

# January 2017 Seasonal Forecast

## Barrier Assumptions

- The Middle River barrier is installed from March 31<sup>st</sup>, 2017 to November 20<sup>th</sup>, 2017
- The Old River at Tracy barrier is installed from April 3<sup>rd</sup>, 2017 to November 12<sup>th</sup>, 2017
- The Grant Line Canal barrier is installed from April 17<sup>th</sup>, 2017 to November 4<sup>th</sup>, 2017
- The HORB is installed from April 3<sup>rd</sup>, 2017 to November 12<sup>th</sup>, 2017.

## Hydrology Assumptions

The water allocations studies upon which this January 2016 Seasonal Forecast is based include actual water supply conditions as of December 1, 2016. The Water Year classification is Dry for the Sacramento Valley and Critical for the San Joaquin Valley. (In the 25% exceedance case, the classifications are Wet for the Sacramento Valley and Above Normal for the San Joaquin Valley.) The hydrology data for the forecast were taken from a planning tool, and real time changes in operations have occurred since these studies were completed. Two scenarios were run under the following hydrologic assumptions:

### 50% Exceedence (90% Fall)

- Wetter hydrology (50%) based on the May 1st Water Supply Index (WSI) until September with historical hydrology (90%) in the fall months (Oct-Dec)
- Operating to meet SWRCB Water Rights Decision 1641 (D-1641) objectives along with moderate export restrictions required under the 2008 USFWS BiOp for Delta Smelt, 2009 NMFS BiOp for Salmonids and 2010 DFG Longfin Incidental Take Permit.
- Sacramento Valley Index was 21.5 and the San Joaquin Valley Index was 8.9.

Table 1: Assumptions for 50% Exceedence

	Sacramento River		East Side Steams CFS	San Joaquin River at Vernalis CFS	Jones PP CFS	Banks PP CFS	Delta Inflow CFS	NDOI CFS
	Accretions CFS	Freeport CFS						
Jan	17890	74454	6733	11173	4521	6099	92587	84103
Feb	54018	94279	6444	7617	4556	1603	108578	104670
Mar	40388	74750	4582	8192	4185	1580	87749	83036
Apr	21847	40266	3223	6184	807	672	49874	47593
May	7969	25371	2056	5334	813	667	32958	29220
Jun	2521	20957	1333	2101	1260	1260	24583	18011
Jul	-1464	21045	623	2082	4586	6635	23949	8003
Aug	-1464	19305	490	1513	4586	6652	21511	6133
Sep	2017	18520	697	1244	4571	6638	20666	6724
Oct	-407	12962	210	2033	4586	2293	15407	6892
Nov	1477	12134	260	1628	4565	1846	14229	6986
Dec	2228	12198	160	1626	4196	4261	14201	5001
Avg.	12252	35520	2234	4227	3603	3351	42191	33864

### 25% Exceedence (90% Fall)

- Wetter hydrology (25%) based on the May 1st Water Supply Index (WSI) until September with historical hydrology (90%) in the fall months (Oct-Dec)
- Operating to meet SWRCB Water Rights Decision 1641 (D-1641) objectives along with moderate export restrictions required under the 2008 USFWS BiOp for Delta Smelt, 2009 NMFS BiOp for Salmonids and 2010 DFG Longfin Incidental Take Permit.
- Sacramento Valley Index was 26.0 and the San Joaquin Valley Index was 10.4.

Table 2: Assumptions for 25% Exceedence

	Sacramento River		East Side Steams CFS	San Joaquin River at Vernalis CFS	Jones PP CFS	Banks PP CFS	Delta Inflow CFS	NDOI CFS
	Accretions CFS	Freeport CFS						
Jan	17890	94035	6733	11173	4521	6115	112168	103668
Feb	54018	94261	6444	7617	4556	1621	108560	104634
Mar	40388	75483	4582	8192	4185	1629	88482	83720
Apr	21847	40821	3223	6184	807	739	50429	48080
May	7969	24119	2056	5334	813	716	31706	27919
Jun	2521	20957	1333	2101	1260	1260	24583	18011
Jul	-1464	21289	623	2082	4586	6635	24193	8247
Aug	-1464	20102	490	1513	4586	6652	22308	6930
Sep	2017	24519	697	1244	1479	6638	26666	15816
Oct	-407	17331	210	2033	813	4586	19776	12742
Nov	1477	13963	260	1628	806	1678	16058	12742
Dec	2228	11173	160	1626	3480	3952	13176	5001
Avg.	12252	38171	2234	4227	2658	3518	44842	37293

### Summary of Results

#### EC and Bromide at Checks 2, 13, 41, and Silverwood Lake

- The 50% and 25% exceedence follow a similar trend for most of the forecast period. The values in the 50% exceedence scenario peak higher between September and November. The values in the 25% exceedence scenario peak in September, then decrease through November and increase again by December.
- The average combined pumping for August through December for the 25% and 50% scenarios were 3,467 cfs and 4,419 cfs respectively. The pumping is lower in the 25% case because the Projects would need to meet the Fall X-2 requirement. The lower pumping combined with the higher outflow in the 25% scenario leads to an improved water quality.

#### EC and bromide at Export Locations and Old River Locations (Bacon Island and Highway 4)

- The higher peak observed in the 50% scenario is most likely due to generally lower Delta inflows in September, October, and November combined with slightly higher pumping. The spike observed in the 25% scenario at Jones in November and December is most likely due to the water quality degradation at the San Joaquin River.