

## April 2019 Seasonal Forecast

### Barrier Assumptions

- The Middle River barrier is installed from May 15<sup>th</sup>, 2019 to November 15<sup>th</sup>, 2019
- The Old River at Tracy barrier is installed from May 15<sup>th</sup>, 2019 to November 15<sup>th</sup>, 2019
- The Grant Line Canal barrier is installed from May 15<sup>th</sup>, 2019 to November 15<sup>th</sup>, 2019
- The Head of Old River Barrier is not installed either in the Spring or Fall

### Hydrology Assumptions

The water allocation studies upon which this April 2019 Seasonal Forecast is based include actual water supply conditions as of April 1, 2019. The Water Year classification will be 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 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.

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	7328	14657	2182	5456	93931	86861
Apr	11764	58349	2724	10120	1681	1227	74095	70066
May	10734	34885	1792	7601	1203	797	46102	41807
Jun	4706	25578	1209	3167	1983	1328	30448	23197
Jul	-1301	20655	528	1893	4391	6635	23897	8199
Aug	-1301	22580	445	1864	4391	6652	25152	10007
Sep	2353	23578	627	1913	3126	6638	26342	13822
Oct	-407	16459	210	1138	813	2643	18009	12738
Nov	1477	11915	260	1343	2652	3096	13725	6856
Dec	2228	11384	160	1464	2700	1789	13225	7878
Avg.	10244	31971	1923	4572	2773	3538	39154	31243

90% Exceedance

- 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.

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	7328	14657	2182	5456	93931	86232
Apr	11764	57677	2724	10120	1681	1227	73423	69057
May	5367	22378	1792	7601	1025	683	31070	26938
Jun	1008	18705	1209	3167	1832	1210	22717	15702
Jul	-1952	21224	528	1893	4391	6635	23819	8115
Aug	-1626	22629	445	1864	4407	6652	25164	9995
Sep	1513	24519	627	1913	3630	6638	27225	14126
Oct	-407	16475	210	1138	813	2651	18025	12746
Nov	1477	10908	260	1343	2047	3197	12718	6352
Dec	2228	10490	160	1464	2407	1610	12331	7455
Avg.	9337	30273	1923	4572	2714	3513	37112	29044

Summary of Results

Overall trends for the April Forecasts are very similar to the March Forecasts. The 50% exceedance and 90% exceedance forecasts track closer than they did in March due increasing certainty as hydrology forecasts become solidified.

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

- For these locations, water quality follows the same trend in the 90% exceedance forecast and in the 50% exceedance forecast. Slight deviations between the forecasts do exist with the 90% generally having worse quality than the 50%

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

- Similar to the aqueduct locations described above, water quality tracks very closely in both forecasts, with the same overall trend present in the 90% exceedance forecast and the 50% exceedance forecast.