March 2018 Seasonal Forecast

Barrier Assumptions

- The Middle River barrier was installed on March 13, 2018 and is assumed to be removed on November 15, 2018.
- The Old River at Tracy barrier was installed on March 29, 2018, and is assumed to be removed on November 4, 2018.
- The Grant Line Canal barrier was partially installed on April 5, 2018, and is assumed to be fully closed on June 1, 2018 and removed on November 3, 2018.
- The Spring Head of Old River (HOR) barrier was installed on March 30, 2018 and is assumed to be removed on May 31, 2018. The Fall HOR barrier is assumed to be installed on September 30, 2018 and removed on November 5, 2018.

Hydrology Assumptions

The water allocations studies upon which this March 2018 Seasonal Forecast is based include actual water supply conditions as of March 1, 2018. The Water Year classification will be below dry for the Sacramento Valley and critical for the San Joaquin Valley for 50% exceedance, and critical for the Sacramento Valley and critical for the San Joaquin Valley for 90% exceedance. 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% Exceedance

- Wetter hydrology (50%) based on the June 1st Water Supply Index (WSI) until September with historical hydrology from October of last year to end of January of current year.
- 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 6.0 and the San Joaquin Valley Index was 2.0.

Table 1: Assumptions for 50% Exceedance

	Sacramento River		East Side Streams CFS	San Joaquin River at Vernalis CFS	Jones PP CFS	Banks PP CFS	Delta Inflow CFS	NDOI CFS
	Accretions CFS	Freeport CFS						
Jan	8473	18020	667	2261	3334	3009	21174	16881
Feb	5438	13594	486	2143	1837	2089	16461	11680
Mar	8143	14624	814	2068	2524	3257	17732	12483
Apr	-1008	7697	419	4139	1344	1176	12456	8859
May	-3253	7140	298	4856	813	1610	12491	7827
Jun	-5042	10083	188	2184	1697	1109	12648	5952
Jul	-6180	11238	125	1357	3041	268	12919	5000
Aug	-3578	10165	115	1211	2716	268	11695	4650
Sep	336	10050	173	1335	4403	454	11763	4193
Oct	-407	8599	210	1138	3106	276	10150	4995
Nov	1477	9213	260	1343	3793	1141	11023	4997
Dec	2228	8441	160	1464	1317	1578	10281	6568
Avg.	552	10739	326	2125	2494	1353	13400	7840

90% Exceedance

- Drier hydrology (90%) based on the June 1st Water Supply Index (WSI) until September with historical hydrology from October of last year to end of January of current year.
- 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 5.4 and the San Joaquin Valley Index was 1.7.

Table 2: Assumptions for 90% Exceedance

	Sacramento River		East Side Streams CFS	San Joaquin River at Vernalis CFS	Jones PP CFS	Banks PP CFS	Delta Inflow CFS	NDOI CFS
	Accretions CFS	Freeport CFS						
Jan	8473	18020	667	2261	3334	3009	21174	16881
Feb	5438	13594	486	2143	1837	2089	16461	11680
Mar	8143	14624	814	2068	2524	3257	17732	11853
Apr	-2857	7613	293	2358	807	286	10465	7960
May	-4066	5465	212	2531	813	699	8405	4521
Jun	-5378	8554	135	1461	2000	420	10343	4000
Jul	-6668	9726	91	837	1269	862	10852	4107
Aug	-4228	8880	84	755	1399	244	9923	4214
Sep	-336	10100	121	900	4185	286	11328	4069
Oct	-407	8599	210	1138	3009	1187	10150	4182
Nov	1477	8821	260	1343	3273	1343	10631	4924
Dec	2228	7319	160	1464	1220	1610	9159	5511
Avg.	152	10110	294	1605	2139	1274	12219	6992

Summary of Results

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

- The 50% and 90% exceedances follow a similar trend for most of the forecast period.
- The 90% exceedance scenario has higher EC/Bromide during most of the forecast period. For Ckeck 2, EC/Bromide remain flat before early November for the 50% exceedance scenario; After November, EC/Bromide increase at a higher rate. For the 90% exceedance scenario EC/Bromide increase steadily until peak is reached on August 1. After August 1, EC/Bromide decrease until early October, then EC/Bromide increase at a higher rate. For check 41 and Silverwood Lake, the 90% scenario has higher EC/Bromide during the whole period except December. For checks 2 and 13, EC and Bromide remain flat for the whole simulation period before November. After that EC/Bromide increase steadily. For Checks 13 and 41, and Silverwood Lake, EC and Bromide increase at a moderate rate during the whole forecast period, and reach peak by the end of December.

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

- For both locations, the 90% exceedance scenario has higher EC/Bromide for almost the whole forecast period. For the 50% exceedance scenario, EC/Bromide remain steady for the whole simulation period. For the 90% exceedance scenario, EC/Bromide increase steadily until the peak is reached on July 23, after that EC decrease stately until September 10. From September 10 to the of the forecast period, EC/Bromide remain relatively flat.