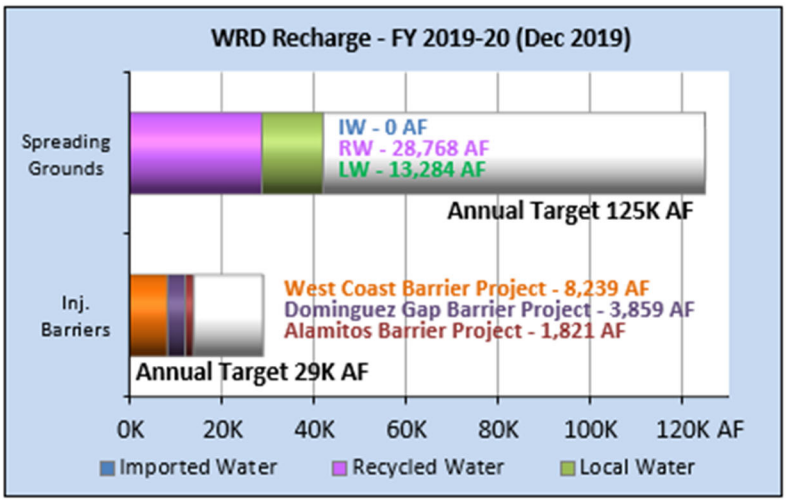
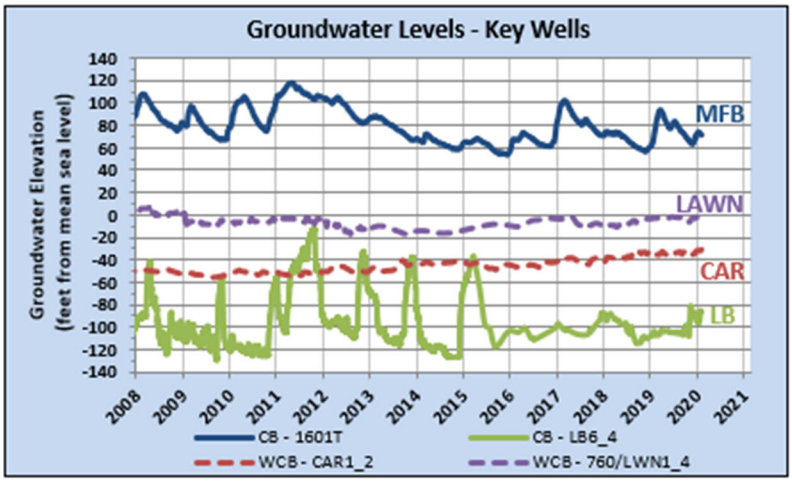
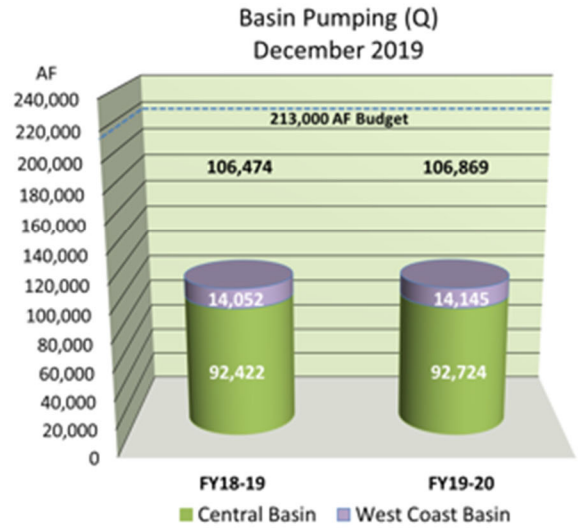
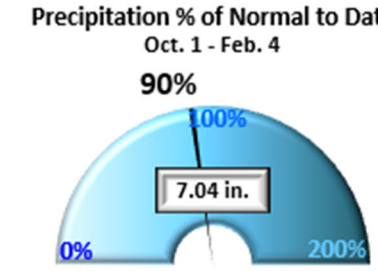
GROUNDWATER BASIN UPDATE
FOR FEBRUARY 2020

