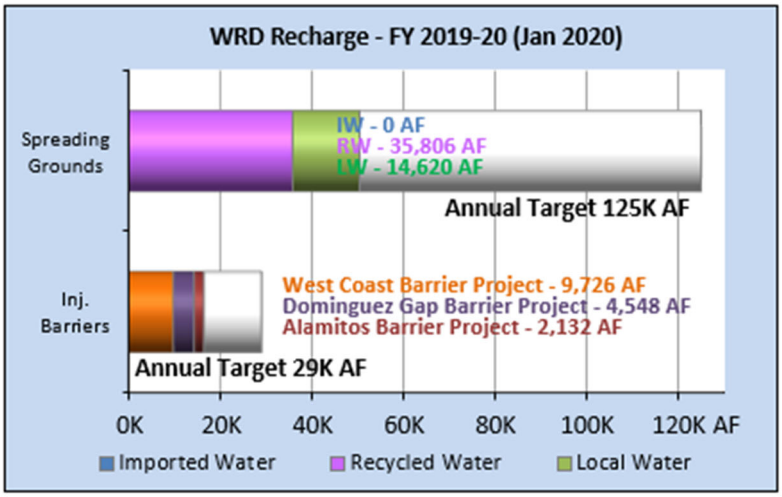
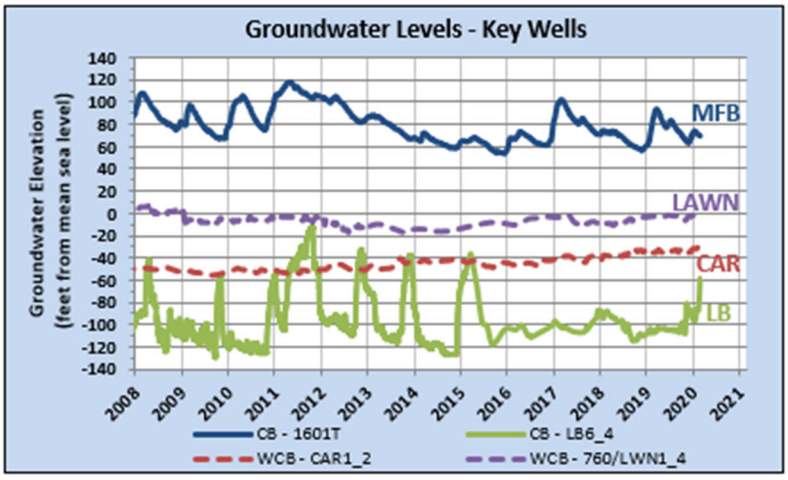
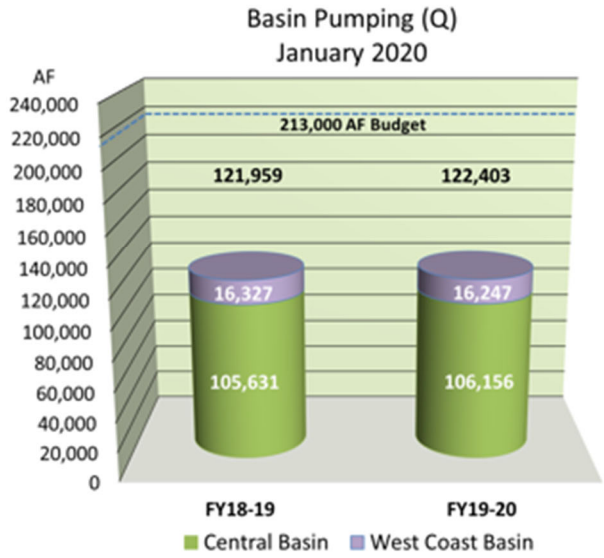
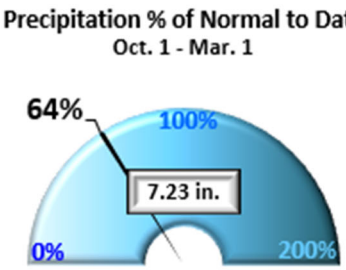
GROUNDWATER BASIN UPDATE
FOR MARCH 2020

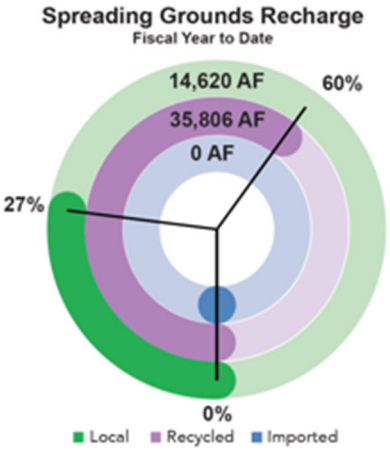
GROUNDWATER BASINS *AT A GLANCE**

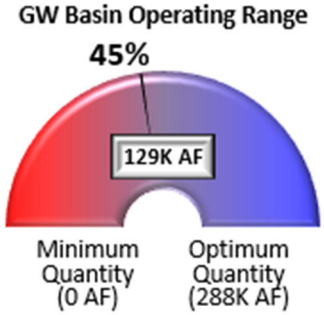


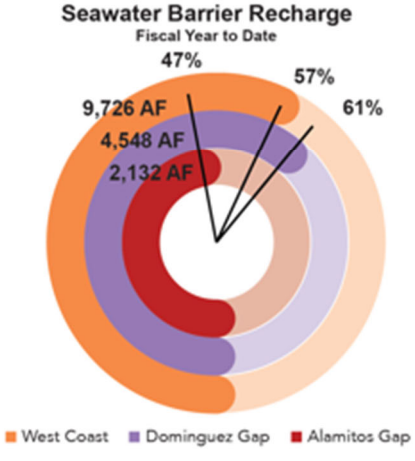








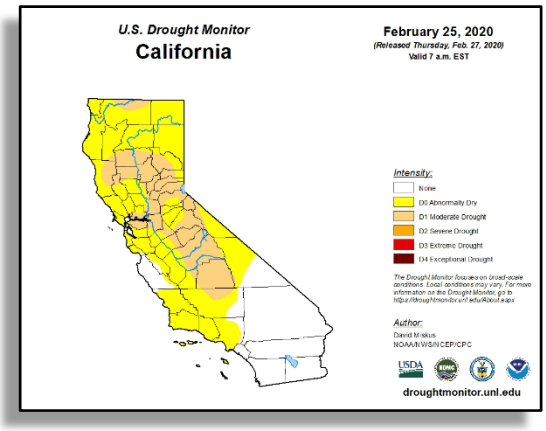




* - Preliminary numbers, subject to change.

