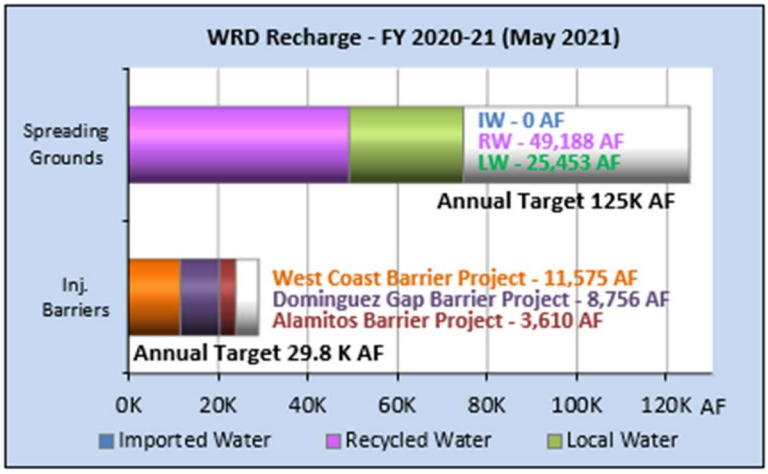
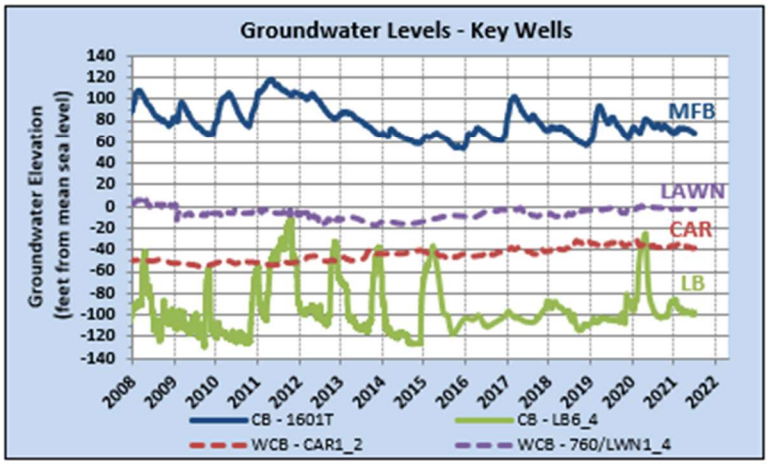
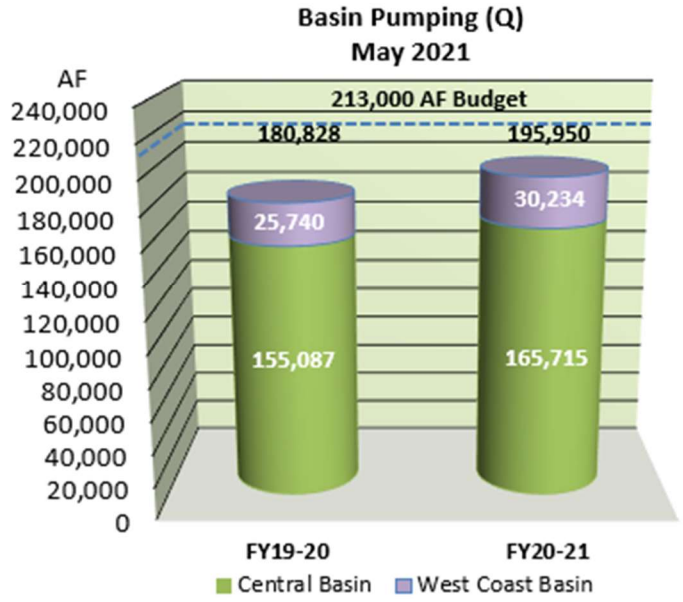
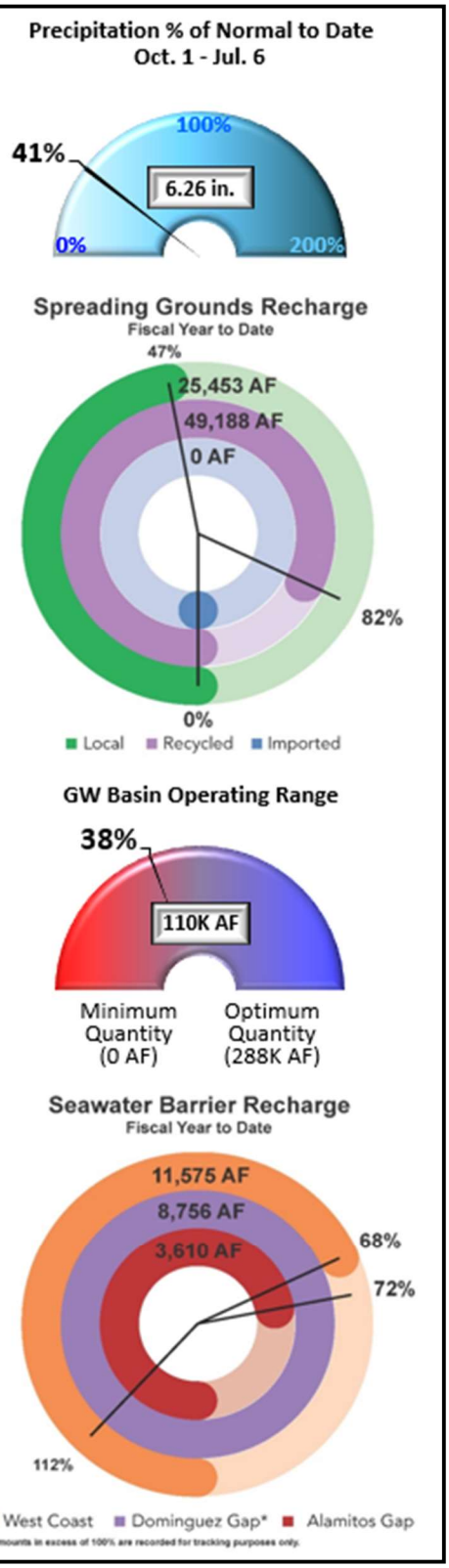
GROUNDWATER BASIN UPDATE
FOR JULY 2021

