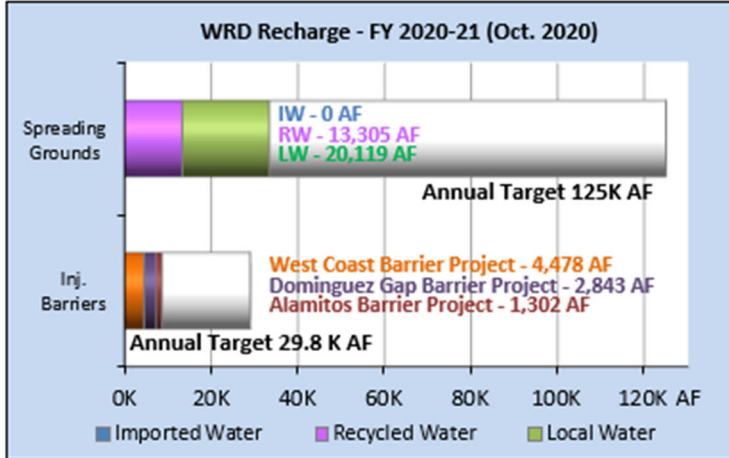
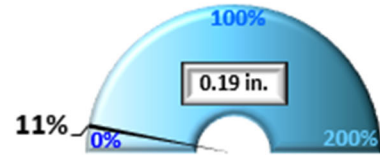


# GROUNDWATER BASIN UPDATE FOR DECEMBER 2020

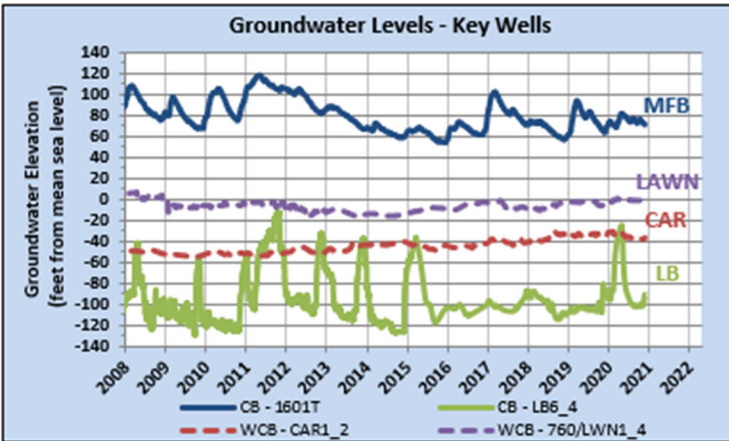
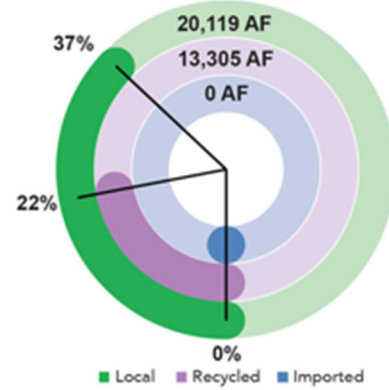
## GROUNDWATER BASINS AT A GLANCE\*



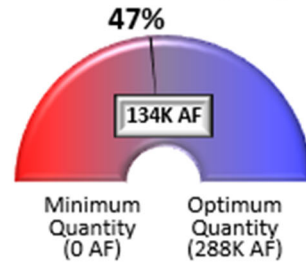
Precipitation % of Normal to Date  
Oct. 1 - Nov. 27



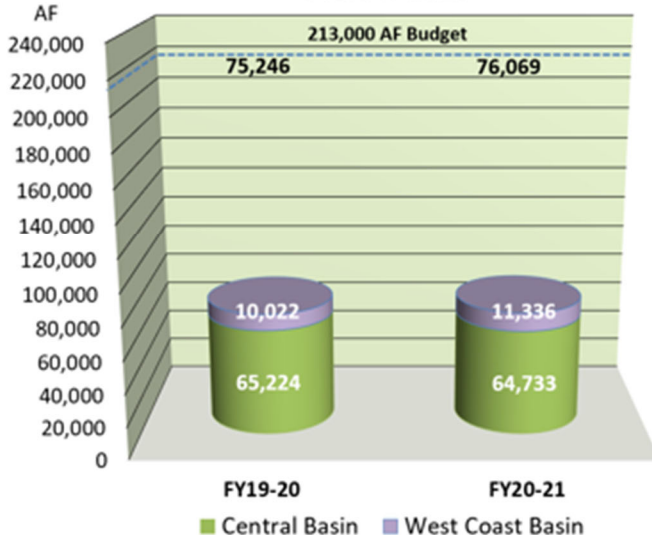
Spreading Grounds Recharge  
Fiscal Year to Date