SUMMARY

Staff monitors groundwater conditions in its service area throughout the year. A summary of the latest information is presented below.



Precipitation (Oct. 1, 2019 – Mar. 1, 2020)

The WRD precipitation index reports that for the 2019-20 Water Year, there has been 7.23 inches of rainfall. The normal rainfall for this time period is 11.37 inches, so the District is 64% of normal. As of February 25, 2020, the U.S. Drought Monitor is reporting 68% of the State is abnormally dry and 23% is under moderate drought conditions.

Snowpack (Snow Water Content [SWE] as of March 2, 2020)

In 1929, the State established the California Cooperative Snow Surveys Program with the California Department of Water Resources as the coordinator. Today, over 50 state, national, and private agencies collaborate in collecting snow data from over 300 snow courses with more than 60 of the courses being the original courses established in the early 1900's. The average snow course is 1,000 feet long and consist of about 10 sample points. Anywhere from two to six courses are measured per day depending on weather and access method.

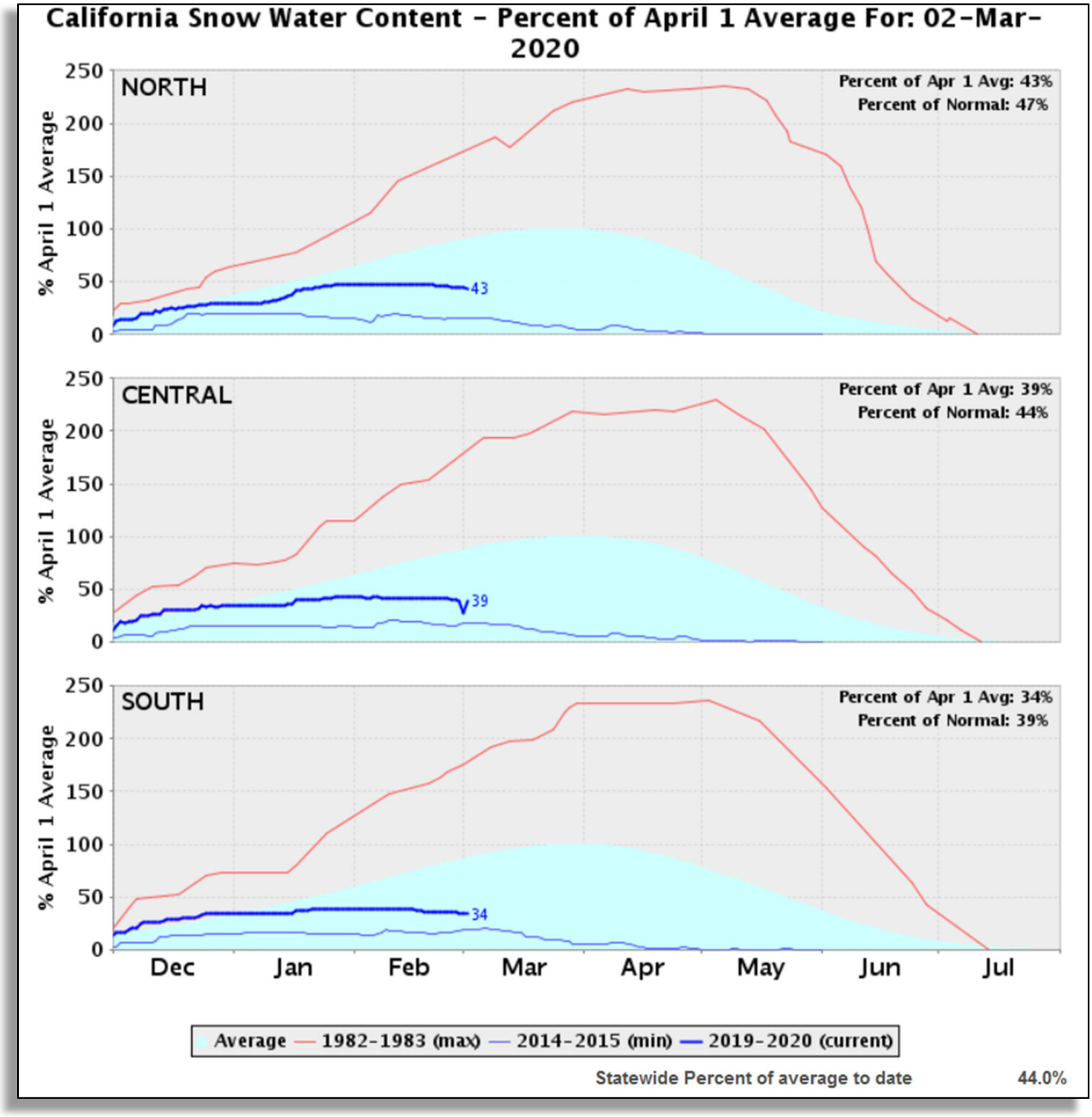
The snow survey is completed using a snow sampling tube equipped with a cutter on the end that is driven through the snow measuring the depth and obtaining a snow core. The snow core is then weighed and the snow water content (or snow water equivalent) calculated. The surveys are completed throughout the winter by returning to the same sample points throughout the season to observe the changing conditions. From February through May the data is used by the State to forecast snow melt runoff. Many snow courses are only measured on or around April 1st, and since it is presumed that the snow accumulates up to April 1st and melts thereafter, April 1st is the benchmark for historic data comparisons.