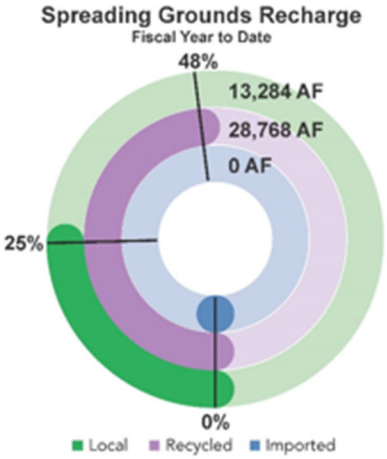
GROUNDWATER BASINS *AT A GLANCE**

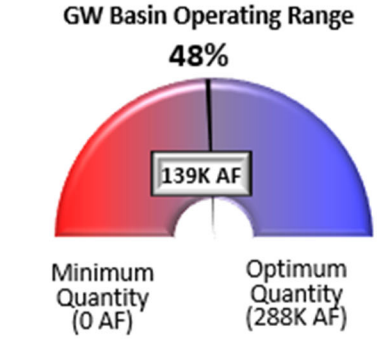


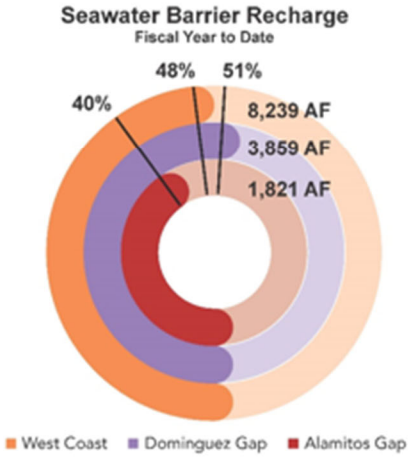








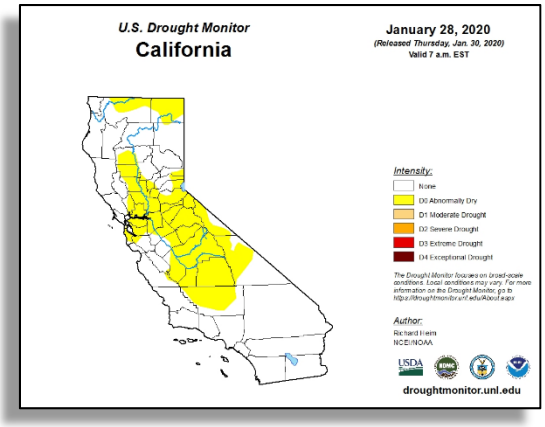




* - Preliminary numbers, subject to change.

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 – Feb. 4, 2020)

The WRD precipitation index reports that for the 2019-20 Water Year, there has been 7.04 inches of rainfall. The normal rainfall for this time period is 7.80 inches, so the District is 90% of normal. As of January 28, 2020, the U.S. Drought Monitor is reporting 34% of the State is abnormally dry and 0% is under moderate drought conditions.

Snowpack (Snow Water Content [SWE] as of February 4, 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: 04-Feb-2020	
Number of Stations Reporting	30
Average snow water equivalent	13.8"
Percent of April 1 Average	47%
Percent of normal for this date	70%

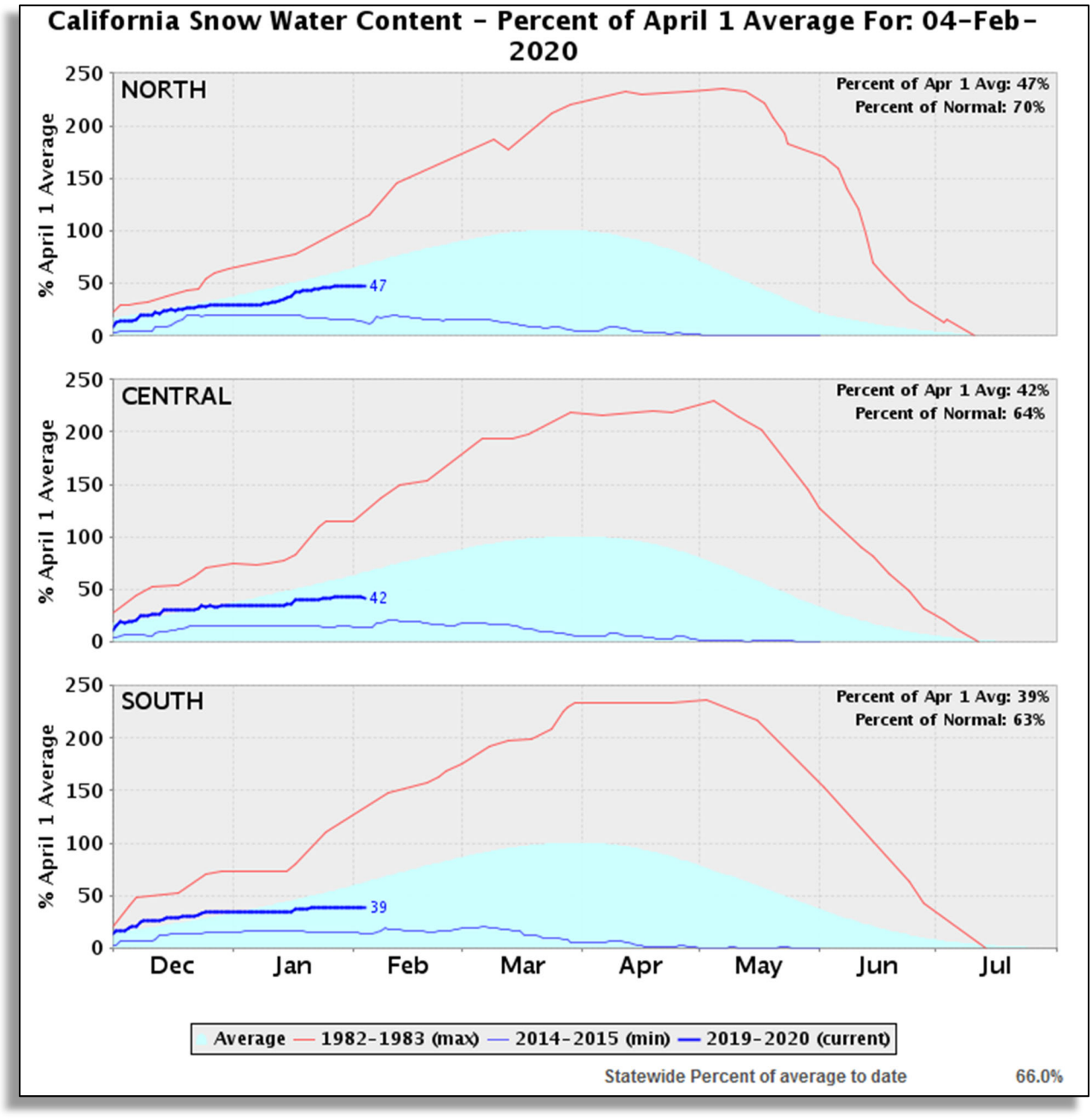
CENTRAL	
Data For: 04-Feb-2020	
Number of Stations Reporting	41
Average snow water equivalent	12.4"
Percent of April 1 Average	42%
Percent of normal for this date	64%

SOUTH	
Data For: 04-Feb-2020	
Number of Stations Reporting	28
Average snow water equivalent	9.9"
Percent of April 1 Average	39%
Percent of normal for this date	63%