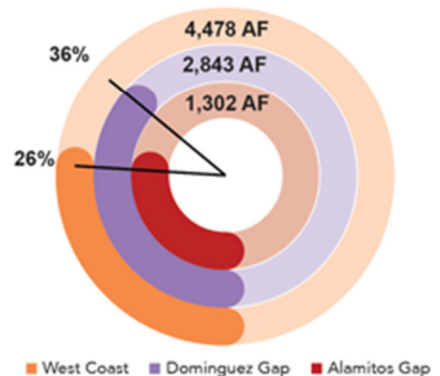
GW Basin Operating Range



Basin Pumping (Q)  
October 2020



Seawater Barrier Recharge  
Fiscal Year to Date



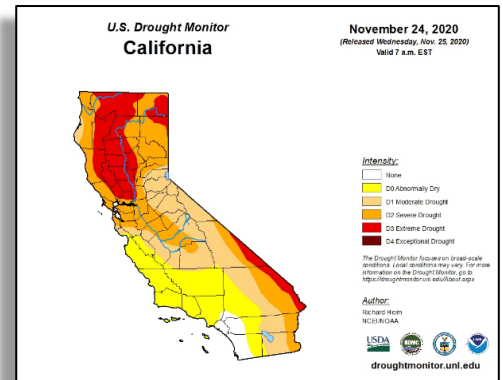
\* - Preliminary numbers, subject to change.

## SUMMARY

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

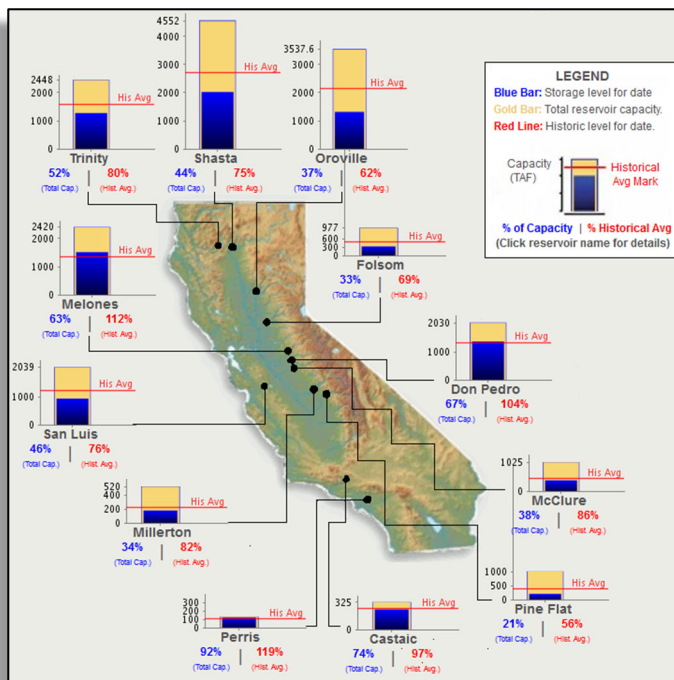
### Precipitation (October 1 – November 27, 2020)

The WRD precipitation index reports that for the 2020-21 Water Year, there has been very little rainfall (0.19 inches) through November 27, 2020. The normal rainfall for this time period is 1.75 inches, so the District is 11% of normal. As of November 24, 2020, the U.S. Drought Monitor is reporting 97% of the State is abnormally dry, 75% under moderate drought, 48% under severe, and 19% under extreme drought conditions.



### Reservoirs (as of November 29, 2020)

For all 16 reservoirs reported monthly to the committee, water levels have increased in 4 reservoirs compared to levels recorded in the previous month and decreased in 12 reservoirs. The largest increase (0.02 million acre feet) occurred at Lake Melones and Lake Millerton. The largest decrease (-0.34 million acre feet) occurred at Lake Powell. The smallest decrease (<-0.00 million acre feet) occurred at San Luis Reservoir, Perris Lake, and Diamond Valley Lake.



#### MWD Reservoirs (SWP) Storage in Million Acre Feet

Reservoir	Capacity	Storage	% Full	Change
Trinity Lake	2.45	1.27	52%	-0.03
Lake Shasta	4.55	2.02	44%	-0.05
Lake Oroville	3.54	1.32	37%	-0.19
Folsom Lake	0.98	0.32	33%	-0.03
<b>New Melones</b>	<b>2.40</b>	<b>1.52</b>	<b>63%</b>	<b>0.02</b>
<b>Don Pedro</b>	<b>2.03</b>	<b>1.37</b>	<b>67%</b>	<b>0.00</b>
Lake McClure	1.02	0.39	38%	-0.01
San Luis	2.04	0.93	46%	0.00
<b>Millerton Lake</b>	<b>0.52</b>	<b>0.18</b>	<b>34%</b>	<b>0.02</b>
<b>Pine Flat</b>	<b>1.00</b>	<b>0.21</b>	<b>21%</b>	<b>0.00</b>
Castaic Lake	0.33	0.24	74%	-0.02
Lake Perris	0.13	0.12	92%	0.00
Silverwood	0.08	0.06	74%	-0.01

