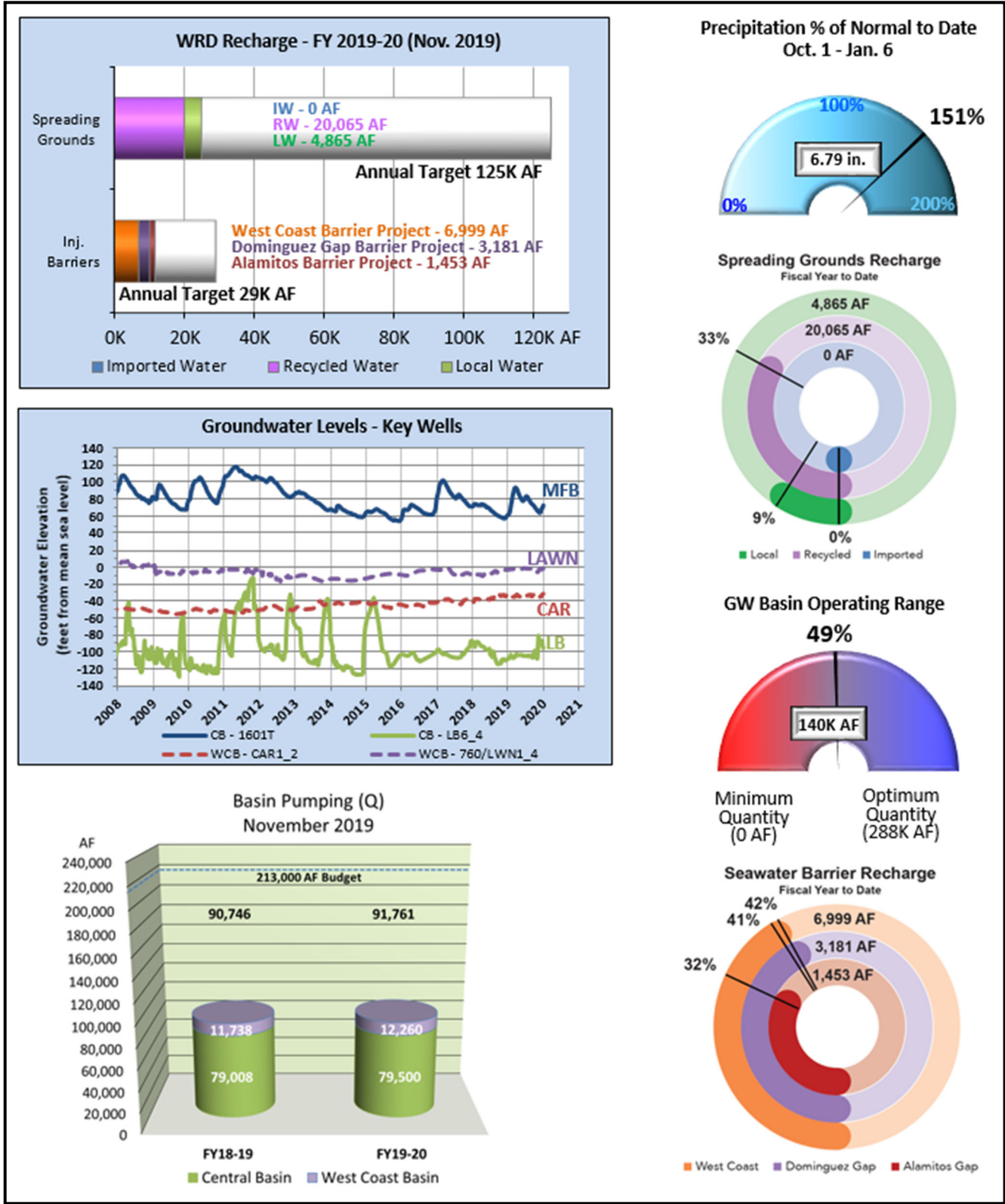


GROUNDWATER BASIN UPDATE FOR JANUARY 2020

GROUNDWATER BASINS AT A GLANCE*



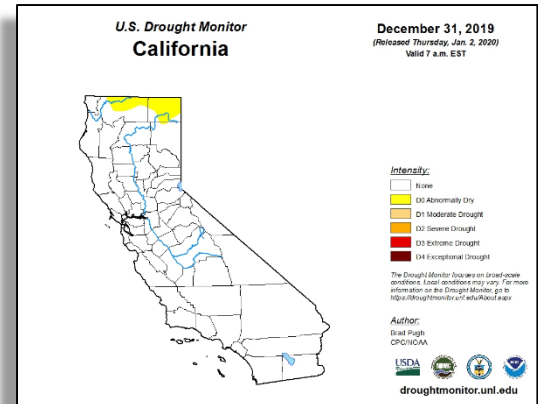
* - Preliminary numbers, subject to change.

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 – Jan. 6, 2020)

The WRD precipitation index reports that for the 2019-20 Water Year, there has been 6.79 inches of rainfall. The normal rainfall for this time period is 4.51 inches, so the District is 151% of normal. As of December 31, 2019, the U.S. Drought Monitor is reporting 3% of the State is abnormally dry and 0% is under moderate drought conditions.