STATEWIDE SUMMARY	
Data For: 04-Feb-2020	
Number of Stations Reporting	99
Average snow water equivalent	12.1"
Percent of April 1 Average	43%
Percent of normal for this date	66%

Snow Water Equivalent (SWE):

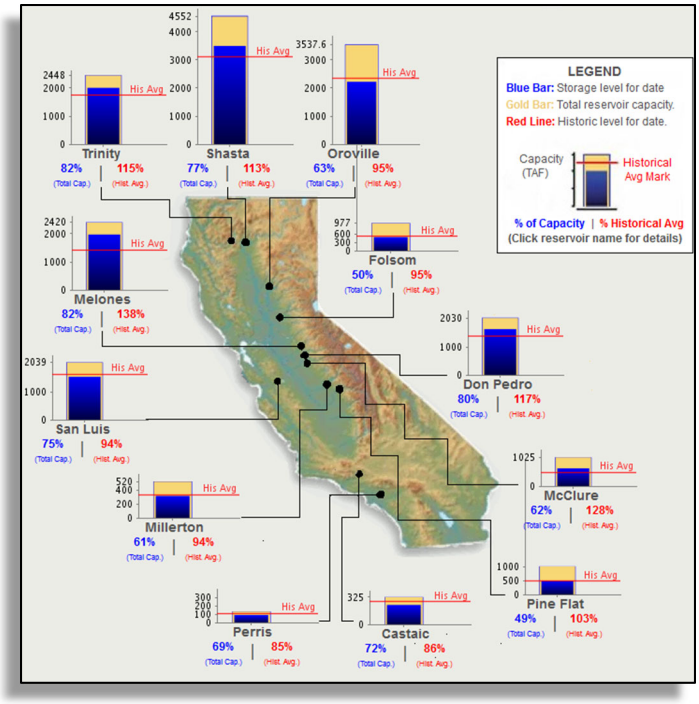
Northern Sierra Nevada – 13.8 in., 70% of normal to date and 47% of April 1st average
Central Sierra Nevada – 12.47 in., 64% of normal to date and 42% of April 1st average
Southern Sierra Nevada – 9.9 in., 63% of normal to date and 39% of April 1st average
Statewide Summary *– 12.1 in., 66% of normal to date and 43% of April 1st average*



Reservoirs (as of February 7, 2020)

For all 16 reservoirs reported monthly to the committee, water levels have increased in 9 reservoirs compared to levels recorded in the previous month. The largest increase (0.30 million acre feet) occurred at Lake Mead. The smallest increase (<0.00 million acre feet) occurred at Lake McClure. The largest decrease (-0.29 million acre feet) occurred at Lake Powell. The smallest decrease (<0.00 million acre feet) occurred at Lake Silverwood and Diamond Valley Lake.

These 16 reservoirs are at 55% capacity (39.51 million acre feet) which is up from the prior month (0.56 million acre feet State Water Project [SWP] and 0.01 million acre feet Colorado River Aqueduct [CRA]).



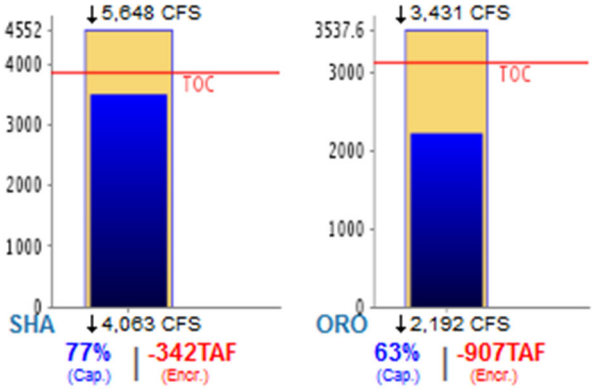
MWD Reservoirs (SWP)
Storage in Million Acre Feet

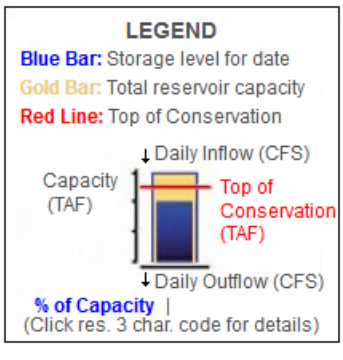
Reservoir	Capacity	Storage	% Full	Change
Trinity Lake	2.45	2.01	82%	0.05
Lake Shasta	4.55	3.50	77%	0.17
Lake Oroville	3.54	2.22	63%	0.12
Folsom Lake	0.98	0.49	50%	-0.01
New Melones	2.40	1.98	82%	-0.01
Don Pedro	2.03	1.64	81%	0.01
Lake McClure	1.02	0.64	62%	0.00
San Luis	2.04	1.53	75%	0.19
Millerton Lake	0.52	0.32	61%	0.03
Pine Flat	1.00	0.49	49%	0.02
Castaic Lake	0.33	0.23	72%	-0.02
Lake Perris	0.13	0.09	69%	-0.01
Silverwood	0.08	0.06	77%	0.00

MWD Reservoirs (CRA)
Storage in Million Acre Feet

Reservoir	Capacity	Storage	% Full	Change
Powell	24.32	12.25	50%	-0.29
Mead	26.12	11.28	43%	0.30
DVL	0.81	0.79	98%	0.00