#### MWD Reservoirs (CRA) Storage in Million Acre Feet

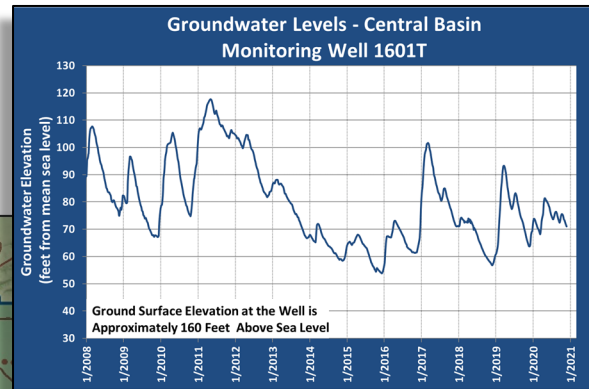
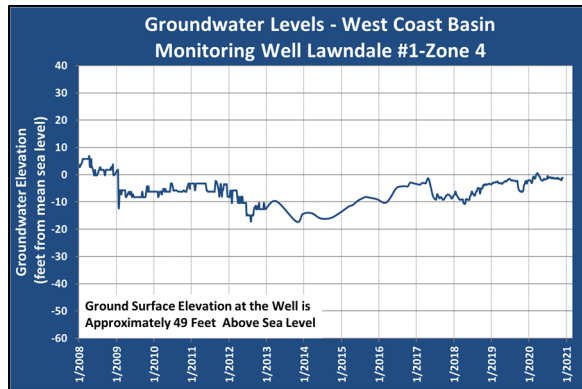
Reservoir	Capacity	Storage	% Full	Change
Powell	24.32	10.63	44%	-0.34
Mead	26.12	10.10	39%	-0.07
DVL	0.81	0.70	87%	0.00

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

These 16 reservoirs are at 43% capacity (31.37 million acre feet) which is down 0.70 million acre feet from the prior month (-0.29 million acre feet State Water Project [SWP] and -0.41 million acre feet Colorado River Aqueduct [CRA]).

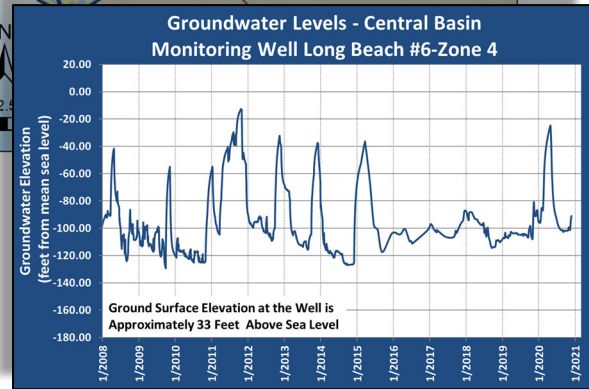
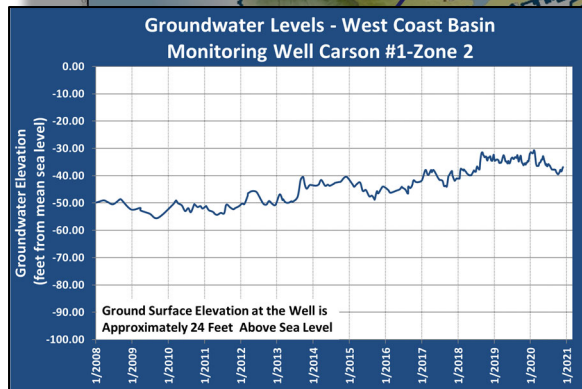
## Groundwater Levels (through November 26, 2020)

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	<b>Decreased 2.7 feet</b>	Increased 7.3 feet
Central Basin Key Well Long Beach #6 4	Increased 8.3 feet	Increased 0.1 foot
West Coast Basin Key Well Lawndale #1 4	<b>Increased 0.5 foot</b>	Increased 1.2 feet
West Coast Basin Key Well Carson #1 2	Increased 1.0 foot	Decreased 1.6 feet

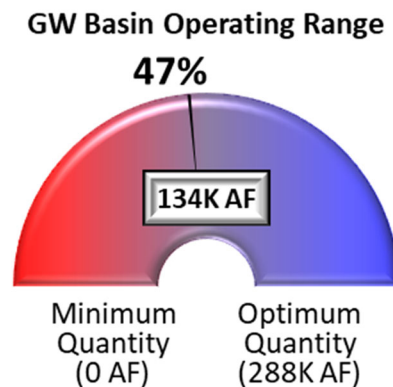
**Bold** indicates a change in direction (decreasing or increasing) since the last report.