Snowpack (Snow Water Content [SWE] as of January 8, 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: 08-Jan-2020	
Number of Stations Reporting	30
Average snow water equivalent	8.8"
Percent of April 1 Average	30%
Percent of normal for this date	70%

CENTRAL	
Data For: 08-Jan-2020	
Number of Stations Reporting	42
Average snow water equivalent	10.1"
Percent of April 1 Average	34%
Percent of normal for this date	80%

SOUTH	
Data For: 08-Jan-2020	
Number of Stations Reporting	27
Average snow water equivalent	9.0"
Percent of April 1 Average	35%
Percent of normal for this date	92%

STATEWIDE SUMMARY	
Data For: 08-Jan-2020	
Number of Stations Reporting	99
Average snow water equivalent	9.4"
Percent of April 1 Average	33%
Percent of normal for this date	80%

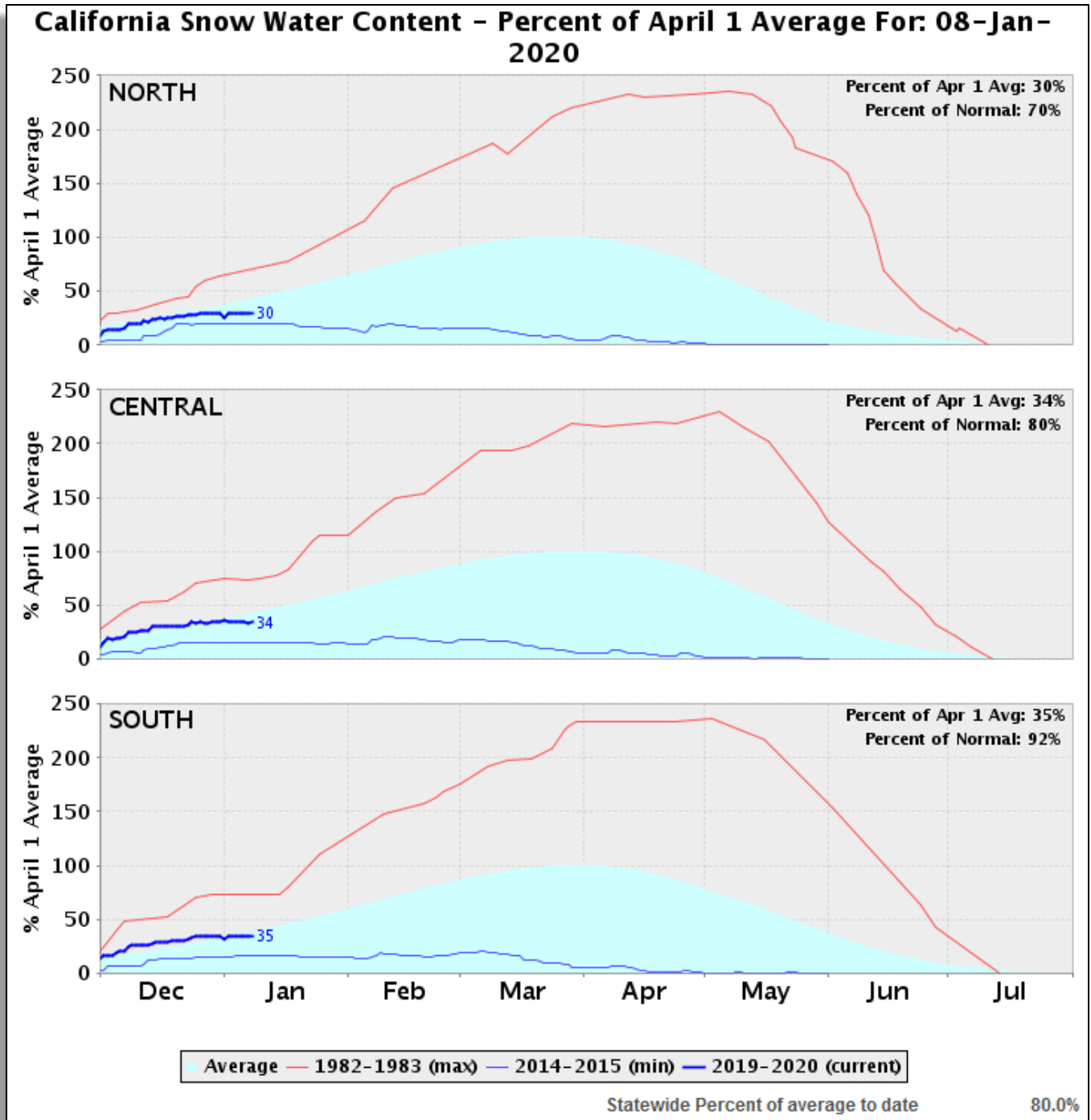
Snow Water Equivalent (SWE):

Northern Sierra Nevada – 8.8 in., 70% of normal to date and 30% of April 1st average

Central Sierra Nevada – 10.1 in., 80% of normal to date and 34% of April 1st average

Southern Sierra Nevada – 9.0 in., 92% of normal to date and 35% of April 1st average