GROUNDWATER BASINS *AT A GLANCE**









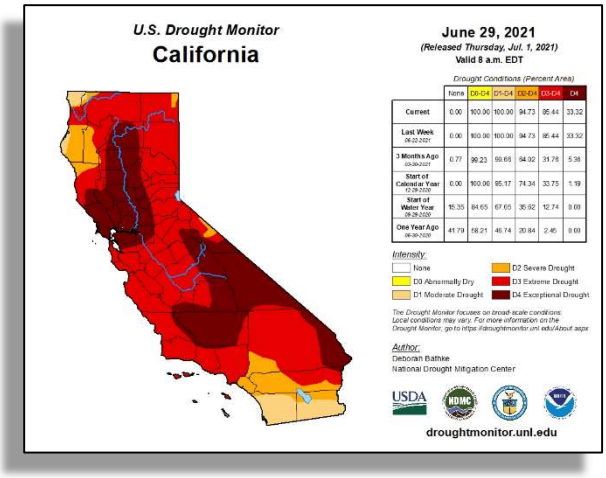
* - Preliminary numbers, subject to change.

SUMMARY

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

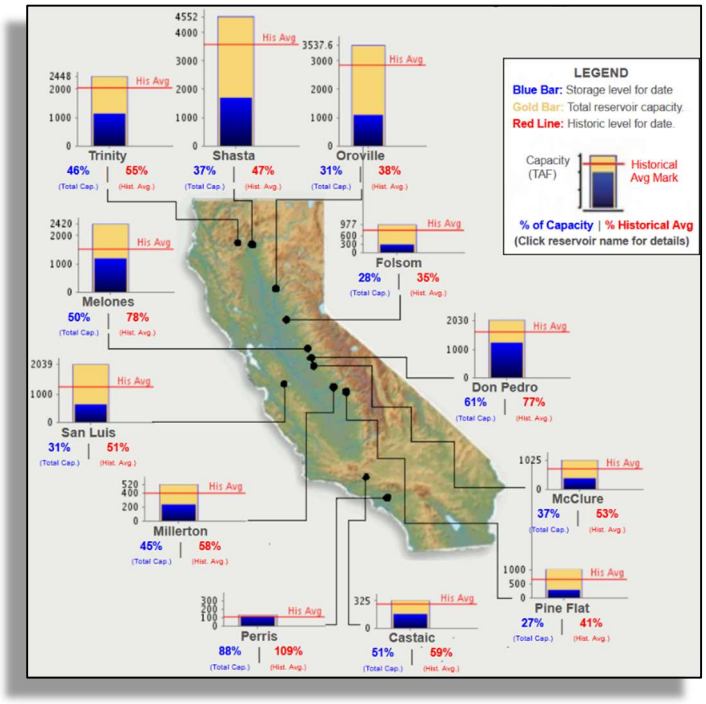
Precipitation (Oct. 1, 2020 – Jul. 6, 2021)

The WRD precipitation index reports that for the 2020-21 Water Year, there has been below average rainfall (6.26 inches) through July 6, 2021. The normal rainfall for this time period is 15.26 inches, so the District is 41% of normal. As of July 1, 2021, the U.S. Drought Monitor is reporting 100% of the State is under moderate, 95% under severe, 85% under extreme, and 33% exceptional drought conditions.



Reservoirs (as of July 5, 2021)

For all 16 reservoirs reported monthly to the committee, water levels have decreased in 16 reservoirs. The largest decrease (-0.34 million acre feet) occurred at Lake Mead. The smallest decrease (<0.0 million acre feet) occurred at Lakes Perris and Silverwood.



