April 2016 Seasonal Forecast

Barrier Assumptions

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

Hydrology Assumptions

The water allocations studies upon which this April 2016 Seasonal Forecast is based include actual water supply conditions as of April 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 April 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	8403	20200	2164	2554	992	823	25120	22334
May	4066	17532	1496	2602	813	813	21827	18011
Jun	-336	12705	1070	1042	1143	1143	15010	8897
Jul	-2765	21240	422	781	4586	7010	22642	6496
Aug	-1789	19646	394	748	4586	6993	20992	5426
Sep	1176	17091	548	857	4571	6974	18702	4563
Oct	-407	12832	210	1691	3985	4294	14935	5006
Nov	1477	10623	260	1393	2836	3810	12483	5006
Dec	2228	10506	160	1350	3432	3204	12233	5001
Avg.	7834	21267	904	1467	3029	3506	23847	15720

90% Exceedence (90% Fall)

- Drier hydrology (90%) based on the April 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 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	8403	17713	1907	1933	992	739	21754	18682
May	976	10766	1360	1838	813	716	14161	10280
Jun	-2521	11579	1006	739	1025	1025	13518	7540
Jul	-4391	21500	373	618	4586	7010	22690	6506
Aug	-2440	19858	371	569	4586	6993	21001	5396
Sep	840	17293	512	689	4571	6974	18700	4452
Oct	-407	12311	210	1529	3058	4635	14252	5006
Nov	1477	10949	260	1242	3054	3776	12658	4996
Dec	2228	9498	160	1220	2862	2635	11095	5001
Avg.	7176	20358	857	1225	2912	3459	22649	14625

Summary of Results

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

- From April 2016 to August 2016, the EC outputs for the 50% and 90% exceedance range from approximately 350 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 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)

- In the summer months lower delta outflow leads to degradation in water quality.
- Outflow increases around the month of October and water quality begins to improve.

EC and Bromide at Export Locations

- The trends at Banks and Jones are similar to what is seen at Bacon Island and Highway 4.
- The increase in salinity around May at Jones is most likely due to the degradation of water quality at Vernalis.