

# May 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 May 2016 Seasonal Forecast is based include actual water supply conditions as of May 1, 2016. The Water Year classification is Below Normal for Sacramento Valley and Dry for 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 18.6 and the San Joaquin Valley Index was 7.1

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	30643
Feb	14012	21123	834	1060	3946	2138	23248	16798
Mar	41348	60549	2427	2036	3094	2638	65236	60462
Apr	10571	19797	924	1765	992	739	22687	20788
May	1626	14312	813	1952	1041	797	17274	13067
Jun	-1849	13092	1055	504	807	1200	14844	9010
Jul	-3578	20638	411	829	4017	7010	22077	6500
Aug	-1870	19597	389	797	4586	6993	20987	5419
Sep	1176	17041	540	908	4571	6974	18694	4555
Oct	-407	12929	210	1691	4586	3789	15033	5006
Nov	1477	11445	260	1393	3659	3810	13306	5006
Dec	2228	12214	160	1350	4424	3919	13941	5001
Avg.	7611	21158	740	1314	3173	3520	23422	15188

90% Exceedence (90% Fall)

- Drier hydrology (90%) 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 17.6 and the San Joaquin Valley Index was 6.8

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	30383
Feb	14012	21123	834	1060	3946	2138	23248	16798
Mar	41348	60549	2427	2036	3094	2638	65236	60462
Apr	10571	19797	924	1765	992	739	22687	20788
May	-244	12442	813	1952	1041	797	15403	11066
Jun	-3193	11966	1018	504	975	1032	13680	7813
Jul	-4716	19972	382	667	3155	7010	21219	6498
Aug	-2683	18849	375	618	3659	6993	20046	5398
Sep	504	17209	518	739	4571	6974	18673	4458
Oct	-407	12230	210	1529	3253	4261	14171	5006
Nov	1477	10445	260	1242	2551	3776	12155	4996
Dec	2228	10490	160	1220	3350	3139	12087	5001
Avg.	7124	20519	732	1213	2745	3477	22673	14889

Summary of Results

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

- From May 2016 to July 2016, the EC outputs for the 50% and 90% exceedence range from approximately 500 us/cm to 550 us/cm while bromide is around 0.2 to 0.3 mg/l. The EC and bromide begin to increase around August, peak near October, and begin to decrease in November.

EC and Bromide at Check 2

- The EC at Check 2 is around 300 us/cm in April and begins to increase around August. The EC peaks around October, and then decreases for through November. A similar pattern can be seen in the bromide results. The water quality at Check 2 follows the same trend as the water quality at Banks.

### Summary of Results (continued)

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

- Outflow increases around the month of October and water quality begins to improve.
- The increase in salinity in November is most likely due to the degradation of water quality at Vernalis.

#### EC and Bromide at Export Locations

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