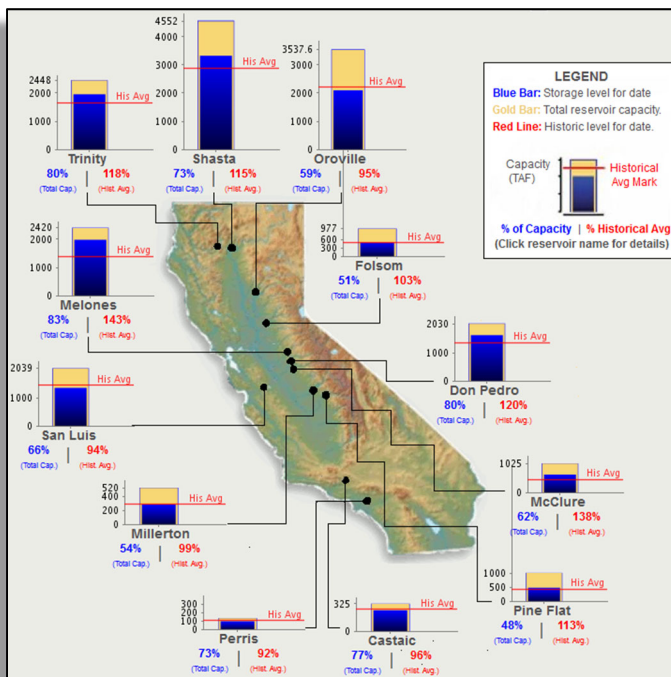
Statewide Summary – 9.4 in., 80% of normal to date and 33% of April 1st average



Reservoirs (as of January 7, 2020)

For all 16 reservoirs reported monthly to the committee, water levels have increased in 13 reservoirs compared to levels recorded in the previous month. The largest increase (0.66 million acre feet) occurred at Lake Mead. The smallest increase (<0.00 million acre feet) occurred at Folsom Lake and Lake Silverwood. The largest decrease (-0.36 million acre feet) occurred at Lake Powell. The smallest decrease (<0.00 million acre feet) occurred at Lake Castaic.

These 16 reservoirs are at 54% capacity (38.94 million acre feet) which is up from the prior month (0.92 million acre feet State Water Project [SWP] and 0.34 million acre feet Colorado River Aqueduct [CRA]).



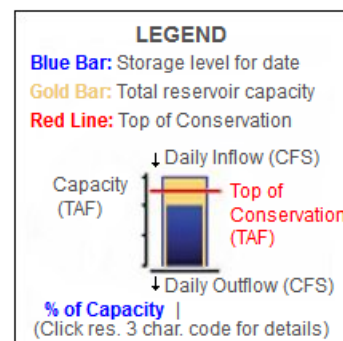
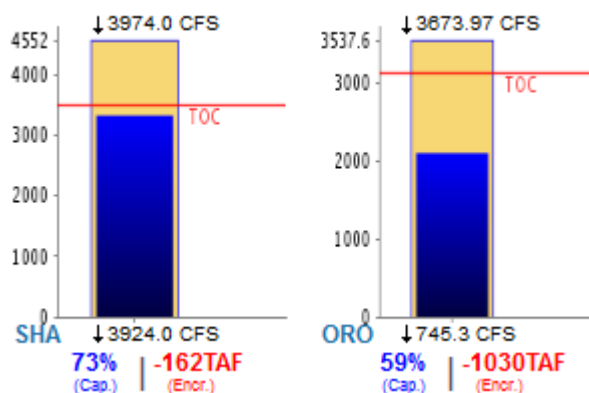
MWD Reservoirs (SWP) Storage in Million Acre Feet

Reservoir	Capacity	Storage	% Full	Change
Trinity Lake	2.45	1.96	80%	0.03
Lake Shasta	4.55	3.33	73%	0.12
Lake Oroville	3.54	2.10	59%	0.18
Folsom Lake	0.98	0.50	51%	0.00
New Melones	2.40	1.98	83%	-0.02
Don Pedro	2.03	1.62	80%	0.03
Lake McClure	1.02	0.63	62%	0.01
San Luis	2.04	1.35	66%	0.46
Millerton Lake	0.52	0.28	54%	0.05
Pine Flat	1.00	0.48	48%	0.06
Castaic Lake	0.33	0.25	77%	0.00
Lake Perris	0.13	0.10	73%	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	12.54	52%	-0.36
Mead	26.12	10.98	42%	0.66
DVL	0.81	0.79	98%	0.04