NORTH	
Data For: 02-Mar-2020	
Number of Stations Reporting	30
Average snow water equivalent	12.5"
Percent of April 1 Average	43%
Percent of normal for this date	47%

CENTRAL	
Data For: 02-Mar-2020	
Number of Stations Reporting	44
Average snow water equivalent	11.7"
Percent of April 1 Average	39%
Percent of normal for this date	44%

SOUTH	
Data For: 02-Mar-2020	
Number of Stations Reporting	28
Average snow water equivalent	8.8"
Percent of April 1 Average	34%
Percent of normal for this date	39%

STATEWIDE SUMMARY	
Data For: 02-Mar-2020	
Number of Stations Reporting	102
Average snow water equivalent	11.2"
Percent of April 1 Average	39%
Percent of normal for this date	44%

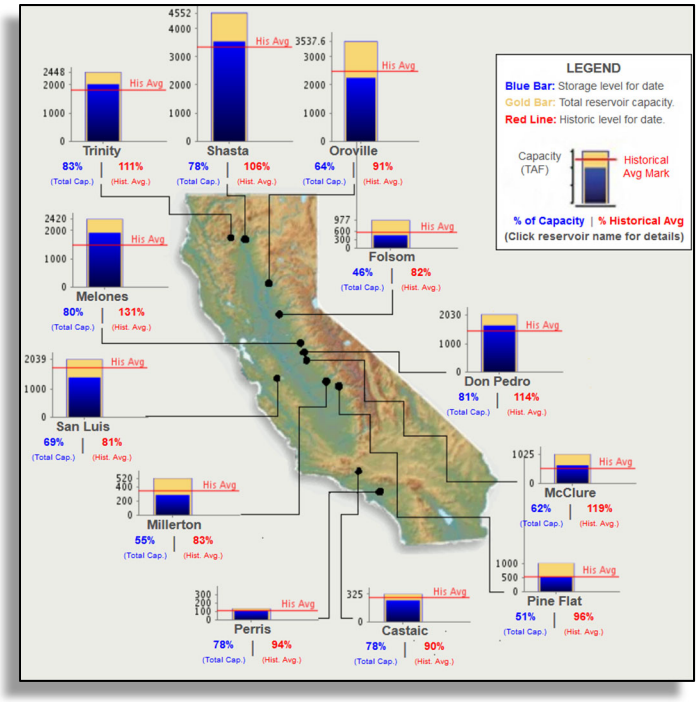


Northern Sierra Nevada – 12.5 in., 47% of normal to date and 43% of April 1st average
Central Sierra Nevada – 11.7 in., 44% of normal to date and 39% of April 1st average
Southern Sierra Nevada – 8.8 in., 39% of normal to date and 34% of April 1st average
Statewide Summary – *11.2 in., 44% of normal to date and 39% of April 1st average*

Reservoirs (as of March 2, 2020)

For all 16 reservoirs reported monthly to the committee, water levels have increased in 3 reservoirs compared to levels recorded in the previous month and decreased in 3 reservoirs. The largest increase (0.14 million acre feet) occurred at Lake Mead. The smallest increase (<0.00 million acre feet) occurred at Lake Silverwood. The largest decrease (-0.24 million acre feet) occurred at Lake Powell. The smallest decrease (<0.00 million acre feet) occurred at Lake McClure.

These 16 reservoirs are at 54% capacity (39.29 million acre feet) which is down from the prior month (-0.10 million acre feet State Water Project [SWP] and -0.11 million acre feet Colorado River Aqueduct [CRA]).



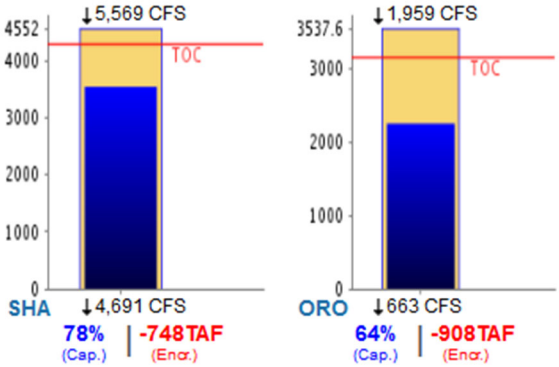
MWD Reservoirs (SWP)
Storage in Million Acre Feet

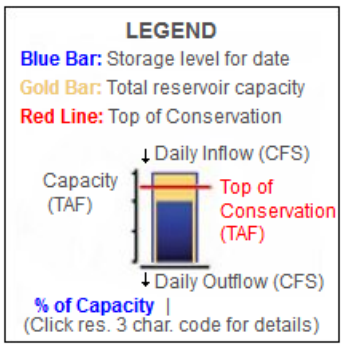
Reservoir	Capacity	Storage	% Full	Change
Trinity Lake	2.45	2.02	83%	0.02
Lake Shasta	4.55	3.55	78%	0.05
Lake Oroville	3.54	2.25	64%	0.03
Folsom Lake	0.98	0.45	46%	-0.04
New Melones	2.40	1.93	80%	-0.05
Don Pedro	2.03	1.64	81%	0.01
Lake McClure	1.02	0.63	62%	0.00
San Luis	2.04	1.41	69%	-0.13
Millerton Lake	0.52	0.28	55%	-0.03
Pine Flat	1.00	0.51	51%	0.02
Castaic Lake	0.33	0.25	78%	0.02
Lake Perris	0.13	0.10	78%	0.01
Silverwood	0.08	0.06	79%	0.00

MWD Reservoirs (CRA)
Storage in Million Acre Feet

Reservoir	Capacity	Storage	% Full	Change
Powell	24.32	12.01	49%	-0.24
Mead	26.12	11.41	44%	0.14
DVL	0.81	0.78	96%	-0.01

Black Text - Decrease or no change in storage since the last report.
Green Text - Increase in storage since the last report.