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

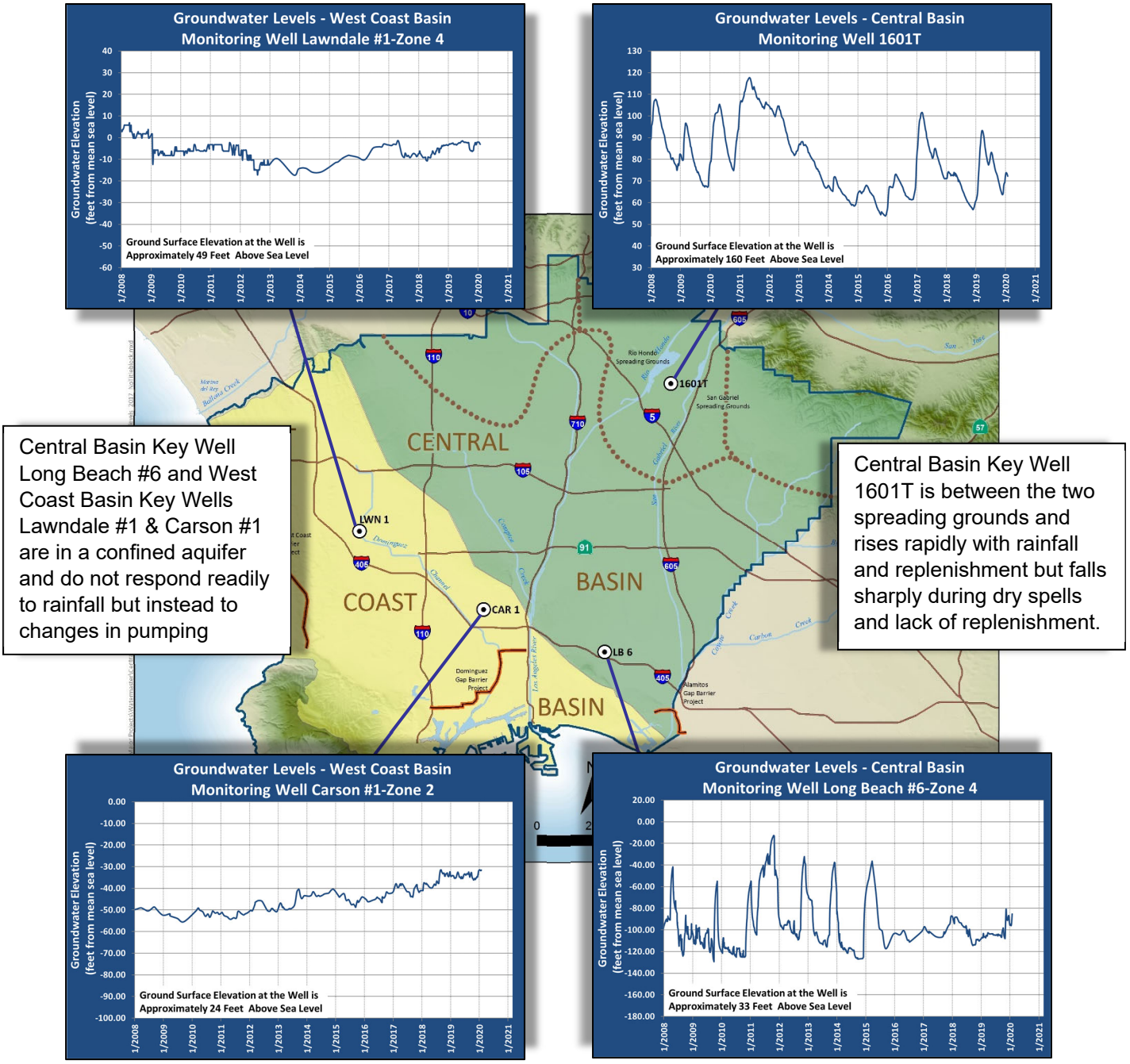




Charts illustrating Lake Shasta (SHA) and Lake Oroville (ORO) are currently filling.

Groundwater Levels (through January 31, 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 0.3 foot**	Increased 1.7 feet
Central Basin Key Well Long Beach #6_4	**Increased 10.4 feet**	Increased 18.0 feet
West Coast Basin Key Well Lawndale #1_4	**Decreased 1.0 foot**	**Decreased 0.2 feet**
West Coast Basin Key Well Carson #1_2	Increased 0.1 foot	Increased 2.5 feet

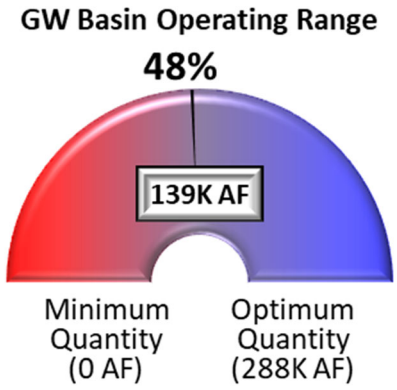
Bold indicates a change in direction (decreasing or increasing) since the last report.

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.

