January 2017 Seasonal Forecast

Barrier Assumptions

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

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 15.7 and the San Joaquin Valley Index was 7.0.

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	17890	60370	6733	11173	4521	6099	78503	68767
Feb	34211	56899	3669	5233	4556	1603	66039	60932
Mar	23288	38140	3127	3550	2084	1612	45043	41483
Apr	7899	20604	2088	3091	807	672	25984	23213
May	2114	15011	1456	4798	813	667	21462	17534
Jun	-1681	14352	1051	1493	1141	1143	17090	10706
Jul	-3741	20346	408	1220	4310	6635	22172	6494
Aug	-2277	18703	387	1057	4131	6652	20351	5418
Sep	1176	16806	537	1042	4588	6638	18591	4523
Oct	-407	10636	210	2033	2879	3562	13081	5006
Nov	1477	11882	260	1628	4246	3893	13977	5005
Dec	2228	12198	160	1626	3968	3497	14201	5993
Avg.	6848	24662	1674	3162	3170	3556	29708	21256

Summary of Results

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

- The 50% and 90% exceedence follow a similar trend for most of the forecast period. The values in the 90% exceedence scenario peak higher, with most of the difference occurring after the month of August.

- The average combined pumping after August for the 90% and 50% scenarios were 4,405 cfs and 4,419 cfs respectively. However, the difference between the Delta inflow and outflow for the two scenarios is 1,113 cfs and 1,158 cfs. This difference in the EC and Bromide trends occurring after August can be attributed to similar pumping levels between the two scenarios and the lower Delta inflow and outflow in the 90% scenario.

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

- The higher peak observed in the 90% scenario is most likely due to the decrease in Delta inflow combined with less of a decrease in pumping.