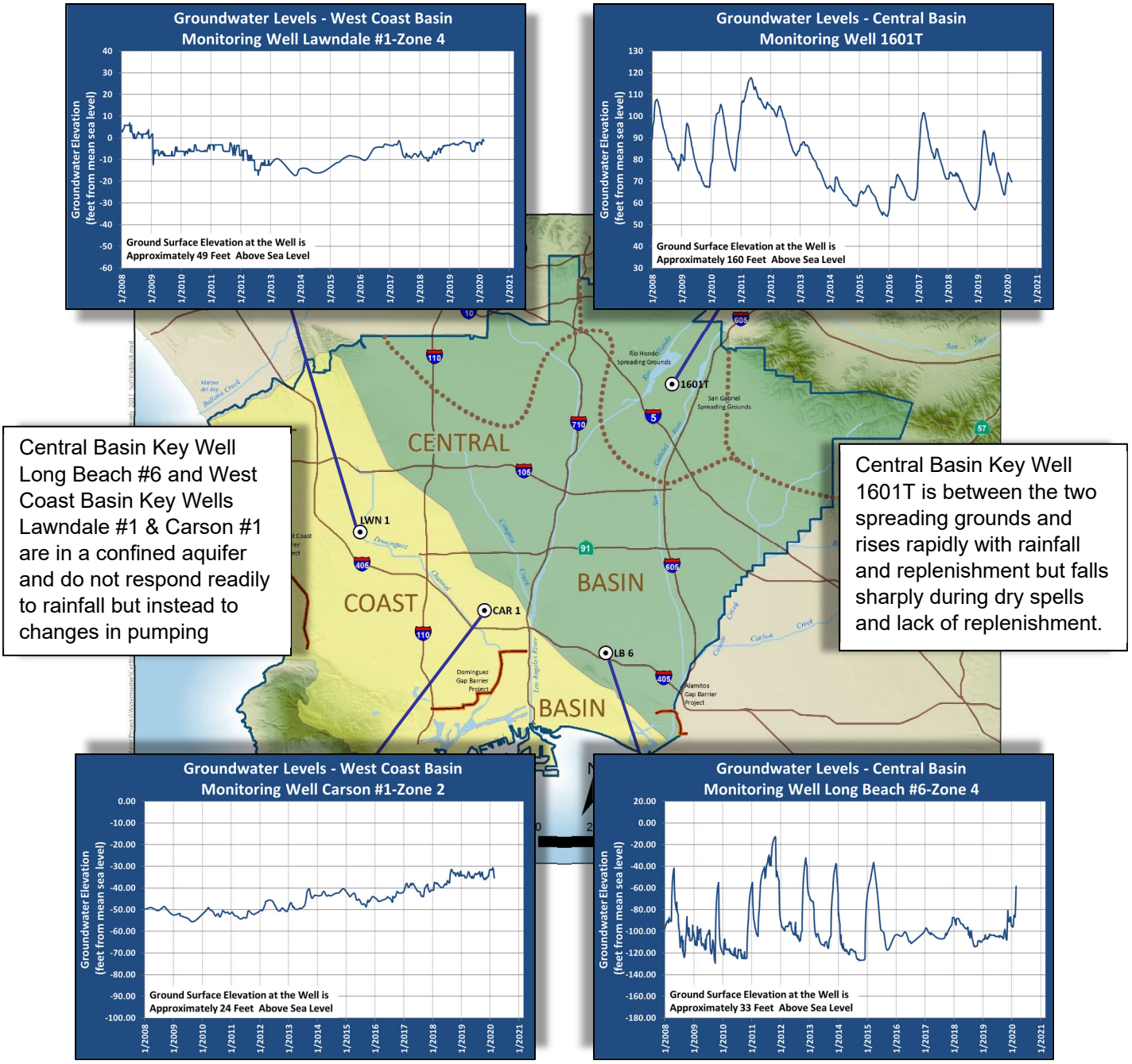




Charts illustrating Lake Shasta (SHA) and Lake Oroville (ORO) are currently filling.

Groundwater Levels (through February 27, 2020)

Groundwater levels in key monitoring wells are shown in the hydrographs below.



Groundwater Level Changes in Key Wells

Well Name	Since Last Report	Since Same Time the Previous Year
Central Basin Key Well 1601T	Decreased 2.5 foot	**Decreased 17.7 feet**
Central Basin Key Well Long Beach #6_4	Increased 26.8 feet	Increased 48.8 feet
West Coast Basin Key Well Lawndale #1_4	**Increased 1.6 feet**	**Increased 1.0 foot**
West Coast Basin Key Well Carson #1_2	**Decreased 3.8 feet**	**Decreased 0.3 foot**

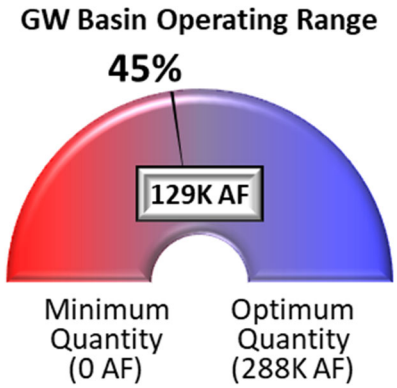
Bold indicates a change in direction (decreasing or increasing) since the last report.

Optimum and Minimum Groundwater Quantity

In response to a 2002 State audit of the District's activities, the Board of Directors adopted an Optimum and Minimum Quantity for groundwater in the District to define an appropriate operating range that would sustain adjudicated pumping rights, leave room for future storage projects, and identify a lower limit. The amounts are based on the accumulated overdraft concept, which the District tracks year by year based on changes in groundwater storage.