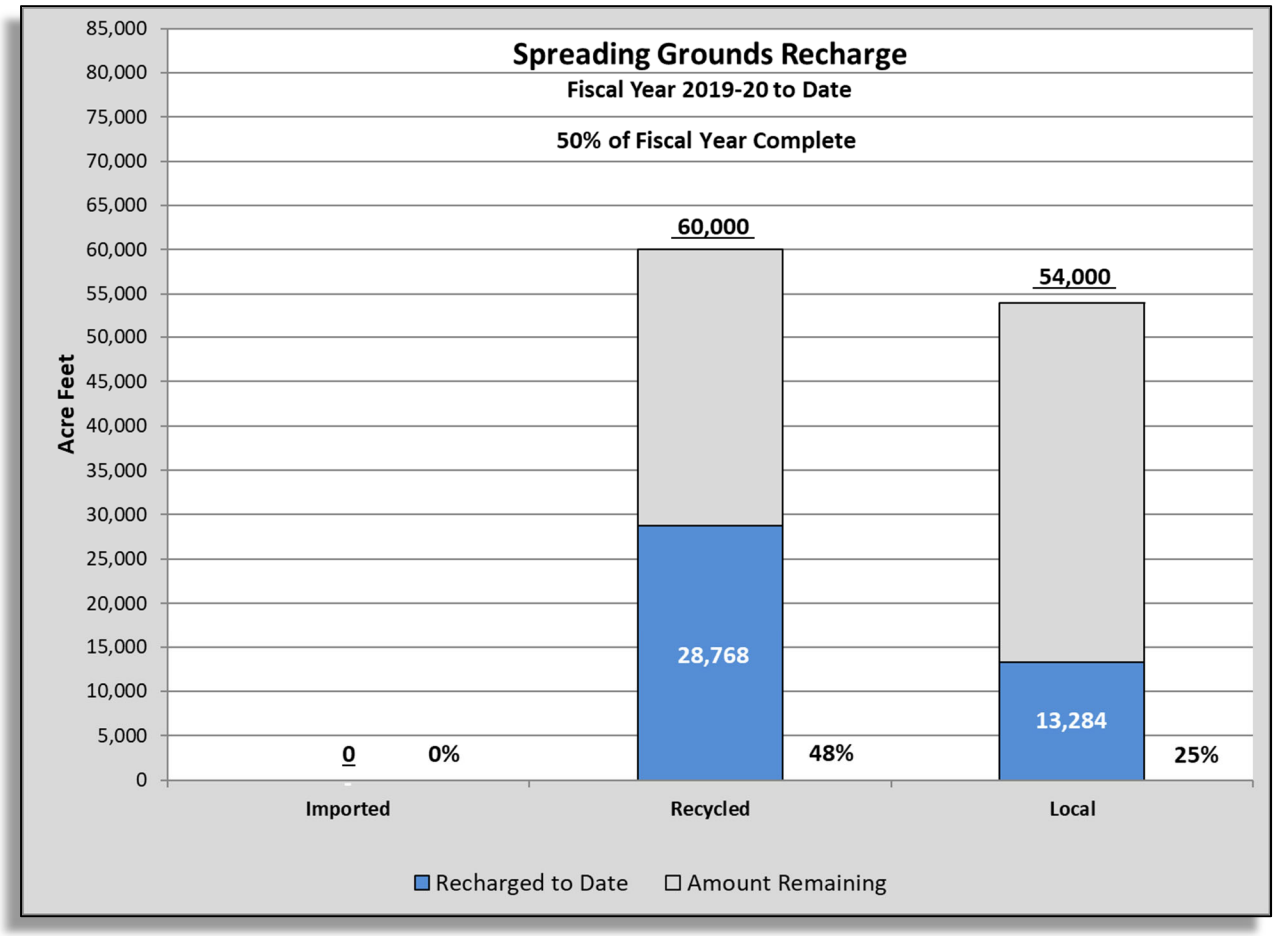
After an extensive review of over 70 years of water level fluctuations and discussions with the Board and pumping community, Water Year 1999/2000 was recognized as a representative year for the Optimum Quantity, which equated to an accumulated overdraft of approximately 612,000 acre feet. The Minimum 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 31, 2020, has been estimated at 759,819 760,976 acre feet (subject to change), which is 139,024 acre feet above the Minimum Groundwater Quantity and 148,976 acre feet below the Optimum Quantity. The Basin is at 48% of Optimum Quantity which is down 1% from last month.



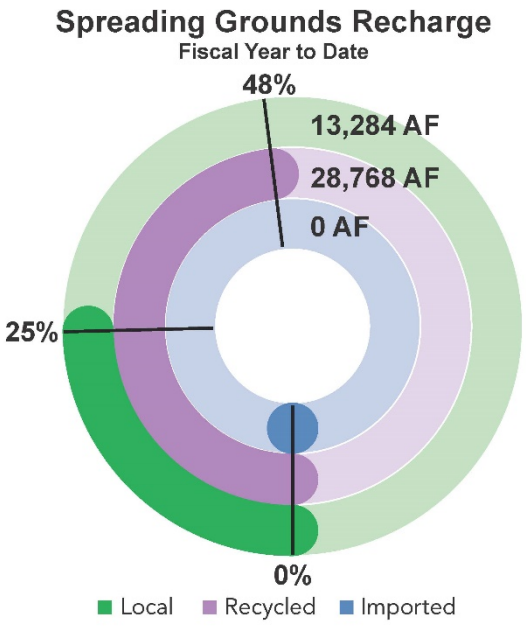
Montebello Forebay Spreading Grounds (July 2019 - December 2019)

The following Chart shows the preliminary spreading grounds replenishment water:

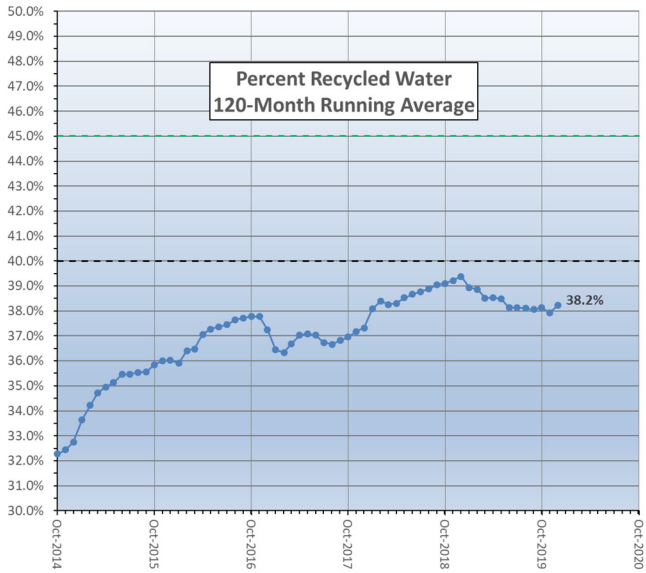


For the Fiscal Year 2019-20, no imported water purchases are anticipated.