MWD Reservoirs (SWP)
Storage in Million Acre Feet

Reservoir	Capacity	Storage	% Full	Change
Trinity Lake	2.45	1.14	46%	-0.12
Lake Shasta	4.55	1.70	37%	-0.27
Lake Oroville	3.54	1.09	31%	-0.24
Folsom Lake	0.98	0.28	28%	-0.08
New Melones L.	2.40	1.19	50%	-0.17
Don Pedro Res	2.03	1.24	61%	-0.09
Lake McClure	1.02	0.38	37%	-0.06
San Luis Res	2.04	0.63	31%	-0.24
Millerton Lake	0.52	0.23	45%	-0.03
Pine Flat	1.00	0.27	27%	-0.13
Castaic Lake	0.33	0.17	51%	-0.04
Lake Perris	0.13	0.12	88%	0.00
L. Silverwood	0.08	0.07	86%	0.00

MWD Reservoirs (CRA)
Storage in Million Acre Feet

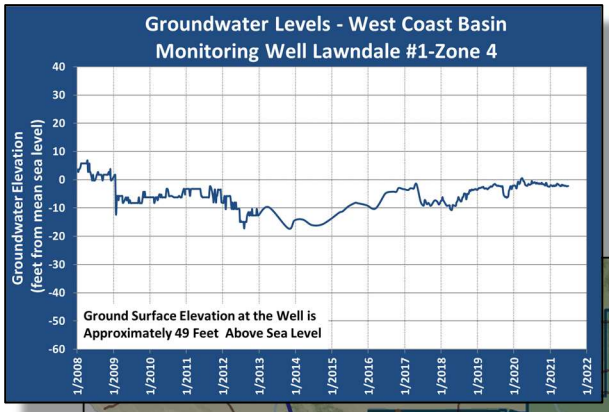
Reservoir	Capacity	Storage	% Full	Change
Powell	24.32	8.27	34%	-0.12
Mead	26.12	9.09	35%	-0.34
DVL	0.81	0.65	81%	-0.01

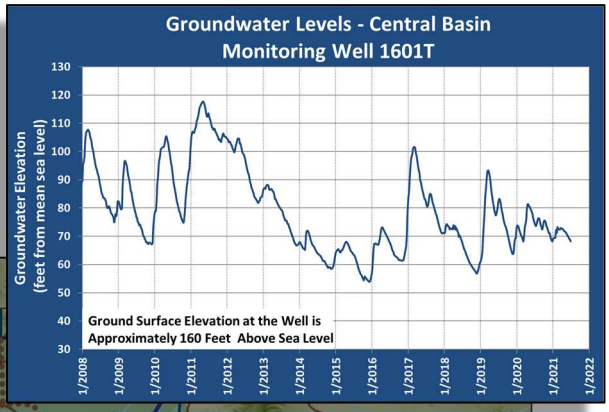
Black Text - Decrease or no change in storage since the last report.
Green Text - Increase in storage since the last report.

These 16 reservoirs are at 37% capacity (26.5 million acre feet) which is down 1.96 million acre feet from the prior month (-1.48 million acre feet State Water Project [SWP] and -0.48 million acre feet Colorado River Aqueduct [CRA]).

Groundwater Levels (through July 2, 2021)

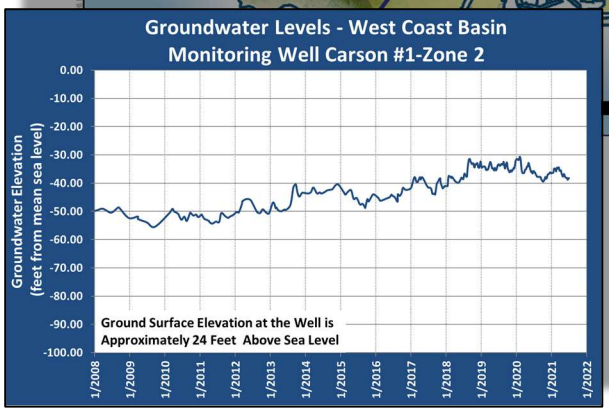
Groundwater levels in key monitoring wells are shown in the hydrographs below.

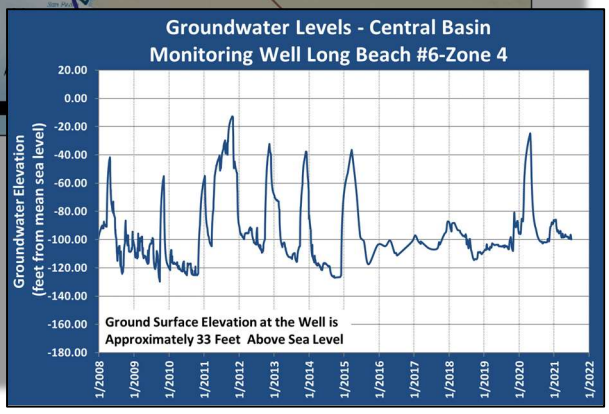




Central Basin Key Well Long Beach #6 and West Coast Basin Key Wells Lawndale #1 & Carson #1 are in a confined aquifer and do not respond readily to rainfall but instead to changes in pumping patterns and barrier recharge.

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	Decreased 2.3 feet	Decreased 6.6 feet
Central Basin Key Well Long Beach #6_4	Decreased 1.9 feet	Decreased 6.0 feet
West Coast Basin Key Well Lawndale #1_4	Decreased 0.01 foot	Decreased 1.8 feet
West Coast Basin Key Well Carson #1_2	Decreased 0.2 foot	Decreased 2.5 feet

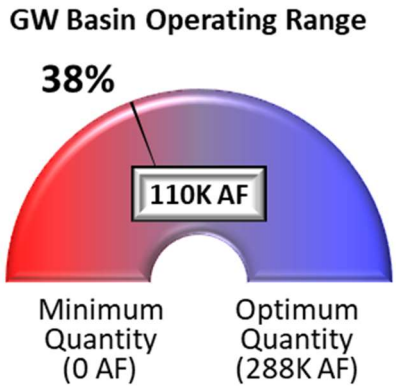
Bold indicates a change in direction (decreasing or increasing) since the last report.