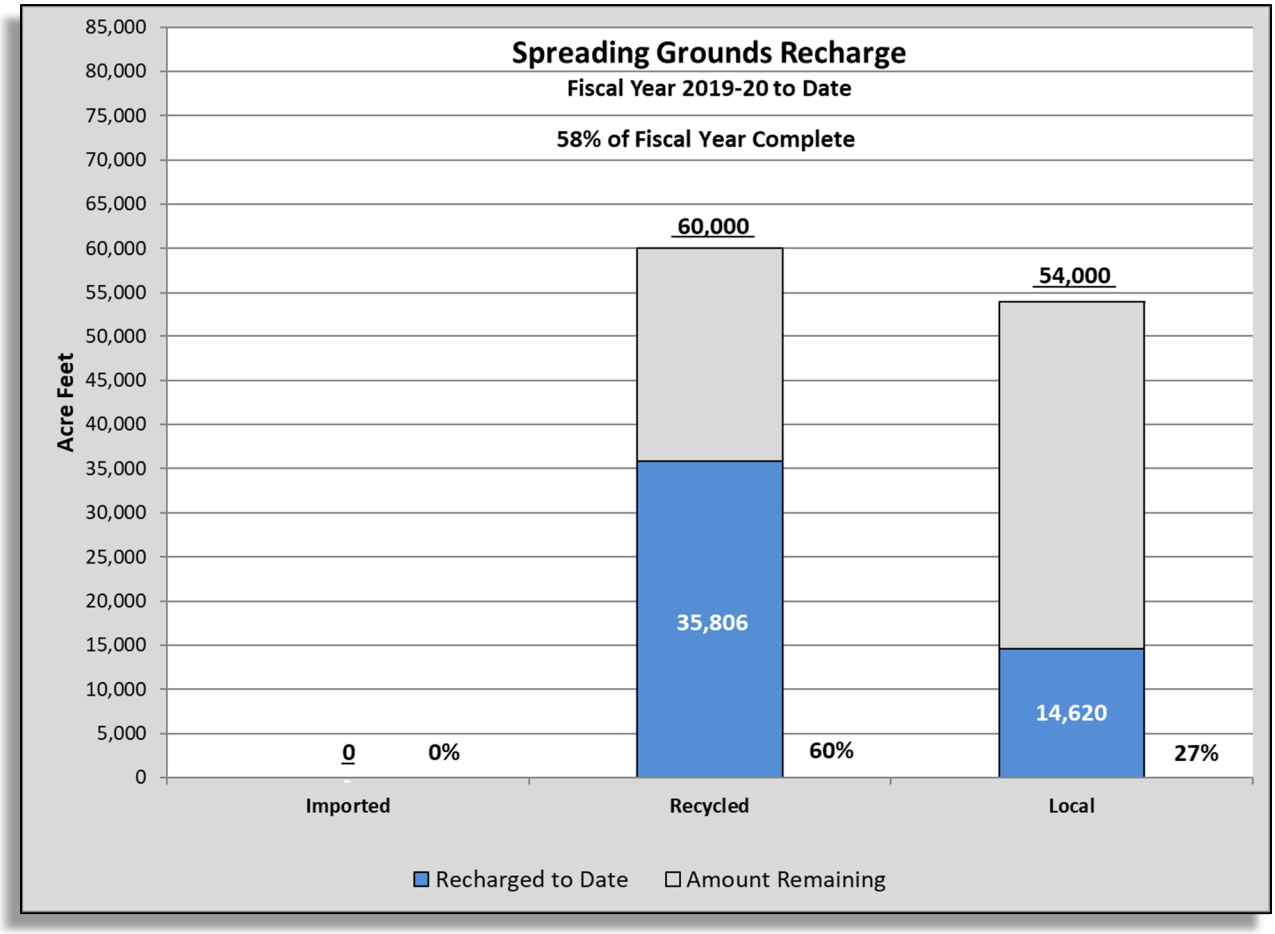
After an extensive review of over 70 years of water level fluctuations and discussions with the Board and pumping community, Water Year 1999/2000 was recognized as a representative year for the Optimum Quantity, which equated to an accumulated overdraft of approximately 612,000 acre feet. The Minimum Quantity was defined as an accumulated overdraft of 900,000 acre feet, which allowed an operating range from 0 acre feet (minimum) to 288,000 acre feet (optimum). The Board also adopted a policy to make-up the groundwater deficit should the accumulated overdraft fall too far below the Optimum Quantity.

The Accumulated Overdraft as of February 27, 2020, has been estimated at 770,614 acre feet (subject to change), which is 129,386 acre feet above the Minimum Groundwater Quantity and 158,614 acre feet below the Optimum Quantity. The Basin is at 45% of Optimum Quantity which is down 3% from last month.



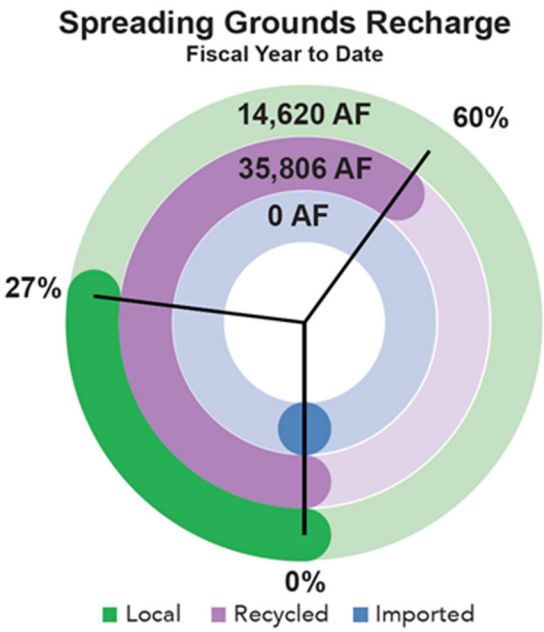
Montebello Forebay Spreading Grounds (July 2019 - January 2020)

The following Chart shows the preliminary spreading grounds replenishment water:

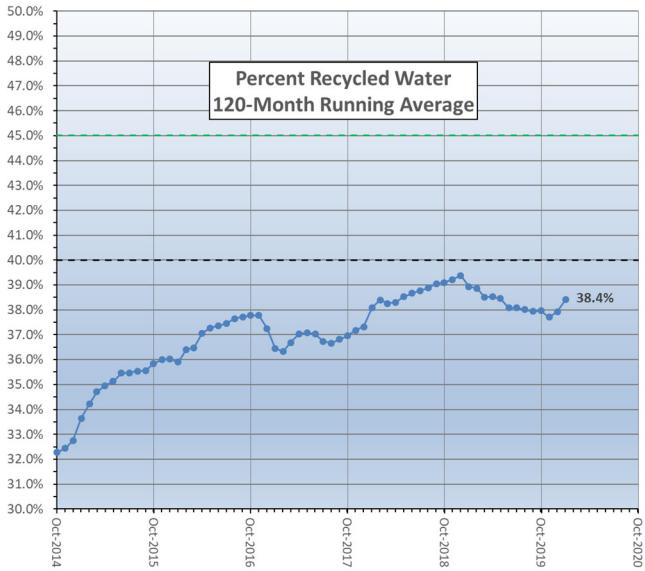


For the Fiscal Year 2019-20, no imported water purchases are anticipated.

