

## June 2019 Seasonal Forecast

### Barrier Assumptions

- The Middle River barrier is not installed in this simulation due to high flows
- The Old River at Tracy barrier is not installed in this simulation due to high flows
- The Grant Line Canal barrier is not installed in this simulation due to high flows
- The Head of Old River Barrier is not installed in this simulation due to high flows

### Hydrology Assumptions

The water allocation studies upon which this June 2019 Seasonal Forecast is based include actual water supply conditions as of June 1, 2019. The Water Year classification is Wet for the Sacramento Valley and Wet 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% Exceedance

- Wetter hydrology (50%) based on the May 1st Water Supply Index (WSI) until September with historical hydrology (50%) 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.

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	24167	31275	1334	1545	3578	2374	34380	29787
Feb	39289	55678	6464	8157	4574	3817	70537	63699
Mar	29216	71313	6677	15715	2182	5456	93931	86861
Apr	21158	62298	4672	11781	1613	1311	78952	74925
May	12539	36754	4196	10571	1415	1252	51719	46852
Jun	3361	30082	4084	13444	3731	5764	47803	34369
Jul	-1138	16377	577	8682	4391	6635	25836	10138
Aug	-1138	19858	468	5269	4391	6652	25798	10653
Sep	2353	23393	663	3336	4386	6638	27598	13818
Oct	439	15385	650	1789	829	2846	18026	12737
Nov	3390	16212	889	1930	4397	4565	19238	9627
Dec	7660	15369	1260	2033	4359	2895	18879	11536
Avg.	11775	32833	2661	7021	3321	4184	42725	33750

### 90% Exceedance

- 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.

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	24167	31275	1334	1545	3578	2374	34380	28928
Feb	39289	55678	6464	8157	4574	3817	70537	62876
Mar	29216	71313	6677	15715	2182	5456	93931	86232
Apr	21158	62298	4672	11781	1613	1311	78952	74588
May	12539	36754	4196	10571	1415	1252	51719	46722
Jun	3361	27897	4084	13444	3731	5764	45618	32150
Jul	-1626	15987	526	8682	4391	6635	25394	9690
Aug	-1464	19256	444	5269	4407	6652	25172	10003
Sep	2017	23813	625	3336	4386	6638	27980	14124
Oct	-407	16694	210	1138	821	2862	18245	12746
Nov	1477	10908	260	1343	2037	3199	12718	6361
Dec	2228	10506	160	1464	2631	1755	12347	7102
Avg.	10996	31865	2471	6870	2981	3976	41416	32627

### Summary of Results

Whereas the May forecast changed very little from the April forecast, the June forecast has some significant differences from the May forecast.

- April and May forecasts for SJR flows at Vernalis were substantially lower than what actually occurred. These higher real time flows kept the South Delta fresher in these months than the April and May forecasts predicted.
- The higher than forecast Vernalis flows also led to higher than forecast exports, thus more Delta water was available, and less water had to be released from San Luis and other downstream reservoirs to meet demands. The Delta water was fresher than the San Luis water during this period, leading to fresher forecasts.
- In past allocation studies, the Bulletin 120 hydrology forecasts of a particular exceedance level are used up to Sep and 90% historical exceedance hydrology is used for Oct-Dec, regardless of forecast exceedance level.
- To assess a broader range of hydrologic possibilities, the June forecast uses the 90% historical exceedance hydrology for the 90% exceedance forecast and the 50% historical exceedance hydrology for the 50% exceedance forecast. This difference in hydrology leads to a noticeable difference in water quality for the final three months of the forecast.