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 May 28, 2021, has been estimated at 790,283 acre feet (subject to change), which is 109,717 acre feet above the Minimum Groundwater Quantity and 178,283 acre feet below the Optimum Quantity. The Basin is at 38% of Optimum Quantity which is 3% lower than what was reported last month (~9,000 AF lower).

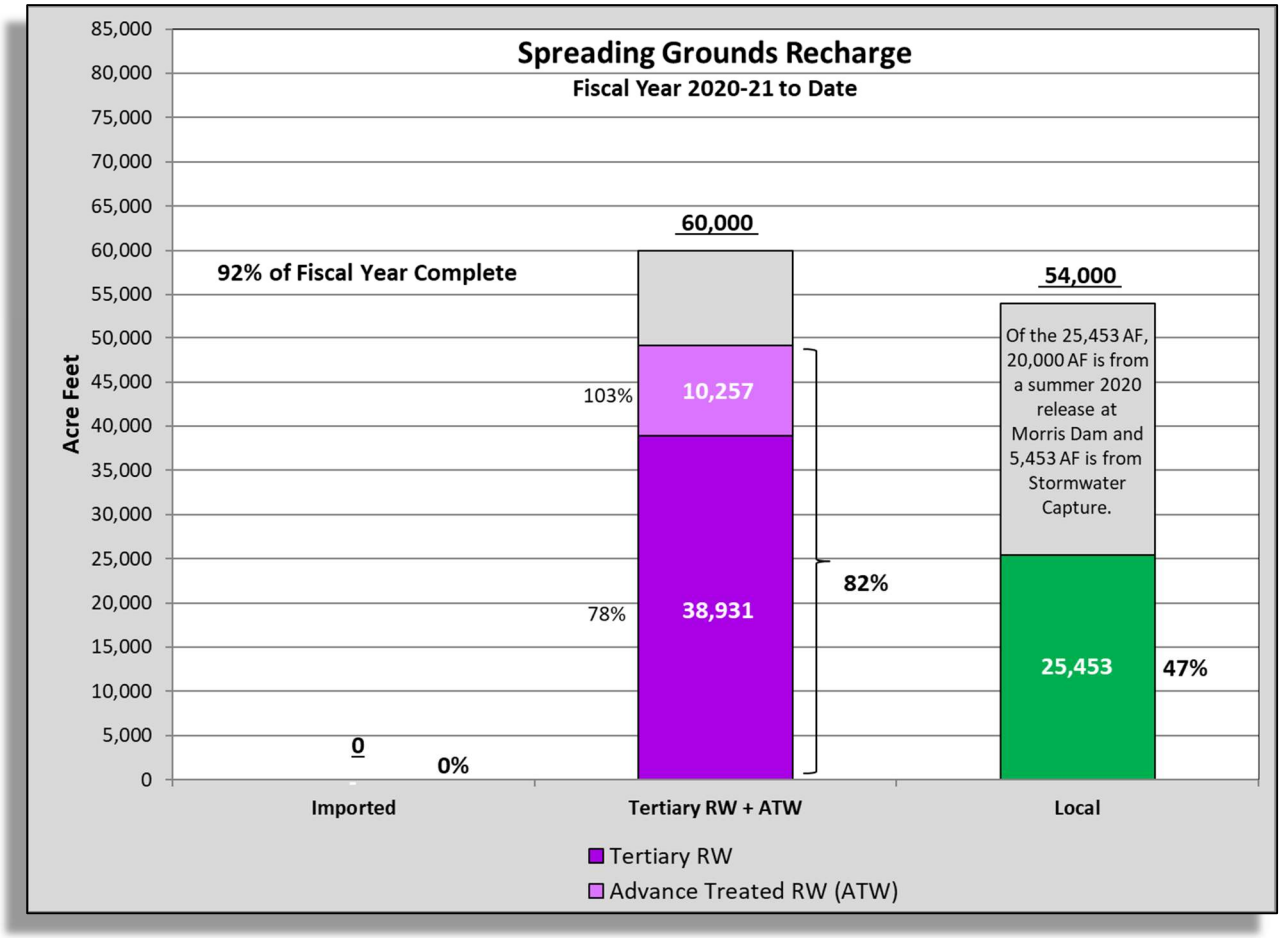


FACT:

California pumps 17.4 billion gallons per day of groundwater for all purposes, 2.4 times as much as the second-ranked state — Texas (7.2 bgd).