Local water (stormwater plus dry weather urban runoff) is captured by the Los Angeles County Department of Public Works (LACDPW) at the spreading grounds for recharge. Local water amounts are determined as the sum of the total waters conserved at the spreading grounds less the imported and recycled water deliveries. For the first seven months of the 2019-20 Fiscal Year, approximately 14,620 acre feet of local water capture has been reported by the LACDPW.



Preliminary numbers for the first seven months of the 2019-20 Fiscal Year show that approximately 35,806 acre feet of recycled water has been recharged with 4,277 AF consisting of advanced treat water from the ARC AWTF. Presuming the advanced treated water as "Null Water" the 120-month running average of recycled water contribution in the Montebello Forebay is 38.6% and the regulatory maximum is 45%, with additional studies and monitoring being required once 40% is reached.



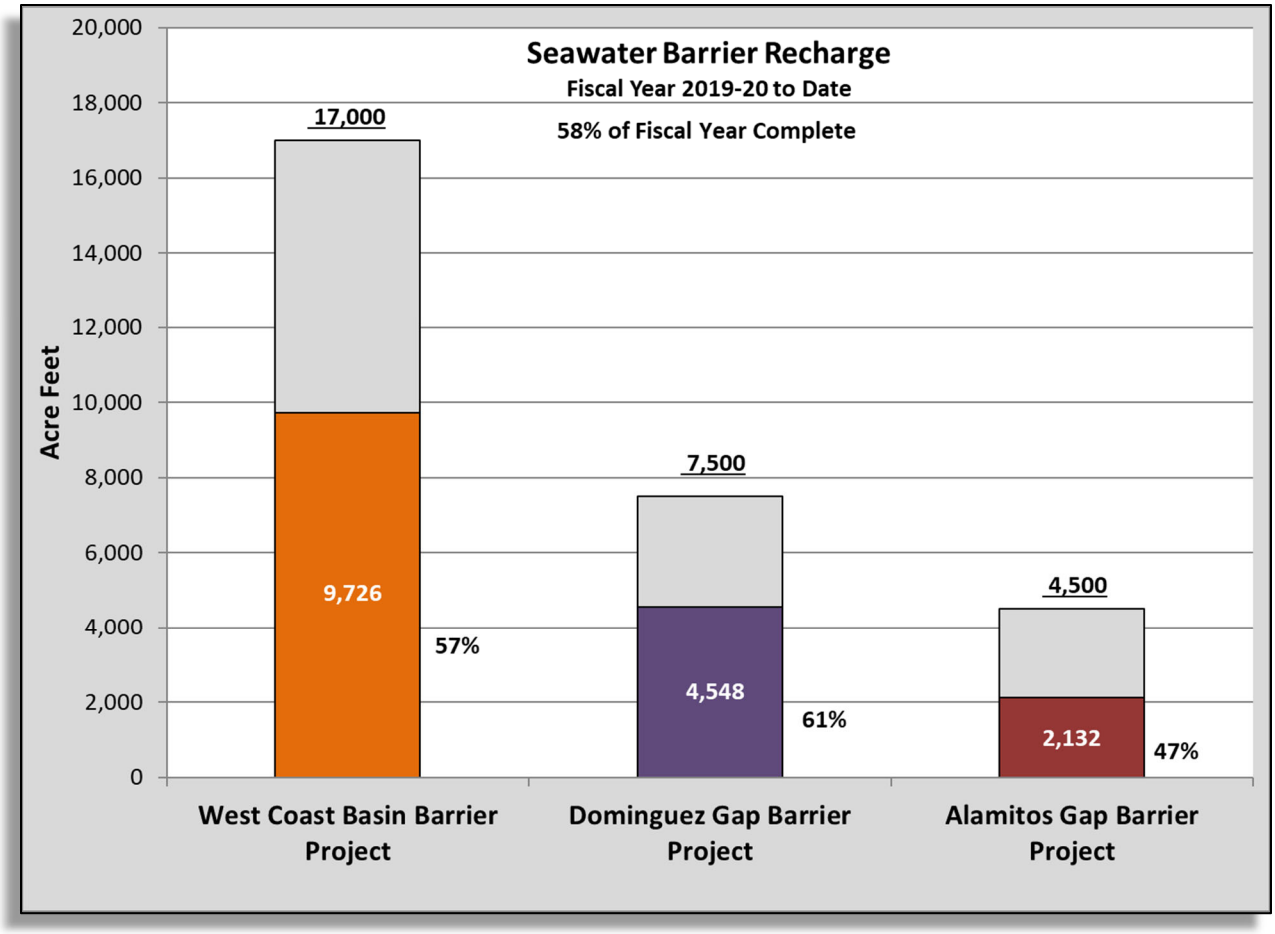
Tertiary Recycle Water Permit Update

Following extensive collaboration between the District and LACSD, the Workplan required by the SWRCB - Division of Drinking Water and LARWQCB regarding the use of tertiary treated recycled water at the Montebello Forebay Spreading Grounds was submitted on November 18, 2019.

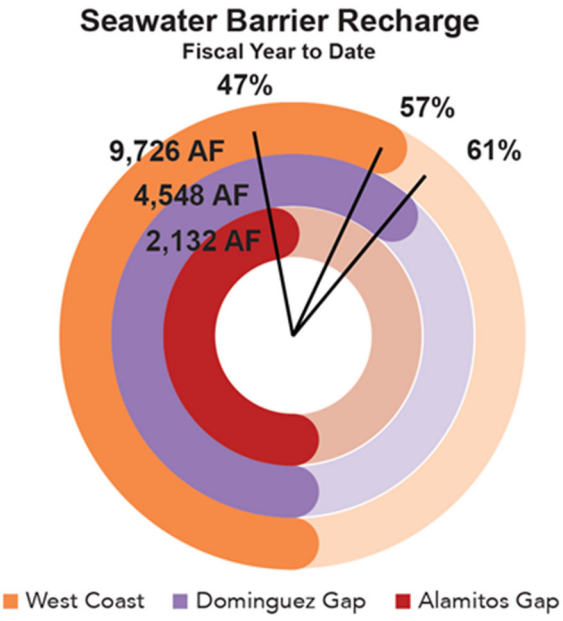
Upon receipt of comments on the Workplan from the State of California, the District and LACSD will proceed with finalizing the preparation and submittal of the new Title 22 Engineering Report. In anticipation of receiving comments in late spring 2020, staff is continuing to work with the LACSD on developing the outline and the known components of the new Title 22 Engineering Report. A preliminary scoping meeting and a follow-up strategy meeting were held on November 26, 2019, and January 27, 2020, respectively. Staff is working collaboratively with the LACSD preparing draft sections of the engineering report.