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 six months of the 2019-20 Fiscal Year, approximately 13,284 acre feet of local water capture has been reported by the LACDPW.



Preliminary numbers for the first six months of the 2019-20 Fiscal Year show that approximately 28,768 acre feet of recycled water has been recharged. The 120-month running average of recycled water contribution in the Montebello Forebay is 38.2% and the regulatory maximum is 45%, with additional studies and monitoring being required once 40% is reached.



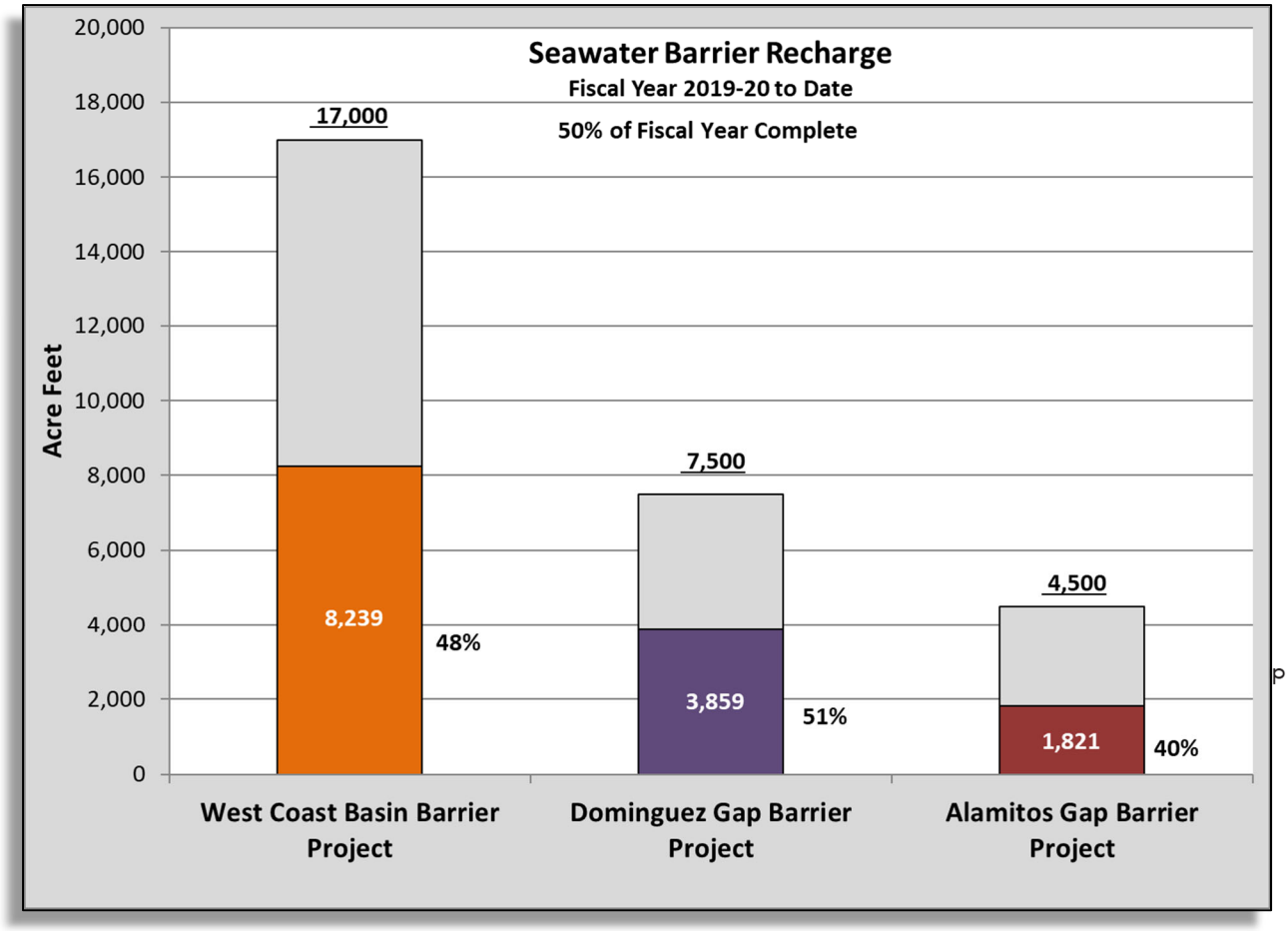
Tertiary Recycle Water Permit Update

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.

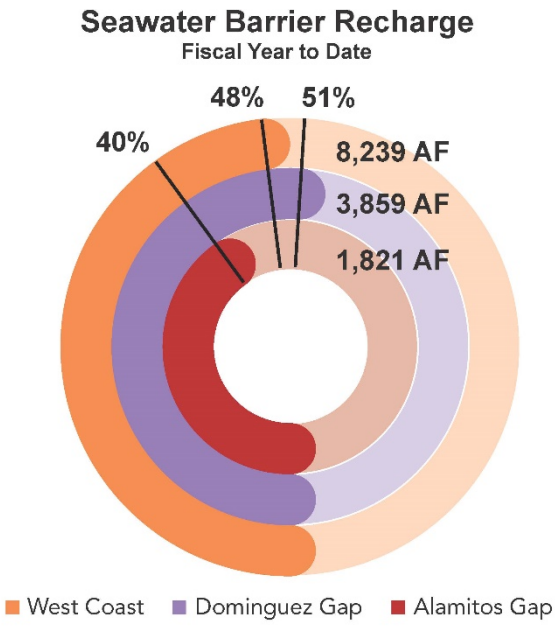
Upon receipt of comments on the Workplan from the State of California, the District and LACSD will proceed with finalizing the preparation and submittal of the new Title 22 Engineering Report. In anticipation of receiving comments in late spring 2020, staff is continuing to work with the LACSD on developing 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.