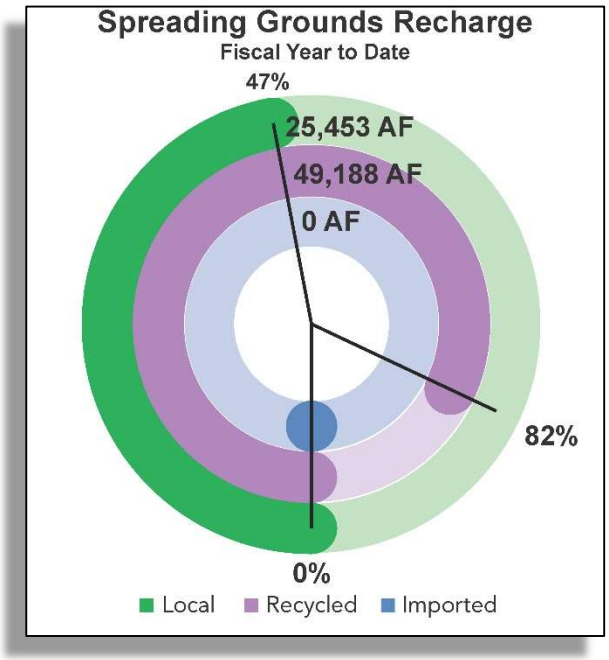
Montebello Forebay Spreading Grounds (May 2021)

The following Chart shows the preliminary spreading grounds replenishment water:

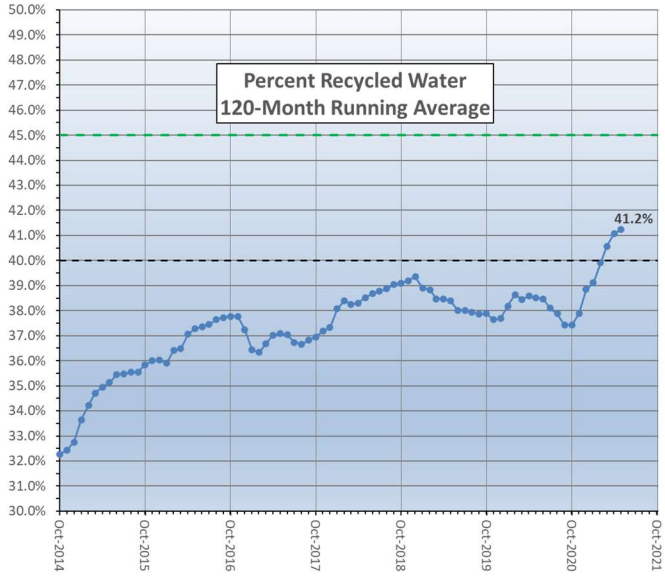


No imported water purchases are planned for Fiscal Year 2020-21.

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 25,453 acre feet of local water capture has been reported by the LACDPW as a result of summer releases from Morris Dam and precipitation in Water Year 2020-21.



Preliminary numbers for the 2020-21 Fiscal Year show that approximately 49,188 acre feet of recycled water has been recharged with 10,257 acre feet consisting of advanced treat water from the ARC AWTF and 38,931 acre feet of tertiary recycled water. Presuming the advanced treated water as "Null Water", the 120-month running average of the recycled water contribution in the Montebello Forebay is 41.2% and the regulatory maximum is 45%, with additional monitoring being required once 40% is reached. WRD and LACSD submitted the additional monitoring plan on May 26, 2021. Implementation of the plan will commence upon acceptance by the RWQCB.