Seawater Barrier Well Injection and Replenishment (July 2019 - January 2020)

The following Chart shows the barrier water injection:

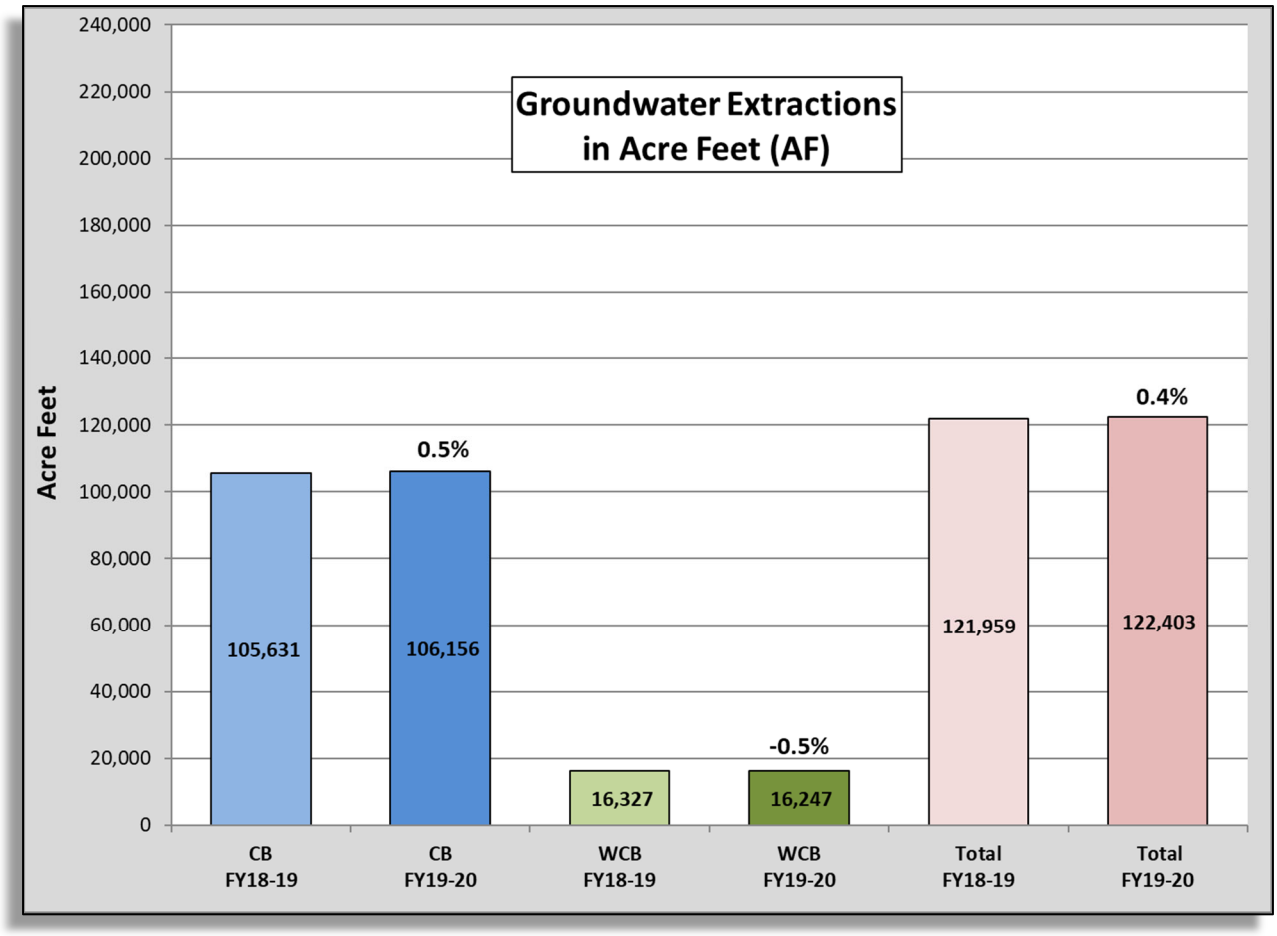


Preliminary numbers for the first seven months of the 2019-20 Fiscal Year show that the West Coast Barrier has used 9,726 acre feet of the total 17,000 acre feet planned for injection, 57% of total for the Fiscal Year. The Dominguez Gap Barrier used 4,548 acre feet of the total 7,500 acre feet planned for injection, 61% of the total for the Fiscal Year. The Alamitos Barrier, on the WRD side, used 2,132 acre feet of the total 4,500 acre feet planned for injection, 47% of the total for the Fiscal Year.