## 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.

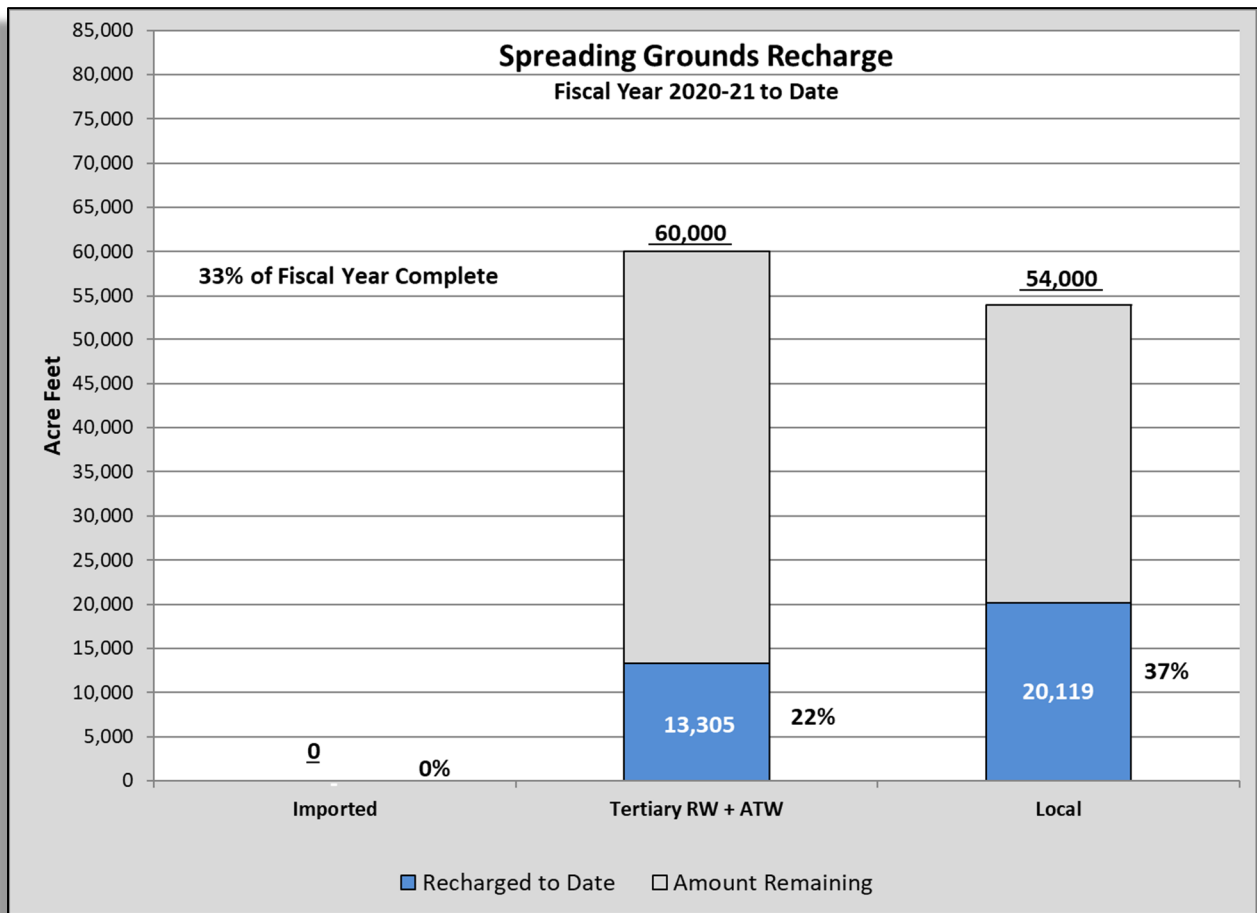
The Accumulated Overdraft as of November 26, 2020, has been estimated at 765,602 acre feet (subject to change), which is 134,398 acre feet above the Minimum Groundwater Quantity and 153,602 acre feet below the Optimum Quantity. The Basin is at 47% of Optimum Quantity which is 3% lower than last month (~11,000 AF lower).





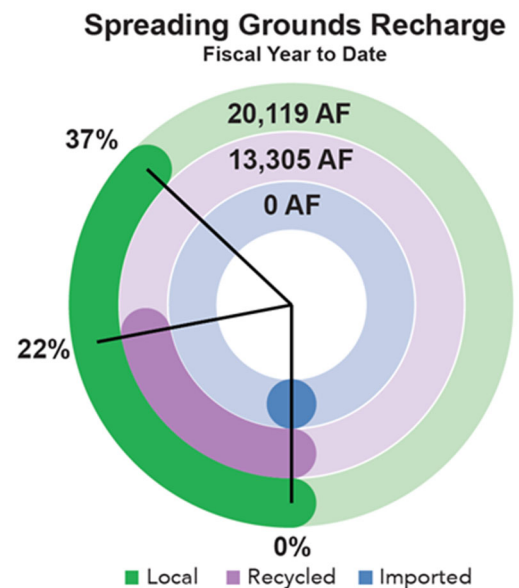
Montebello Forebay Spreading Grounds (October 2020)