Tertiary Recycle Water Permit Update

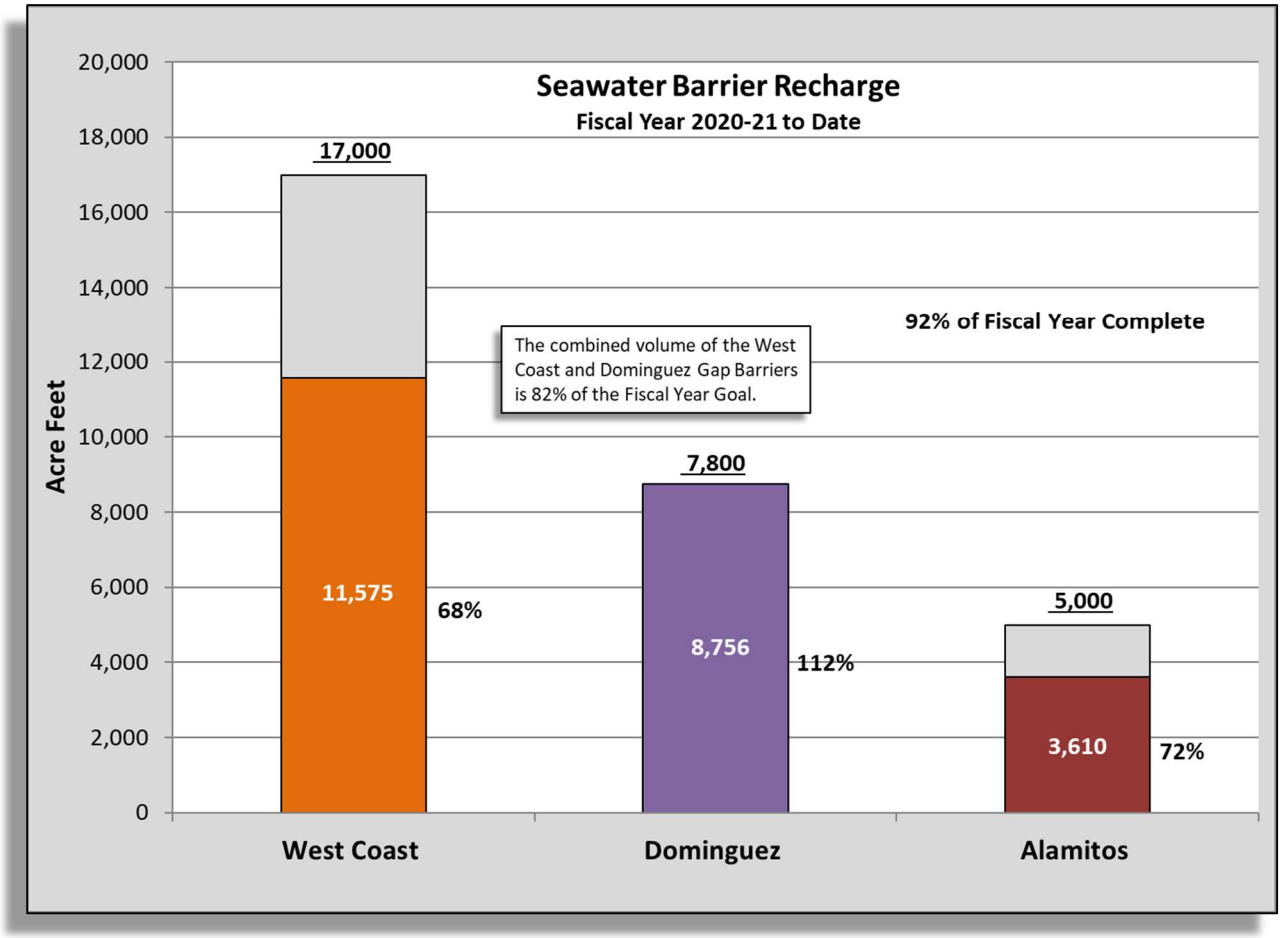
Following extensive collaboration between the District and LACSD, the Workplan required by the SWRCB - Division of Drinking Water (DDW) and LARWQCB regarding the use of tertiary treated recycled water at the Montebello Forebay Spreading Grounds was submitted on November 18, 2019.

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 was held on December 8, 2020.

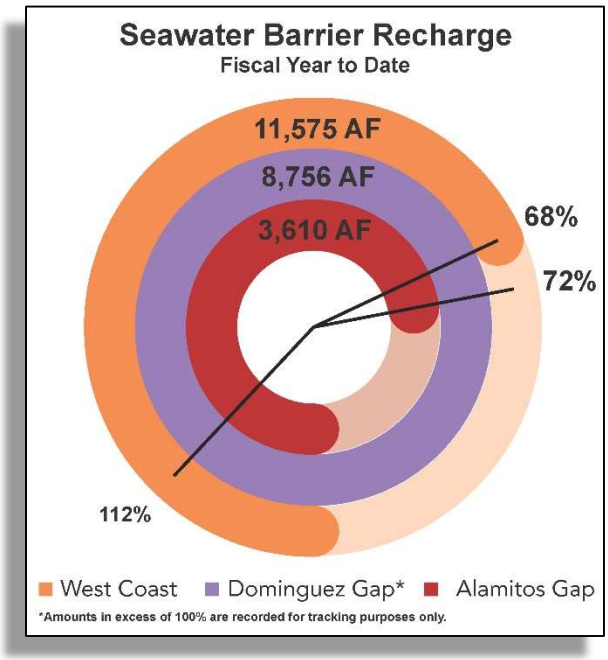
LACSD continues to work on two major studies needed for the new Title 22 Engineering Report – Biodegradable Dissolve Organic Carbon (BDOC) Study and Virus Logarithmic Reduction Value (LRV) Study. As the LACSD continues with the development of these studies they update the District during monthly project meetings. WRD staff and LACSD met with the LARWQCB and DDW on February 1, 2021, to discuss the BDOC Study. With the understanding that there is currently not an approved method for BDOC analysis, it was agreed WRD and LACSD will submit an enhanced monitoring plan in lieu of BDOC analysis once the recycled water contribution reaches 40%. LACSD is still working to schedule a separate meeting regarding the Virus LRV Study. The COVID pandemic has caused challenges with respect to performing the virus study and LACSD is reaching out to OCWD regarding the study they are considering.

Seawater Barrier Well Injection and Replenishment (May 2021)

The following Chart shows the barrier water injection:

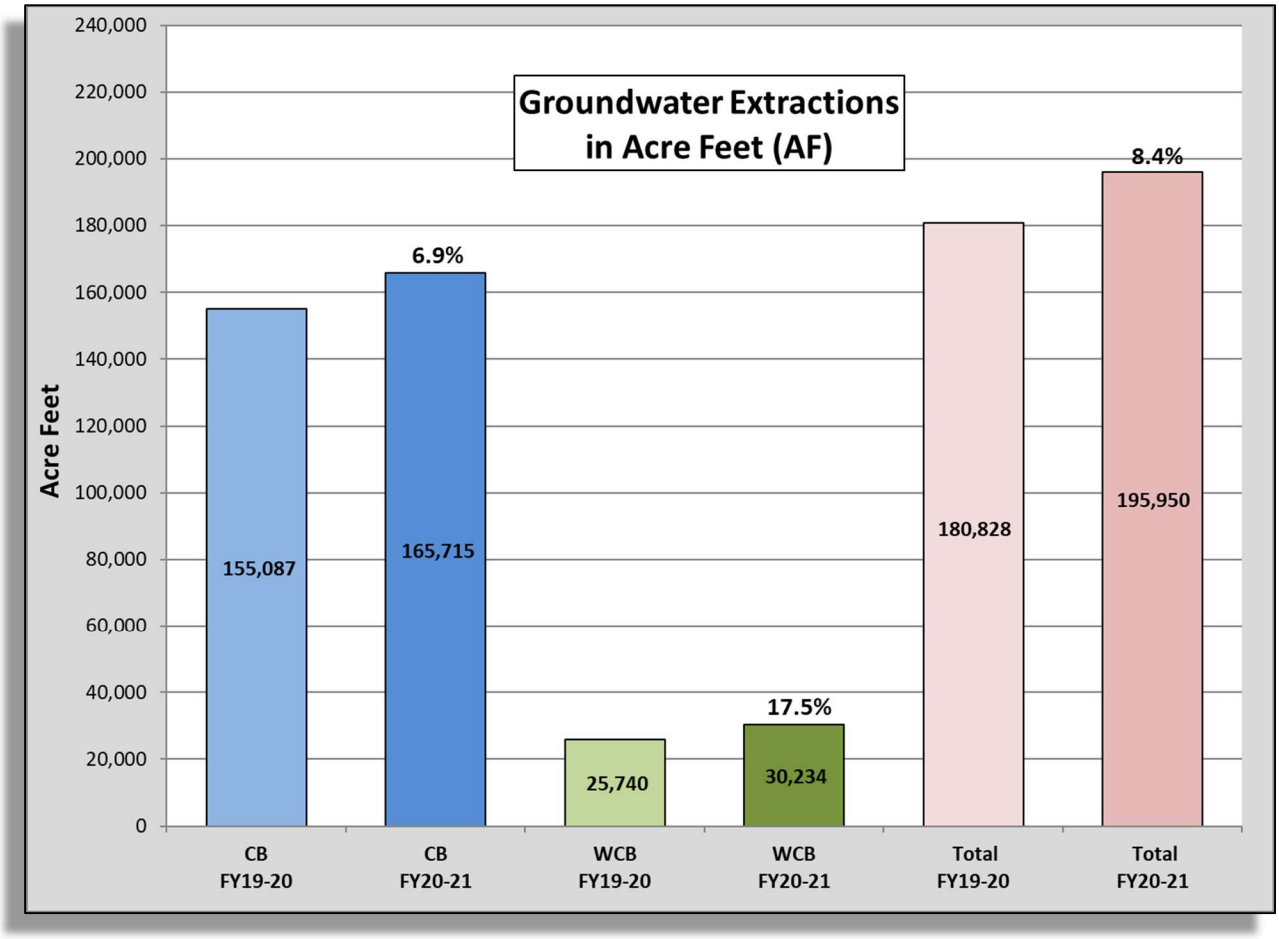


Preliminary numbers for the 2020-21 Fiscal Year show that the West Coast Barrier has used 11,575 acre feet of the total 17,000 acre feet planned for injection, 68% of total for the Fiscal Year. The Dominguez Gap Barrier used 8,756 acre feet of the total 7,800 acre feet planned for injection, 112% of the total for the Fiscal Year. The Alamitos Barrier, on the WRD side, used 3,610 acre feet of the total 5,000 acre feet planned for injection, 72% of the total for the Fiscal Year.



Assessable Pumping (Fiscal Year May 2021)

