

## March 2016 Seasonal Forecast

### Barrier Assumptions

- The Middle River barrier is installed from March 9<sup>th</sup>, 2016 to November 20<sup>th</sup>, 2016
- The Old River at Tracy barrier is installed from March 25<sup>th</sup>, 2016 to November 4<sup>th</sup>, 2016
- The Grant Line Canal barrier is installed from April 15<sup>th</sup>, 2016 to November 4<sup>th</sup>, 2016
- The HORB is installed from April 1<sup>st</sup>, 2016 to November 12<sup>th</sup>, 2016.

### Hydrology Assumptions

The water allocations studies upon which this March 2016 Seasonal Forecast is based include actual water supply conditions as of March 1, 2016. However, March was wet, with above average gains in precipitation and snowfall for the majority of the state. Two scenarios were run under the following Hydrologic assumptions:

#### 50% Exceedence (90% Fall)

- Wetter hydrology (50%) based on the March 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.
- Projects' exports including the Lower Yuba Accord Component #1 water to both the State Water Project and Central Valley Project.

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	26591	31161	862	1485	2358	2228	33735	30631
Feb	14012	21123	834	1060	2886	2138	23248	17854
Mar	14657	30486	1710	1270	2345	1857	33692	29988
Apr	7394	18385	1680	2511	1294	202	22777	20304
May	2277	12539	1240	2872	813	618	16848	13234
Jun	-1681	12386	950	1074	807	1495	14603	8478
Jul	-3741	17256	330	947	2212	6684	18732	5163
Aug	-2114	18166	350	833	4033	6668	19553	4878
Sep	1176	16738	480	889	4571	6638	18313	4503
Oct	-407	10360	210	1537	4586	1073	12309	4999
Nov	1477	11680	260	1292	4565	3038	13440	5002
Dec	2228	11693	160	1306	4586	3188	13376	5002
Avg.	5156	17664	756	1423	2921	2986	20052	12503

90% Exceedence (90% Fall)

- Drier hydrology (90%) based on the March 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.
- Projects' exports including the Lower Yuba Accord Component #1 water to the State Water Project and Central Valley Project.

Table 2: Assumptions for 90% 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	26591	31161	862	1225	2358	2228	33475	30371
Feb	14012	21123	834	1060	2886	2138	23248	17854
Mar	14657	29004	1710	1270	2345	1857	32210	27926
Apr	1513	11915	390	1300	1294	202	13806	10963
May	-1464	9270	280	1262	813	618	11009	7233
Jun	-4033	12033	180	604	807	1176	13010	7103
Jul	-5692	14735	120	622	813	6017	15676	4134
Aug	-3253	16003	110	540	1935	6668	16857	4241
Sep	504	16570	160	654	4504	6268	17590	4108
Oct	-407	7276	210	1529	813	1854	9217	4997
Nov	1477	8274	260	1242	1880	2266	9983	5002
Dec	2228	8018	160	1225	1708	2309	9620	5002
Avg.	3844	15448	440	1044	1846	2800	17142	10744

Summary of Results

EC and Bromide at Checks 13, 14, and Silverwood Lake

- From March 2016 to August 2016, the EC outputs for the 50% and 90% exceedance range from approximately 500 us/cm to 600 us/cm while bromide is around 0.2 to 0.3 mg/l. The EC and bromide begin to increase around September, peak near November, and begin to decrease in December.

EC and Bromide at Check 2

- The EC at Check 2 is around 250 us/cm in March and begins to increase around August. The EC peaks around October, and then decreases for the remainder of the forecast period. A similar pattern can be seen in the bromide results. This mirrors the estimated Banks pumping during the forecasting period.

### Summary of EC Results (continued)

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

- In the summer months higher pumping and lower delta out leads to degradation in water quality.
- Outflow increases and pumping decreases around the month of October and water quality begins to improve.
- In the 50% exceedance case there is higher pumping in November and December which leads to a degradation in water quality.

#### EC and Bromide at Export Locations

- The trends at Banks and Jones are similar to what is seen at Bacon Island and Highway 4.