The following Chart shows the preliminary spreading grounds replenishment water:

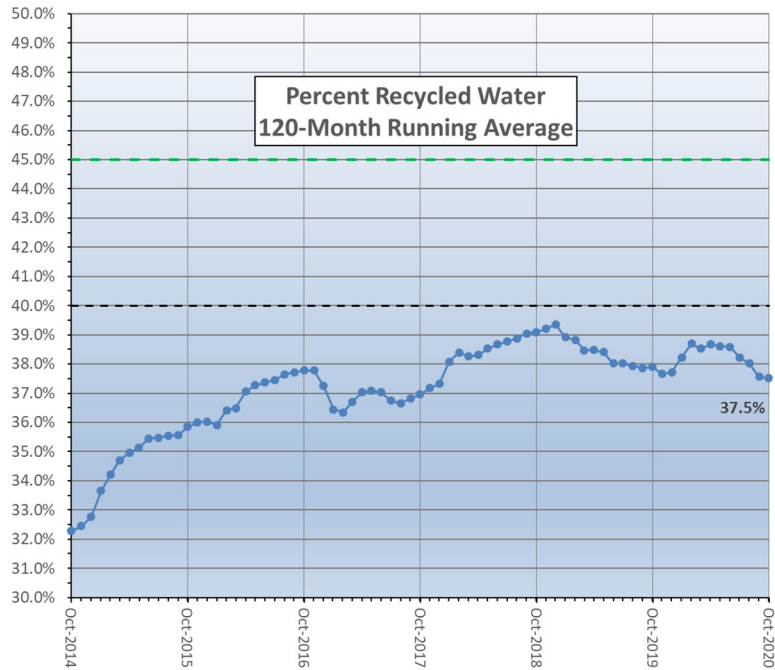


No imported water purchases are planned for Fiscal Year 2020-21.

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 2020-21 Fiscal Year, approximately 20,119 acre feet of local water capture has been reported by the LACDPW as a result of summer releases from Morris Dam.



Preliminary numbers for the 2020-21 Fiscal Year show that approximately 13,305 acre feet of recycled water has been recharged with 3,902 acre feet consisting of advanced treat water from the ARC AWTF. Presuming the advanced treated water as “Null Water”, the 120-month running average of the recycled water contribution in the Montebello Forebay is 37.5% and the regulatory maximum is 45%, with additional studies and monitoring being required once 40% is reached.