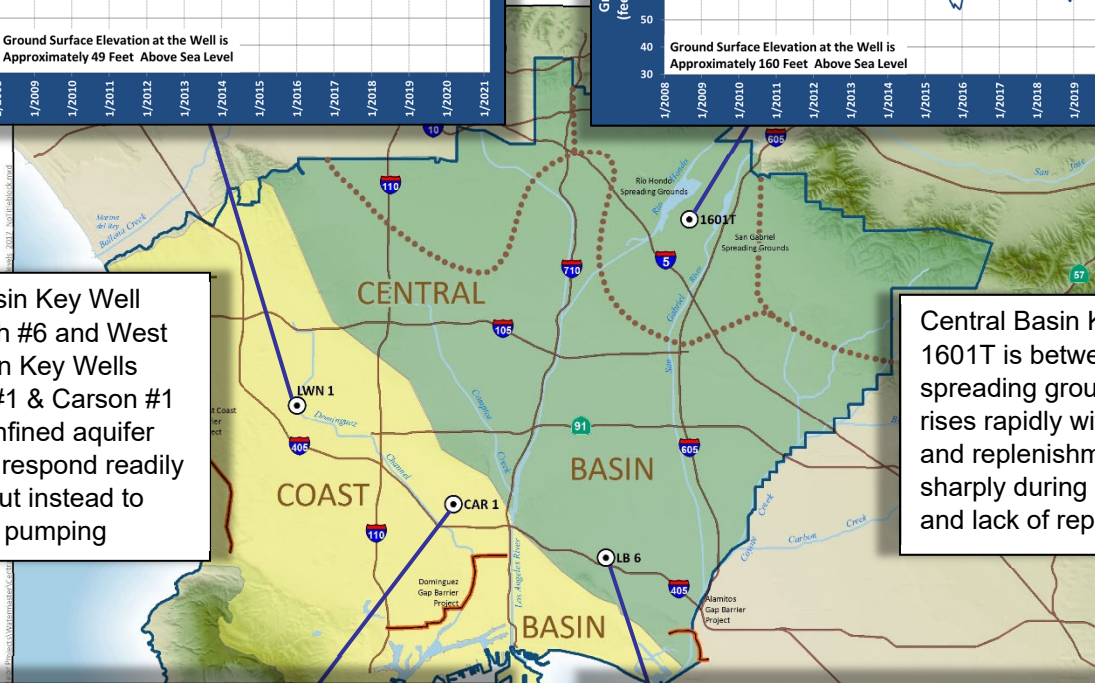
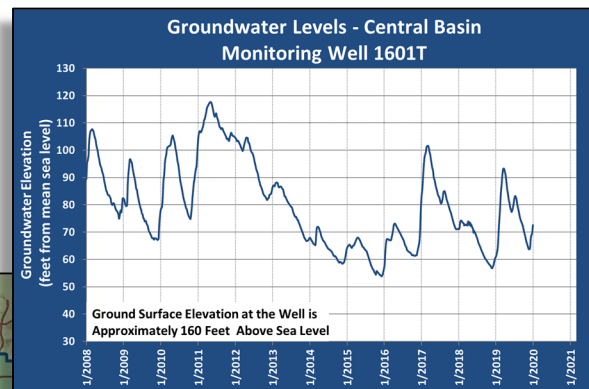
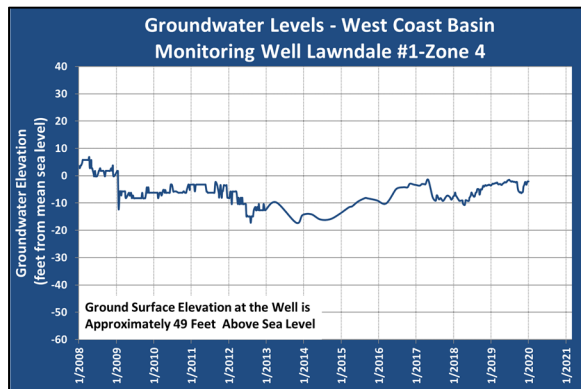
Black Text - Decrease or no change in storage since the last report.
 Green Text - Increase in storage since the last report.



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

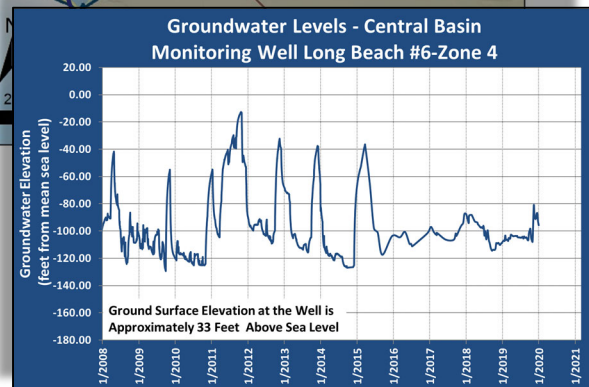
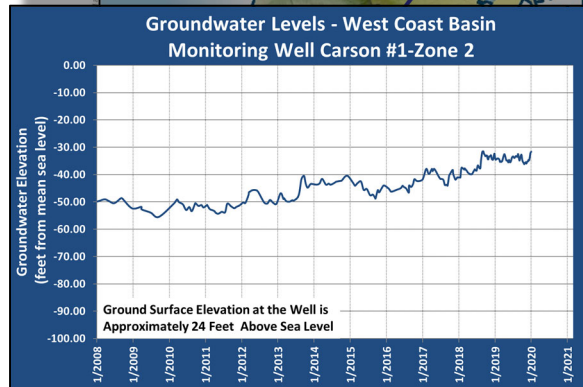
Groundwater Levels (through January 3, 2020)

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



Central Basin Key Well Long Beach #6 and West Coast Basin Key Wells Lawndale #1 & Carson #1 are in a confined aquifer and do not respond readily to rainfall but instead to changes in pumping

Central Basin Key Well 1601T is between the two spreading grounds and rises rapidly with rainfall and replenishment but falls sharply during dry spells and lack of replenishment.



Groundwater Level Changes in Key Wells

Well Name	Since Last Report	Since Same Time the Previous Year
Central Basin Key Well 1601T	Increased 8.8 feet	Increased 11.6 feet
Central Basin Key Well Long Beach #6 4	Decreased 4.5 feet	Increased 12.2 feet
West Coast Basin Key Well Lawndale #1 4	Increased 0.3 feet	Increased 1.4 feet
West Coast Basin Key Well Carson #1 2	Increased 3.6 foot	Increased 2.5 foot

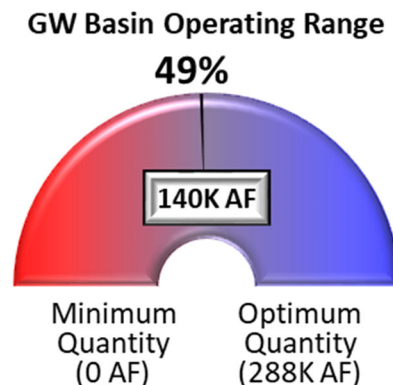
Bold indicates a change in direction (decreasing or increasing) since the last report.

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.