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

The following Chart shows the barrier water injection:

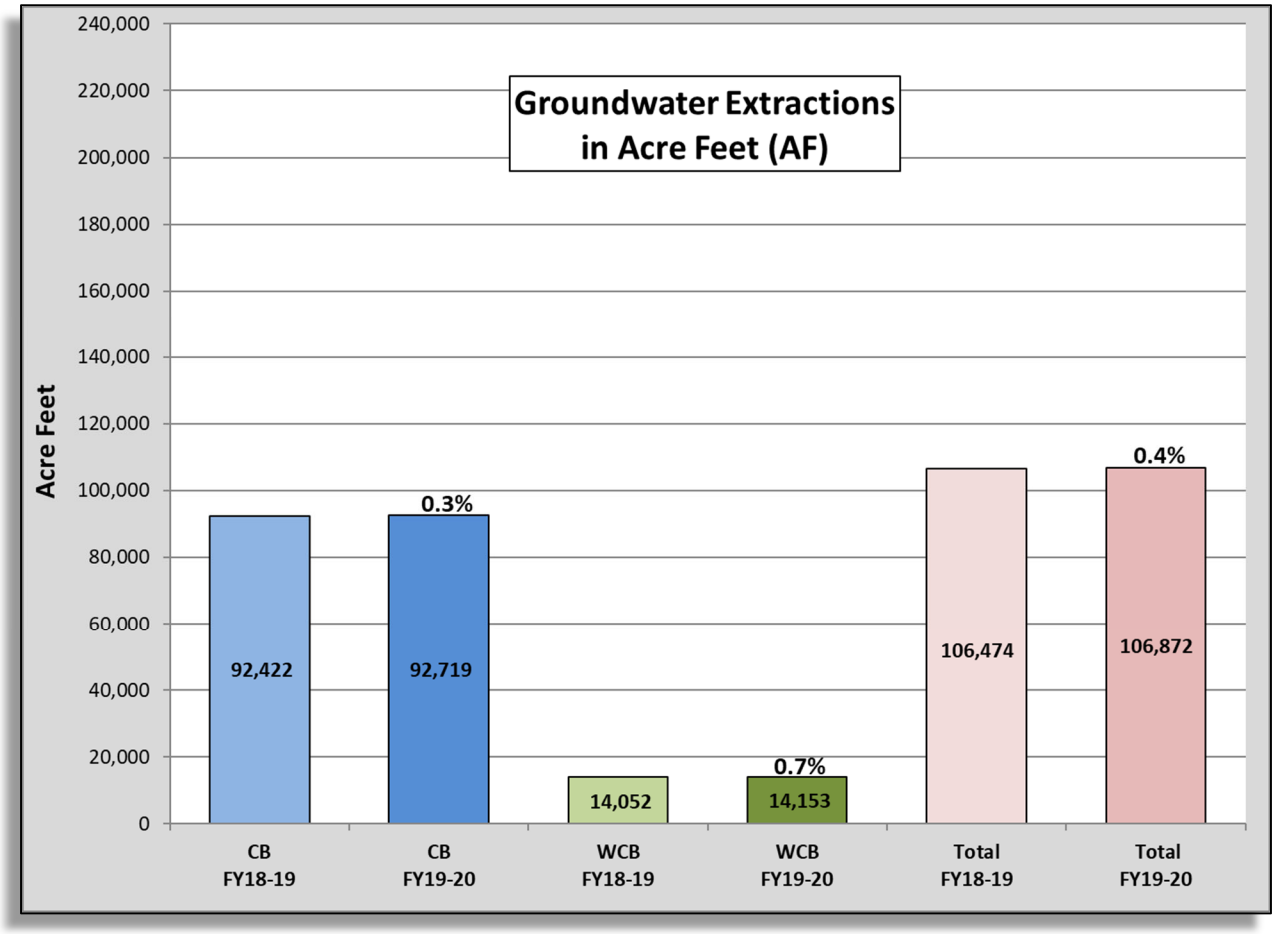


Preliminary numbers for the first six months of the 2019-20 Fiscal Year show that the West Coast Barrier has used 8,239 acre feet of the total 17,000 acre feet planned for injection, 48% of total for the Fiscal Year. The Dominguez Gap Barrier used 3,859 acre feet of the total 7,500 acre feet planned for injection, 51% of the total for the Fiscal Year. The Alamitos Barrier, on the WRD side, used 1,821 acre feet of the total 4,500 acre feet planned for injection, 40% of the total for the Fiscal Year.