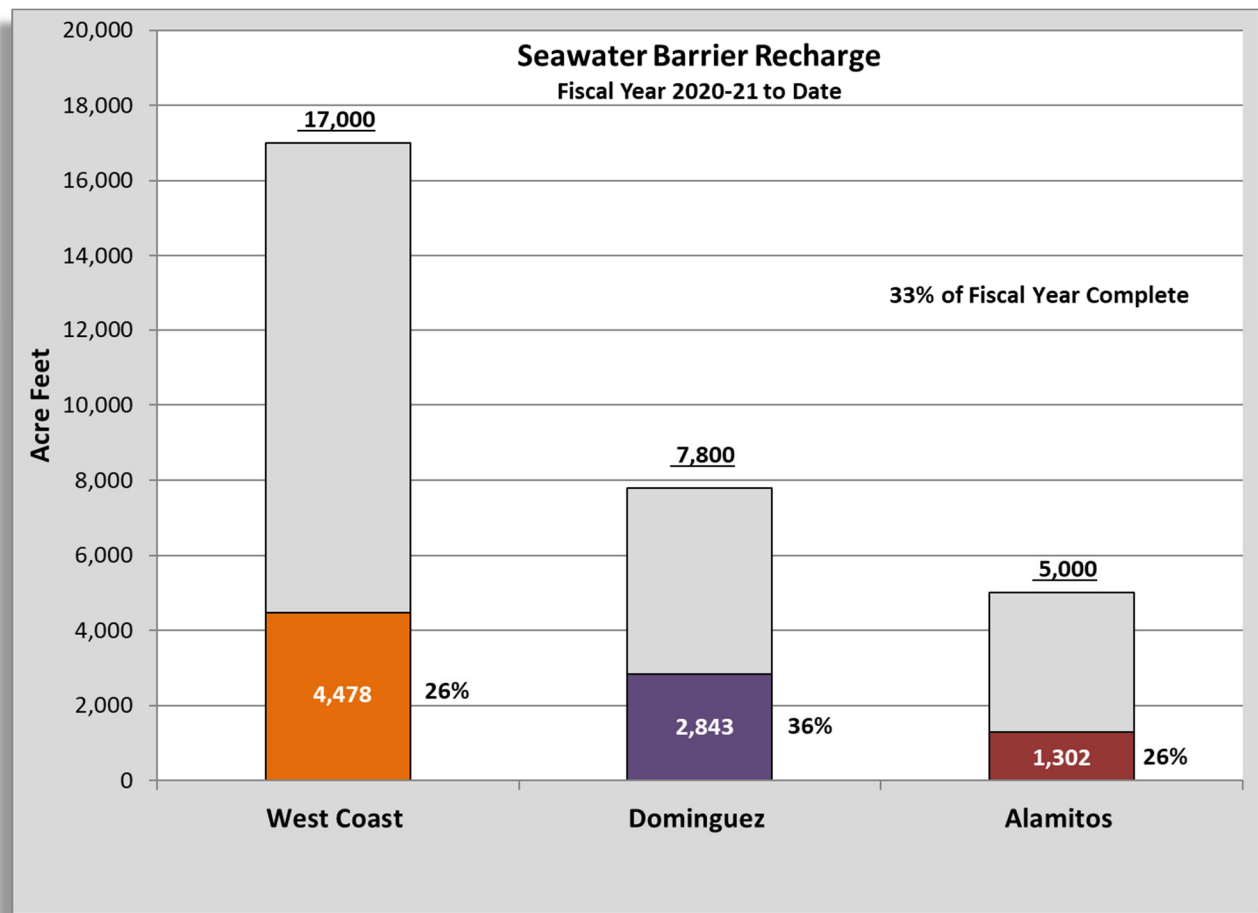
Tertiary Recycle Water Permit Update

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.

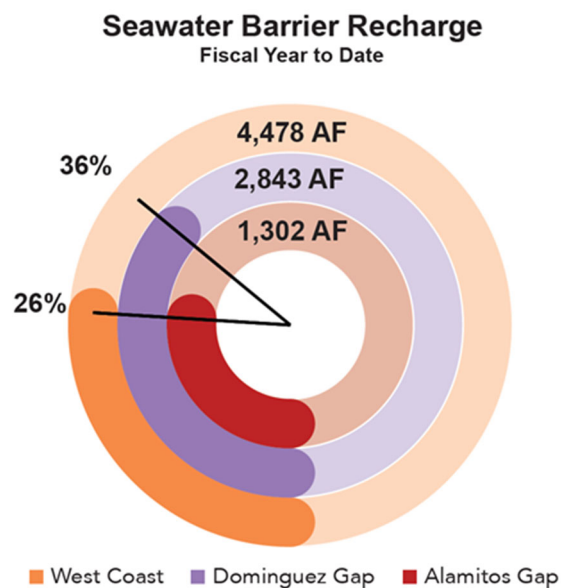
Upon receipt of comments on the Workplan from the State of California, the District and LACSD will proceed with finalizing the preparation and submittal of the new Title 22 Engineering Report. In anticipation of receiving comments, staff continues to work collaboratively with the LACSD on developing 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. A follow-up meeting with the RWQCB to discuss some aspects of the Title 22 Engineering Report is scheduled for December 8, 2020.

## Seawater Barrier Well Injection and Replenishment (October 2020)

The following Chart shows the barrier water injection:

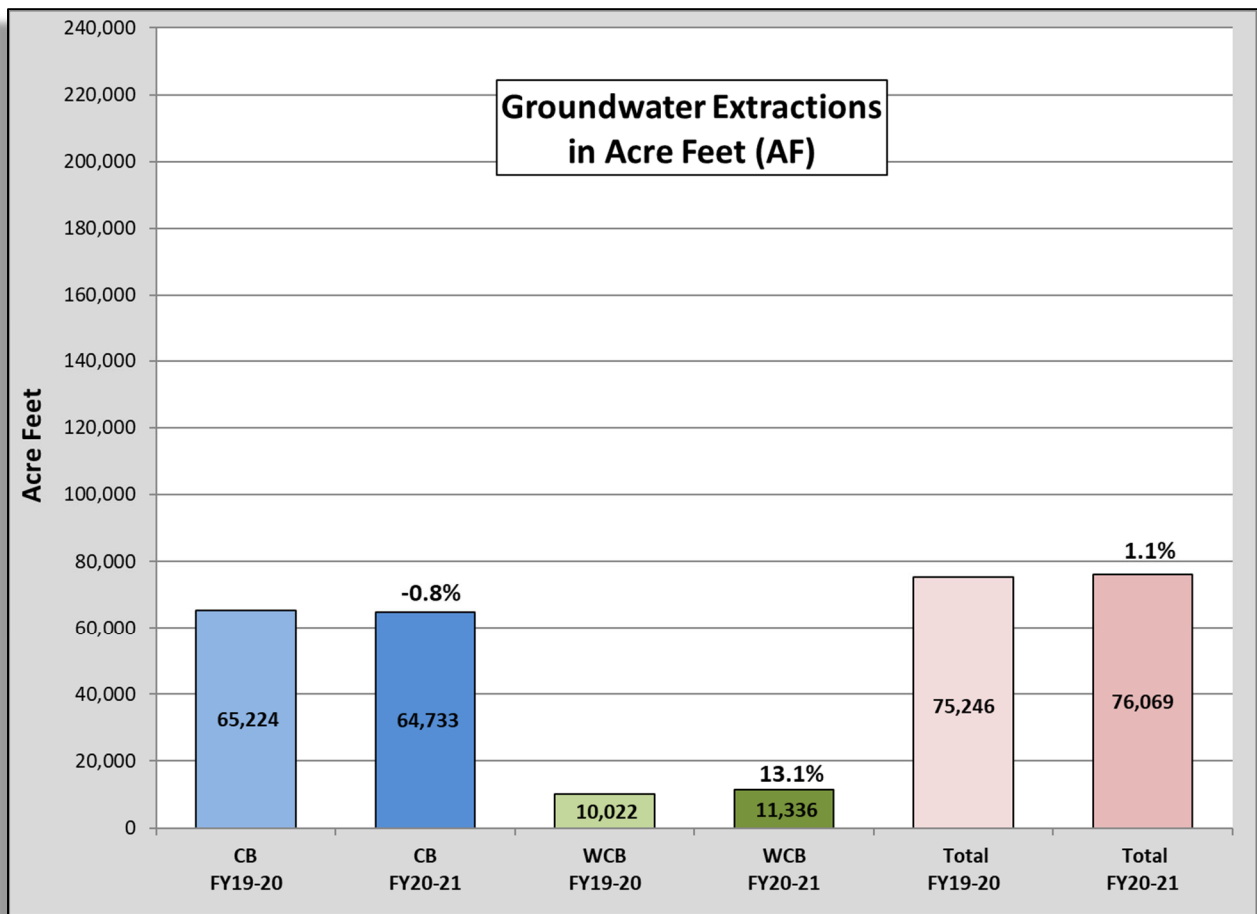


Preliminary numbers for the 2020-21 Fiscal Year show that the West Coast Barrier has used 4,478 acre feet of the total 17,000 acre feet planned for injection, 26% of total for the Fiscal Year. The Dominguez Gap Barrier used 2,843 acre feet of the total 7,800 acre feet planned for injection, 36% of the total for the Fiscal Year. The Alamitos Barrier, on the WRD side, used 1,302 acre feet of the total 5,000 acre feet planned for injection, 26% of the total for the Fiscal Year.



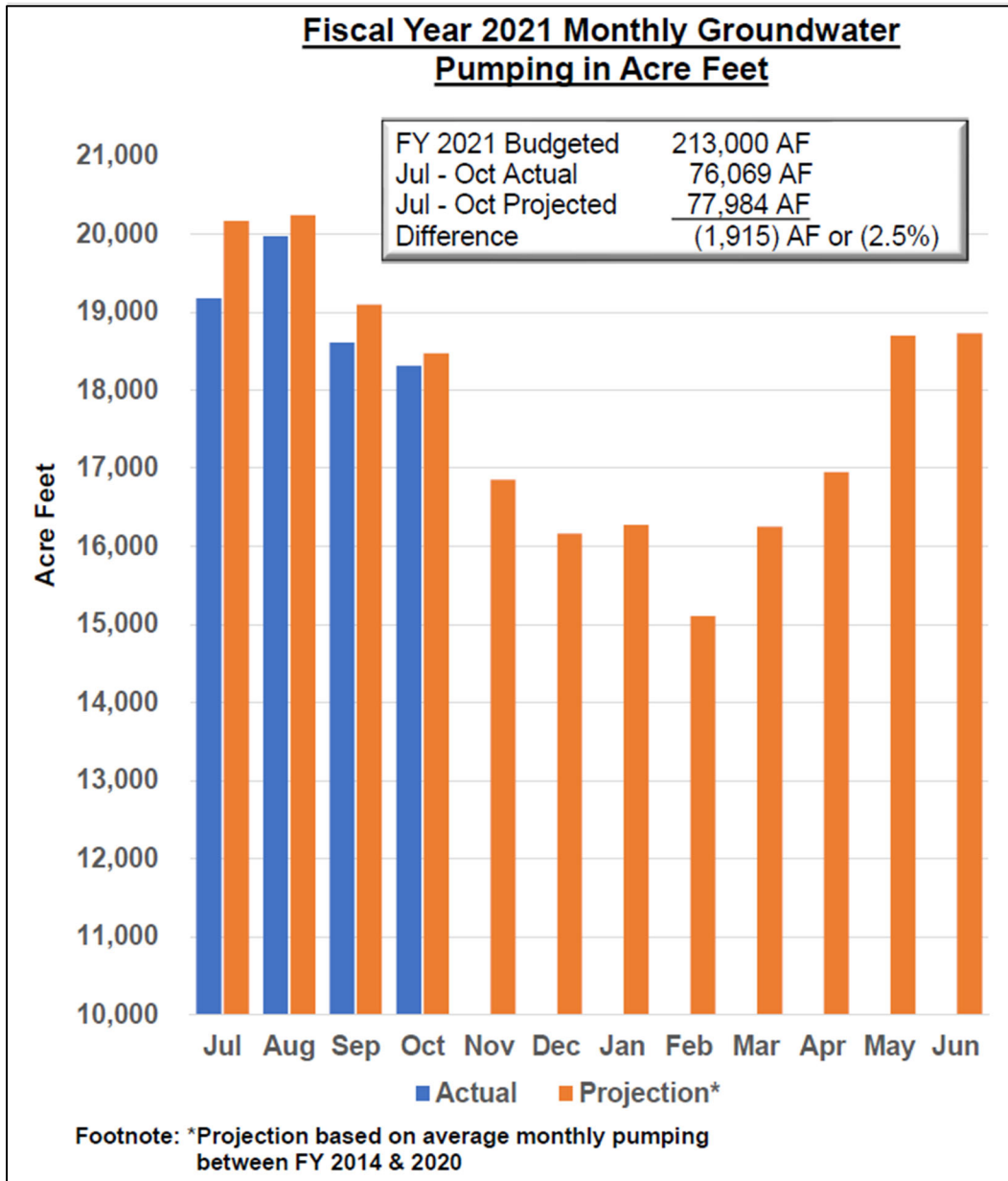
Assessible Pumping (Fiscal Year October 2020)