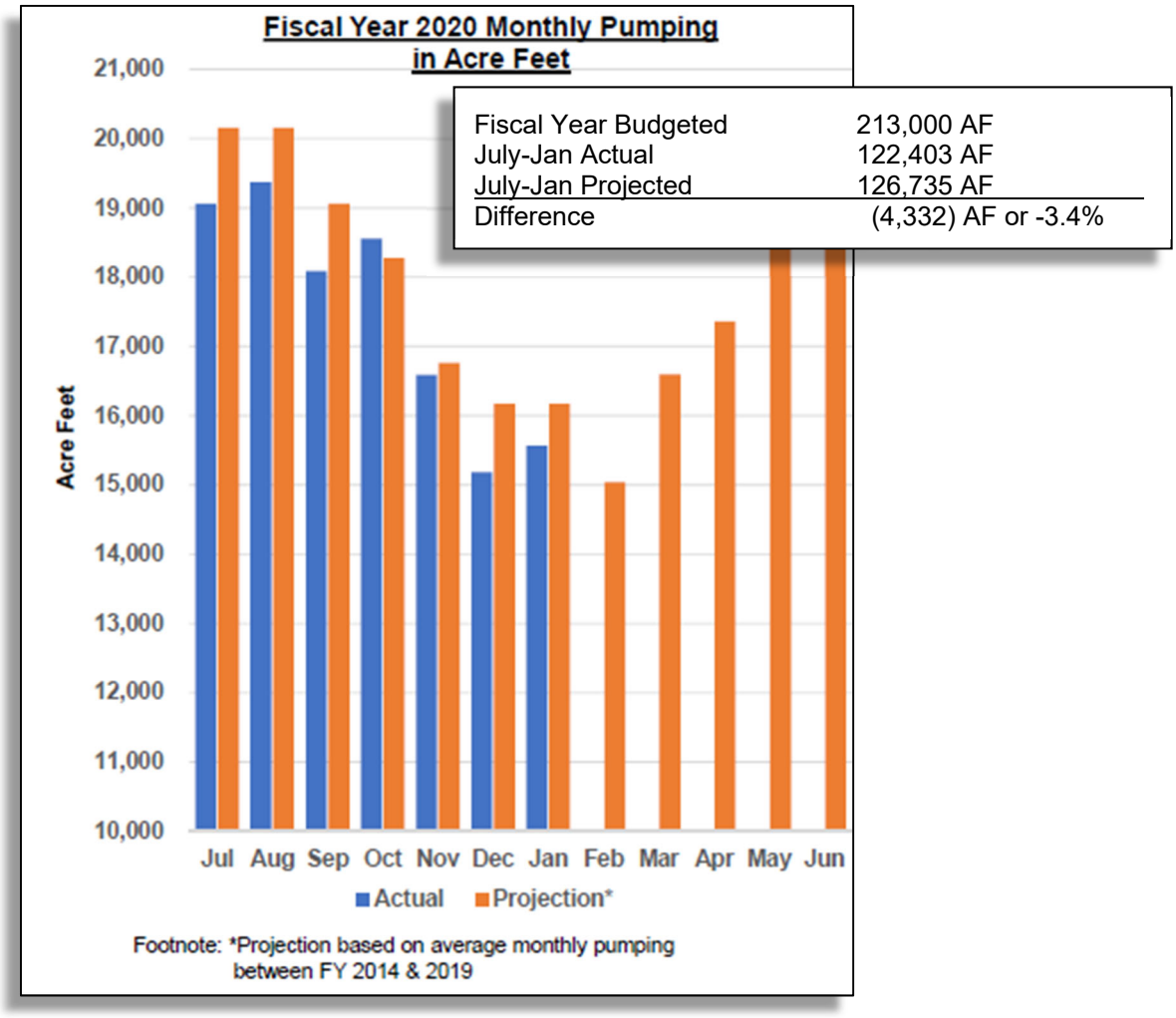


Assessible Pumping (Fiscal Year July 2019 – January 2020)

Preliminary numbers for groundwater production in the District for the Fiscal Year 2019-20 (July 2019 – January 2020) indicate pumping in the Central Basin was up 525 acre feet from the same time of the previous fiscal year (0.5%) and the West Coast Basin pumping was 80 acre feet lower than the previous fiscal year (-0.5%). The total pumping is 122,403 acre feet compared to 121,959 acre feet during the same time the previous year for an increase of 444 acre feet, or 0.4%. The current pumping data do not include six Central Basin pumpers and one West Coast Basin pumper who have not yet reported.



Preliminary numbers indicate 122,403 acre feet have been pumped this fiscal year and is 3.4% below the projected goal of 126,735 acre feet (or -4,332 acre feet). Monthly actual production versus 6-year average monthly production projections (FY 2014 through 2019) are included in the chart below.



For the Fiscal Year 2019-20 (July 2019 – January 2020), staff has tracked the production trends of the top five (5) producing pumpers and the bottom five (5) producing pumpers in each basin. These pumpers are identified in the following tables and are based on the change in volume (in acre feet) compared to the same time period for the previous Fiscal Year.

Production Trends - Central Basin				
Top 5 Producing by Volume (AF)	July 2018 - January 2019	July 2019 - January 2020	Difference	% Change
Long Beach, City of	15,623.63	17,904.58	2,280.95	14.60%
Whittier, City of	2,318.16	3,275.58	957.42	41.30%
Paramount, City of	2,935.53	3,427.12	491.59	16.75%
Cerritos, City of	4,949.95	5,276.11	326.16	6.59%
Liberty Utilities Corporation	4,739.06	5,046.57	307.51	6.49%
Bottom 5 Producing by Volume (AF)	July 2018 - January 2019	July 2019 - January 2020	Difference	% Change
Lakewood, City of Water Department	5,886.93	4,036.89	-1,850.04	-31.43%
Golden State Water Company	13,072.66	12,013.66	-1,059.00	-8.10%
San Gabriel Valley Water Company	1,150.44	691.86	-458.58	-39.86%
Bell Gardens, City of	629.64	207.20	-422.44	-67.09%
California American Water Company	996.94	652.93	-344.01	-34.51%

Production Trends – West Coast Basin				
Top 5 Producing by Volume (AF)	July 2018 - January 2019	July 2019 - January 2020	Difference	% Change
Inglewood, City of	775.06	2,239.42	1,464.36	188.94%
Phillips 66 Company	2,462.77	3,081.97	619.20	25.14%
Tesoro Refining & Marketing Co., LLC	2,158.34	2,660.69	502.35	23.27%
Rolling Hills Country Club	61.00	218.00	157.00	257.38%
Roman Catholic Archbishop of Los Angeles	176.97	209.46	32.49	18.36%
Bottom 5 Producing by Volume (AF)	July 2018 - January 2019	July 2019 - January 2020	Difference	% Change
Golden State Water Company	3,122.66	1,554.75	-1,567.91	-50.21%
Lomita, City of	335.80	1.00	-334.80	-99.70%
West Basin Brewer Desalter	373.90	84.14	-289.76	-77.50%
California Water Service Co./Hawthorne Lease	572.59	411.86	-160.73	-28.07%
California Water Service Co. (Dominguez)	2,420.40	2,262.39	-158.01	-6.53%