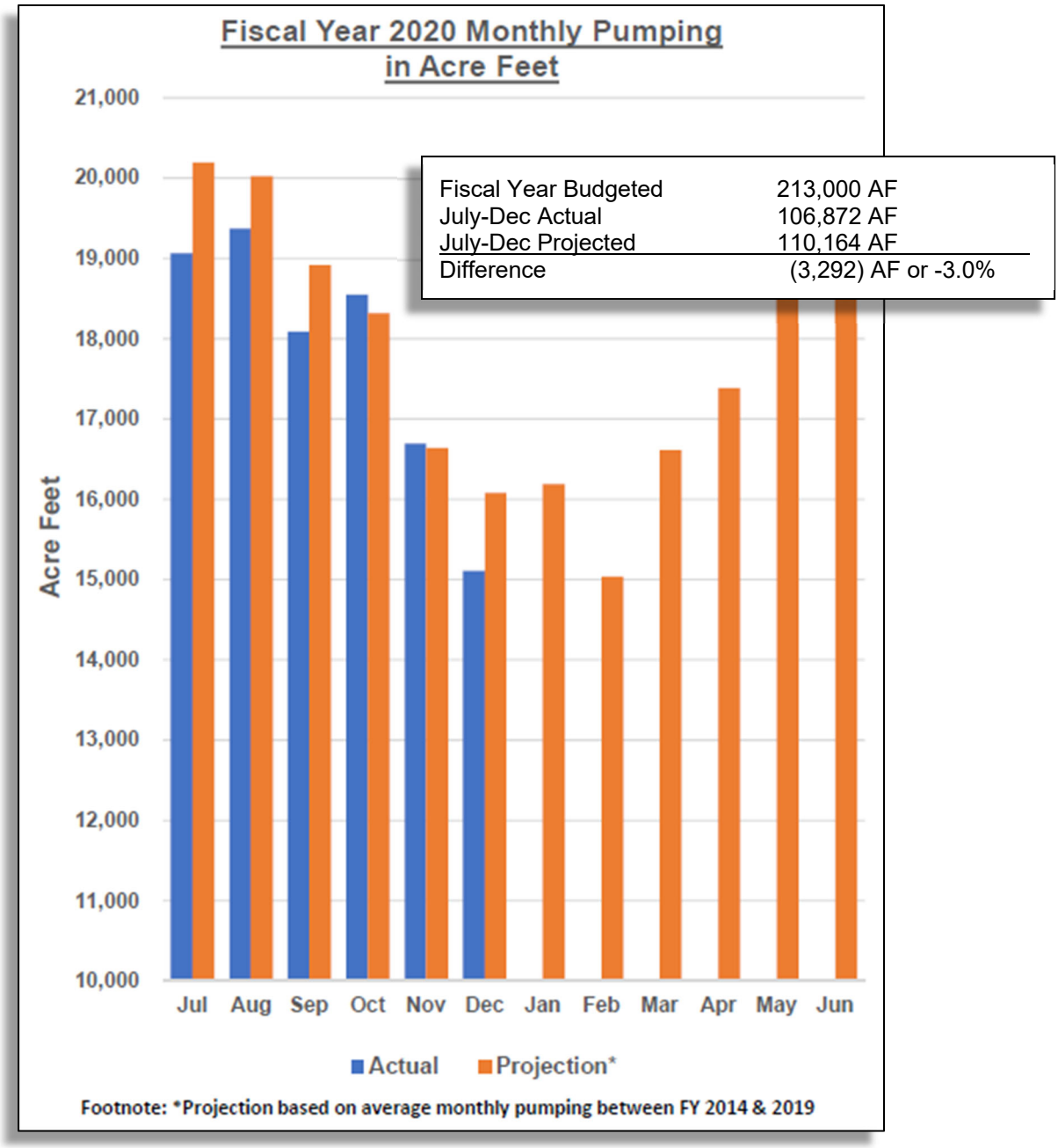


Assessible Pumping (Fiscal Year July 2019 – December 2019)

Preliminary numbers for groundwater production in the District for the Fiscal Year 2019-20 (July 2019 – December 2019) indicate pumping in the Central Basin was up 297 acre feet from the same time of the previous fiscal year (0.3%) and the West Coast Basin pumping was 101 acre feet higher than the previous fiscal year (0.7%). The total pumping is 106,872 acre feet compared to 106,474 acre feet during the same time the previous year for an increase of 398 acre feet, or 0.4%. The current pumping data do not include seven Central Basin pumpers and one West Coast Basin pumper who have not yet reported.



Preliminary numbers indicate 106,872 acre feet have been pumped this fiscal year and is 3.0% below the projected goal of 110,164 acre feet (or -3,292 acre feet). Monthly actual production versus 6-year average monthly production projections (FY 2014 through 2019) are included in the chart below.



Fiscal Year Budgeted	213,000 AF
July-Dec Actual	106,872 AF
July-Dec Projected	110,164 AF
Difference	(3,292) AF or -3.0%

For the Fiscal Year 2019-20 (July 2019 – December 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 by Volume (AF)	July 2018 - December 2018	July 2019 - December 2019	Difference	% Change
Long Beach, City of	13,426.02	15,664.35	2,238.33	16.67%
Whittier, City of	1,895.20	2,827.29	932.09	49.18%
Paramount, City of	2,535.12	2,993.43	458.31	18.08%
Liberty Utilities Corporation	4,088.12	4,436.40	348.28	8.52%
Cerritos, City of	4,452.78	4,686.03	233.25	5.24%
Bottom 5 Producing by Volume (AF)	July 2018 - December 2018	July 2019 - December 2019	Difference	% Change
Lakewood, City of Water Department	5,141.47	3,570.92	-1,570.55	-30.55%
Golden State Water Company	11,499.57	10,455.41	-1,044.16	-9.08%
Bell Gardens, City of	554.67	125.49	-429.18	-77.38%
San Gabriel Valley Water Company	1,052.56	689.65	-362.91	-34.48%
Vernon, City of	3,301.36	2,978.54	-322.82	-9.78%

Production Trends – West Coast Basin				
Top 5 Producing by Volume (AF)	July 2018 - December 2018	July 2019 - December 2019	Difference	% Change
Inglewood, City of	667.76	1,909.88	1,242.12	186.01%
ConocoPhillips Company	1,995.93	2,684.21	688.28	34.48%
Tesoro Refining & Marketing Co., LLC	1,866.84	2,155.71	288.87	15.47%
Rolling Hills Country Club	61.00	218.00	157.00	257.38%
Roman Catholic Archbishop of Los Angeles	173.88	206.25	32.37	18.62%
Bottom 5 Producing by Volume (AF)	July 2018 - December 2018	July 2019 - December 2019	Difference	% Change
Golden State Water Company	2,765.56	1,465.80	-1,299.76	-47.00%
Lomita, City of	297.61	1.00	-296.61	-99.66%
West Basin Brewer Desalter	299.96	84.08	-215.88	-71.97%
California Water Service Co./Hawthorne Lease	490.87	357.04	-133.83	-27.26%
Los Angeles County Department of Parks & Recreation	240.86	124.35	-116.51	-48.37%