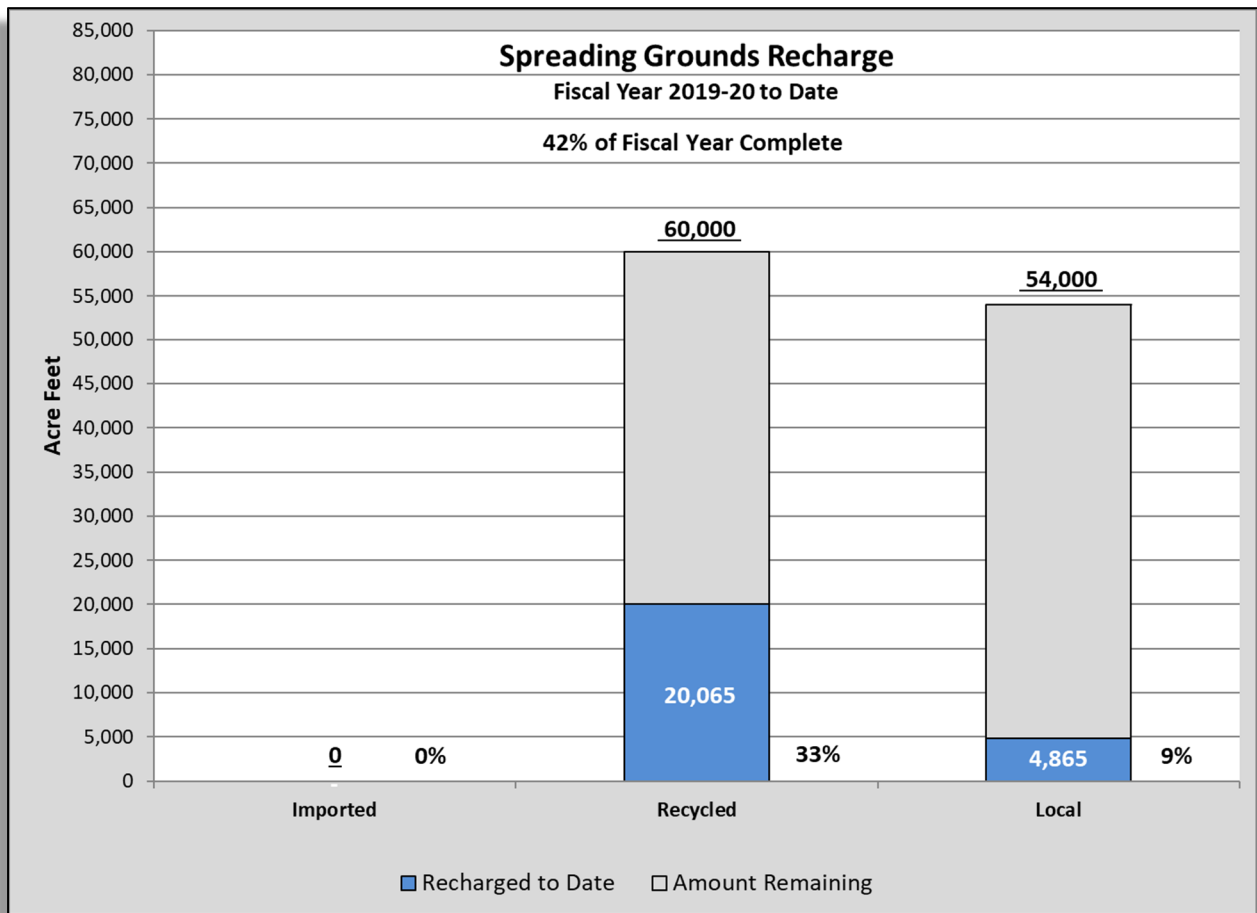
After an extensive review of over 70 years of water level fluctuations and discussions with the Board and pumping community, Water Year 1999/2000 was recognized as a representative year for the Optimum Quantity, which equated to an accumulated overdraft of approximately 612,000 acre feet. The Minimum 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 January 3, 2020, has been estimated at 759,819 acre feet (subject to change), which is 140,181 acre feet above the Minimum Groundwater Quantity and 147,819 acre feet below the Optimum Quantity. The Basin is at 49% of Optimum Quantity which is up 12% from last month.



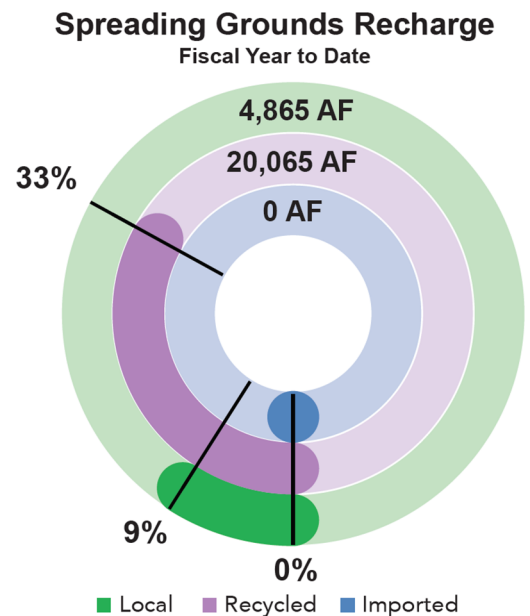
Montebello Forebay Spreading Grounds (July 2019 - November 2019)

The following Chart shows the preliminary spreading grounds replenishment water:

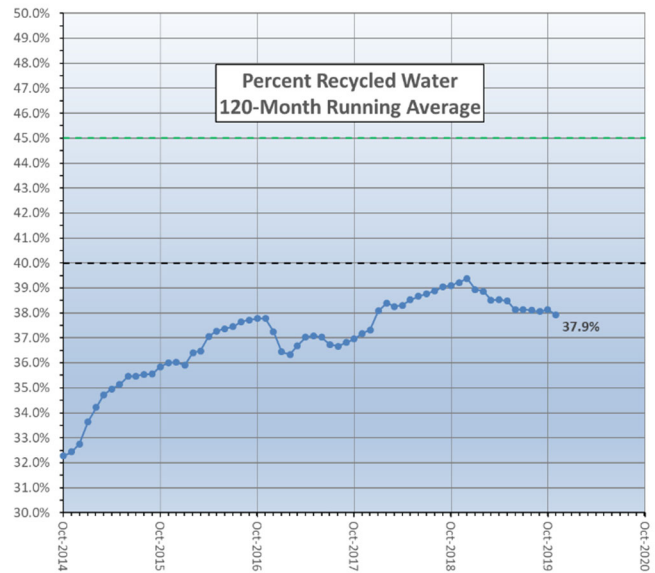


For the Fiscal Year 2019-20, no imported water purchases are anticipated.

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 four months of the 2019-20 Fiscal Year, approximately 4,865 acre feet of local water capture has been reported by the LACDPW.



Preliminary numbers for the first five months of the 2019-20 Fiscal Year show that approximately 20,065 acre feet of recycled water has been recharged. The 120-month running average of recycled water contribution in the Montebello Forebay is 37.9% and the regulatory maximum is 45%, with additional studies and monitoring being required once 40% is reached.



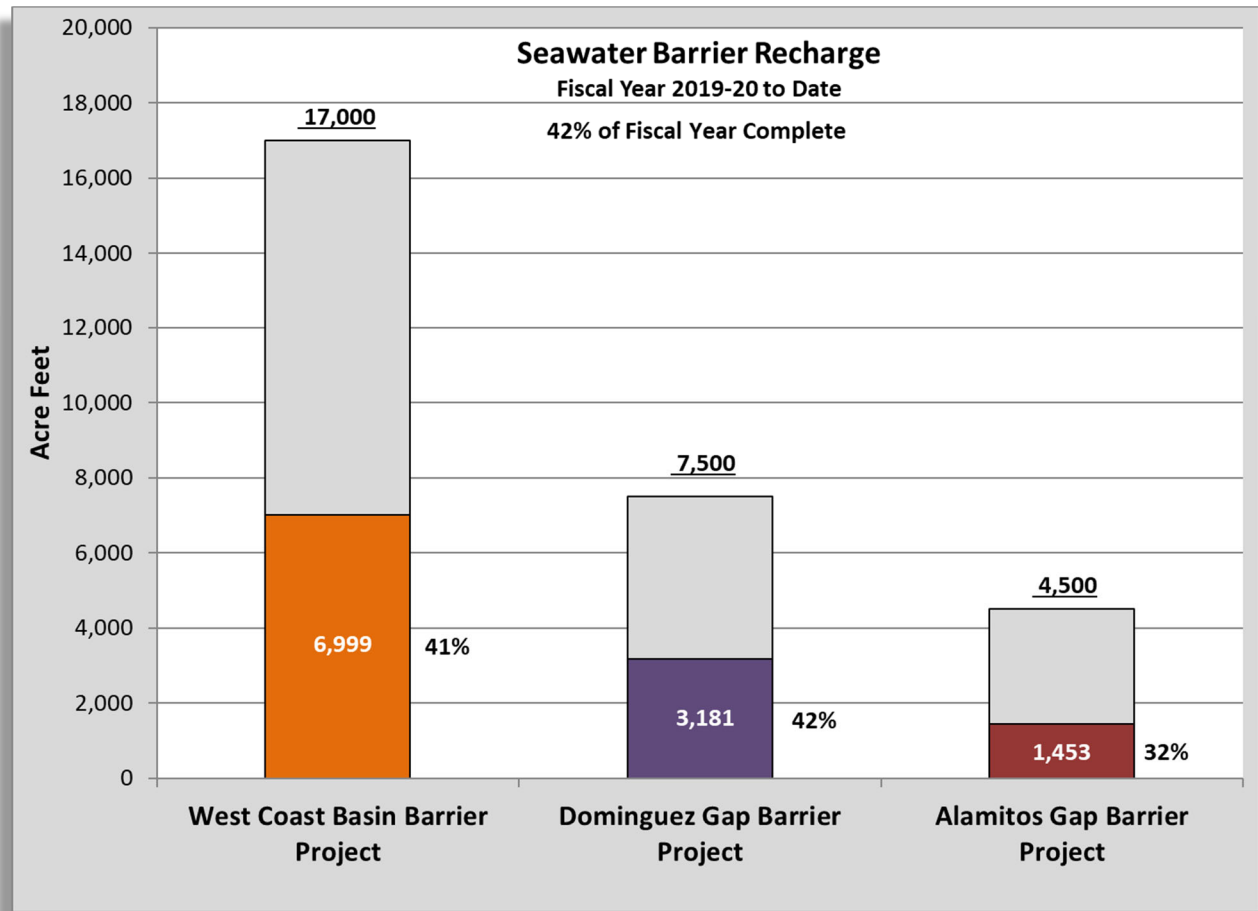
Tertiary Recycle Water Permit Update

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 was held on November 26, 2019, and a follow-up strategy meeting has been set for January 27, 2020.