Preliminary numbers for groundwater production in the District for the Fiscal Year 2020-21 (October 2020) indicate pumping in the Central Basin was down 491 acre feet from the same time of the previous fiscal year (-0.8%) and the West Coast Basin pumping was 1,314 acre feet higher than the previous fiscal year (+13.1%). The total pumping is 76,069 acre feet compared to 75,246 acre feet during the same time the previous year for an increase of 823 acre feet, or 1.1%. The current pumping data do not include four Central Basin pumpers who have not yet reported for an estimated 3 additional acre feet.





Preliminary numbers indicate 76,069 acre feet have been pumped this fiscal year and is 2.5% below the projected goal of 77,984 acre feet (or -1,915 acre feet). Monthly actual production versus 7-year average monthly production projections (FY 2014 through 2020) are included in the chart below.



For the Fiscal Year 2020-21 (July - October 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.

<b>Production Trends - Central Basin</b>				
<b>Top 5 Producing <u>by Volume</u> (AF)</b>	July – Oct. 2019	July – Oct. 2020	Difference	% Change
California Water Service Company (East LA)	3,037.32	3,646.85	609.53	20.07%
Golden State Water Company	7,262.66	7,705.97	443.31	6.10%
Bell Gardens, City of	84.63	386.60	301.97	356.81%
Whittier, City of	1,979.09	2,235.17	256.08	12.94%
California American Water Company	358.05	606.75	248.70	69.46%
<b>Bottom 5 Producing <u>by Volume</u> (AF)</b>	July – Oct. 2019	July – Oct. 2020	Difference	% Change
Liberty Utilities Corporation	3,192.86	1,850.76	-1,342.10	-42.03%
Paramount, City of	2,040.51	1,481.52	-558.99	-27.39%
San Gabriel Valley Water Company	549.58	5.51	-544.07	-99.00%
Long Beach, City of	11,368.90	10,898.02	-470.88	-4.14%
Downey, City of	5,540.13	5,074.58	-465.55	-8.40%

<b>Production Trends – West Coast Basin</b>				
<b>Top 5 Producing <u>by Volume</u> (AF)</b>	July – Oct. 2019	July – Oct. 2020	Difference	% Change
Tesoro Refining & Marketing Co., LLC	1,540.62	2,750.20	1,209.58	78.51%
Torrance, City of	1,397.60	2,117.58	719.98	51.52%
West Basin Brewer Desalter	35.16	347.56	312.40	888.51%
California Water Service Company	2.10	294.99	292.89	13,947%
Golden State Water Company	1,185.83	1,359.28	173.45	14.63%
<b>Bottom 5 Producing <u>by Volume</u> (AF)</b>	July – Oct. 2019	July – Oct. 2020	Difference	% Change
California Water Service Co (Dominguez)	1,412.04	864.19	-547.85	-38.80%
California Water Service Co./Hawthorne Lease	255.99	30.57	-225.42	-88.06%
Torrance Refining & Marketing Company	316.18	119.06	-197.12	-62.34%
Inglewood, City of	1,228.00	1,081.57	-146.43	-11.92%
Phillips 66 Company	1,815.92	1,728.10	-87.82	-4.84%