%	→	0%
SWP larval samples	100%	100%	NA	NA	NA	NA	NA		100%
CVP larval samples	100%	100%	100%	100%	100%	100%	NA		100%
DS larvae present - SWP	N	N	NA	NA	NA	NA	NA		
DS larvae present - CVP	N	N	N	N	N	N	NA		
LFS larvae present - SWP	N	N	NA	NA	NA	NA	NA		
LFS larvae present - CVP	N	N	N	N	N	N	NA		

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

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. Both cases were 15 minutes in duration.

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