Seawater Barrier Well Injection and Replenishment (July 2019 - November 2019)

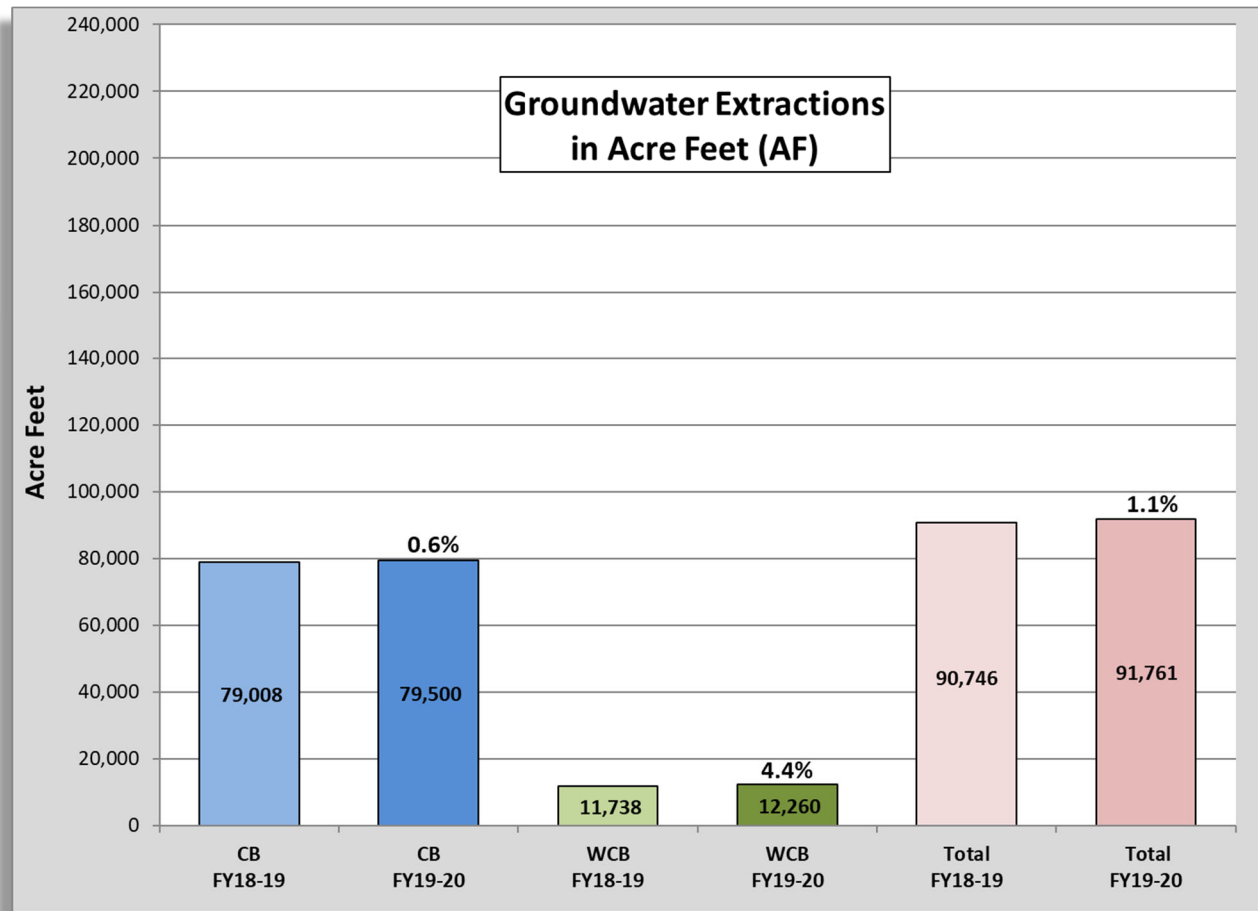
The following Chart shows the barrier water injection:



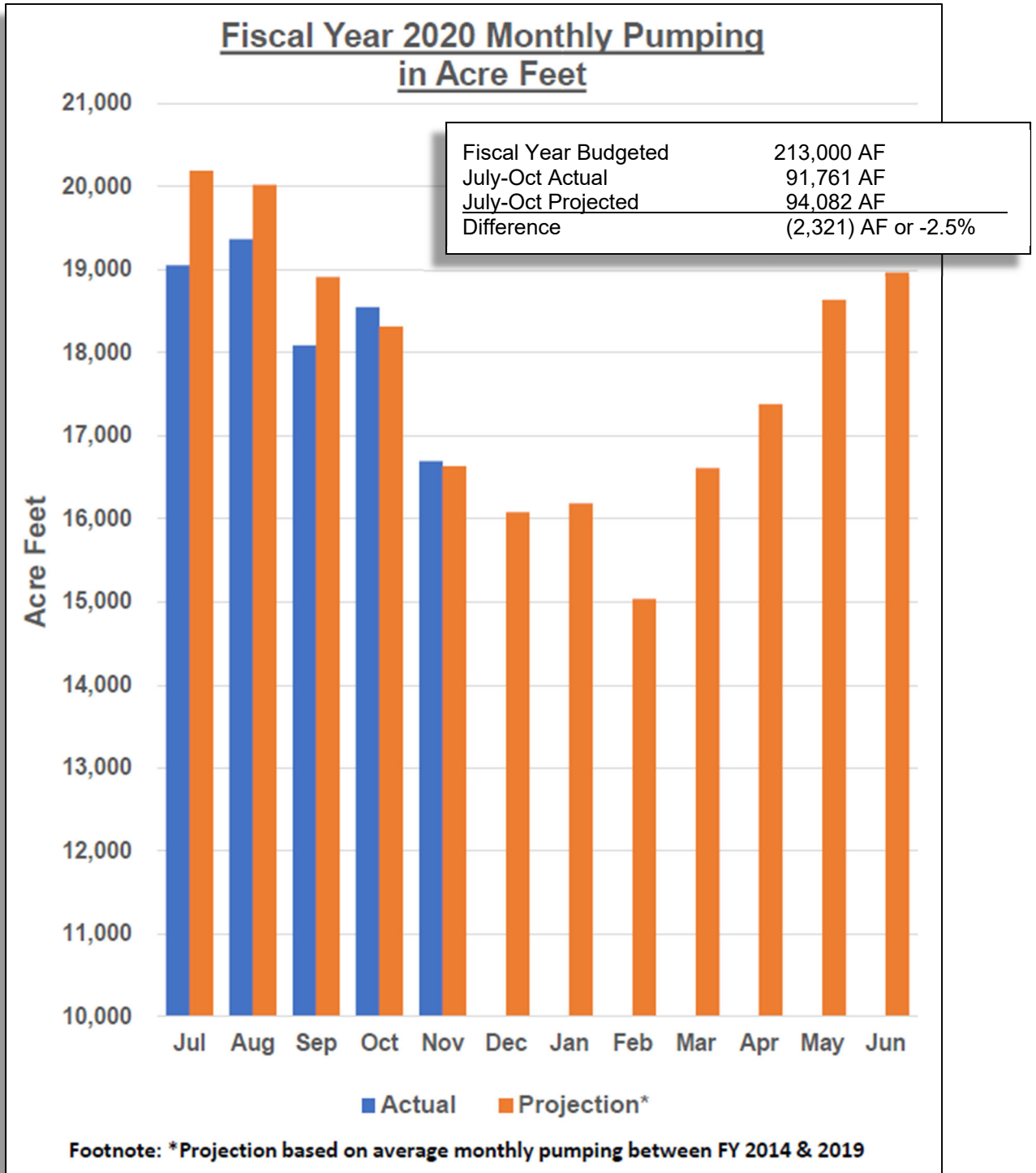
Preliminary numbers for the first five months of the 2019-20 Fiscal Year show that the West Coast Barrier has used 6,999 acre feet of the total 17,000 acre feet planned for injection, 41% of total for the Fiscal Year. The Dominguez Gap Barrier used 3,181 acre feet of the total 7,500 acre feet planned for injection, 42% of the total for the Fiscal Year. The Alamos Barrier, on the WRD side, used 1,453 acre feet of the total 4,500 acre feet planned for injection, 32% of the total for the Fiscal Year.

Assessible Pumping (Fiscal Year July 2019 – November 2019)

Preliminary numbers for groundwater production in the District for the Fiscal Year 2019-20 (July 2019 – November 2019) indicate pumping in the Central Basin was up 492 acre feet from the same time of the previous fiscal year (0.6%) and the West Coast Basin pumping was 522 acre feet higher than the previous fiscal year (4.4%). The total pumping is 91,761 acre feet compared to 90,746 acre feet during the same time the previous year for an increase of 1,015 acre feet, or 1.1%. 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 91,761 acre feet have been pumped this fiscal year and is 2.5% below the projected goal of 94,082 acre feet (or -2,321 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 – November 2019), 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 <u>by Volume</u> (AF)	July 2018 - November 2018	July 2019 - November 2019	Difference	% Change
Long Beach, City of	11,071.17	13,255.23	2,184.06	19.73%
Whittier, City of	1,470.95	2,419.99	949.04	64.52%
Liberty Utilities Corporation	3,215.55	3,838.04	622.49	19.36%
Paramount, City of	2,116.14	2,514.94	398.80	18.85%
Cerritos, City of	3,883.76	4,080.82	197.06	5.07%
Bottom 5 Producing <u>by Volume</u> (AF)	July 2018 - November 2018	July 2019 - November 2019	Difference	% Change
Lakewood, City of Water Department	4,392.42	3,178.63	-1,213.79	-27.63%
Golden State Water Company	9,898.20	8,905.90	-992.30	-10.03%
Bell Gardens, City of	477.81	84.63	-393.18	-82.29%
Huntington Park, City of	1,583.54	1,224.60	-358.94	-22.67%
Vernon, City of	2,805.88	2,462.67	-343.21	-12.23%

Production Trends – West Coast Basin				
Top 5 Producing <u>by Volume</u> (AF)	July 2018 - November 2018	July 2019 - November 2019	Difference	% Change
Inglewood, City of	556.32	1,566.03	1,009.71	181.50%
ConocoPhillips Company	1,574.12	2,266.35	692.23	43.98%
Tesoro Refining & Marketing Co., LLC	1,462.19	1,897.12	434.93	29.75%
Rolling Hills Country Club	59.00	212.00	153.00	259.32%
Roman Catholic Archbishop of Los Angeles	172.36	205.32	32.96	19.12%
Bottom 5 Producing <u>by Volume</u> (AF)	July 2018 - November 2018	July 2019 - November 2019	Difference	% Change
Golden State Water Company	2,444.44	1,463.53	-980.91	-40.13%
Lomita, City of	255.32	0.86	-254.46	-99.66%
West Basin Brewer Desalter	233.13	57.46	-175.67	-75.35%
Los Angeles County Dept. of Parks & Rec.	223.59	122.28	-101.31	-45.31%
California Water Service Co./Hawthorne Lease	398.09	312.90	-85.19	-21.40%