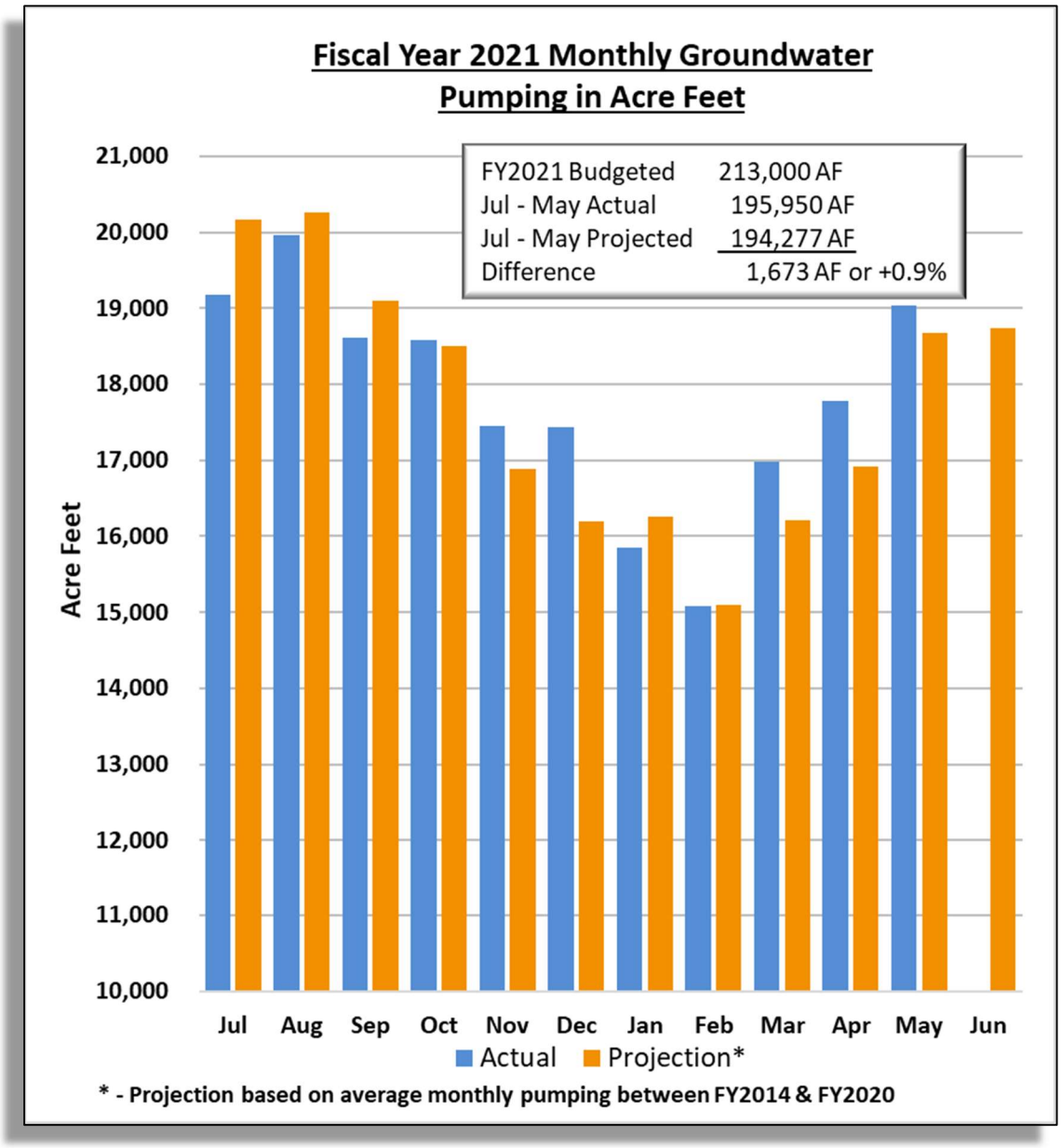
Preliminary numbers for groundwater production in the District for the Fiscal Year 2020-21 (May 2021) indicate pumping in the Central Basin was up 10,628 acre feet from the same time of the previous fiscal year (+6.9%) and the West Coast Basin pumping was 4,494 acre feet higher than the previous fiscal year (+17.5%). The total pumping is 195,950 acre feet compared to 180,828 acre feet during the same time the previous year for an increase of 15,122 acre feet, or +8.4%. The current pumping data do not include seven (7) Central Basin pumpers and two (2) West Coast Basin pumpers who have not yet reported for an estimated 415 additional acre feet.



Did you know?

The United States uses 82.3 billion gallons per day of fresh groundwater for public supply, private supply, irrigation, livestock, manufacturing, mining, thermoelectric power, and other purposes.

Preliminary numbers indicate 195,950 acre feet have been pumped this fiscal year and is 0.9% above the projected goal of 194,277 acre feet (or 1,673 acre feet). Monthly actual production versus 7-year average monthly production projections (FY 2014 through 2020) are included in the chart below.



"You never miss the water...
...'til it's gone."
- Gerry Deveaux

For the Fiscal Year 2020-21 (July - May 2021), 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 – May 2020	July – May 2021	Difference	% Change
Long Beach, City of	21,389.14	29,549.69	8,160.55	38.15%
Los Angeles, City of Dept of Water and Power	7.14	2,246.43	2,239.29	31,362%
California American Water Company	1,030.16	1,851.13	820.97	79.69%
Lakewood, City of Water Department	6,076.13	6,874.88	798.75	13.15%
Whittier, City of	5,196.98	5,891.77	694.79	13.37%
Bottom 5 Producing by Volume (AF)	July – May 2020	July – May 2021	Difference	% Change
Liberty Utilities Corporation	7,079.23	4,696.32	-2,382.91	-33.66%
Paramount, City of	4,977.10	2,692.12	-2,284.98	-45.91%
Santa Fe Springs, City of	2,618.93	1,462.68	-1,156.25	-44.15%
Commerce, City of	1,253.43	350.55	-902.88	-72.03%
San Gabriel Valley Water Company	698.42	42.08	-656.34	-93.97%

Production Trends – West Coast Basin				
Top 5 Producing by Volume (AF)	July – May 2020	July – May 2021	Difference	% Change
Tesoro Refining & Marketing Co., LLC	4,523.97	7,125.83	2,601.86	57.51%
Golden State Water Company	3,186.20	4,410.30	1,224.10	38.42%
California Water Service Company	8.58	948.29	939.71	10,952%
West Basin Brewer Desalter	197.41	683.93	486.52	246.45%
Torrance, City of	3,851.42	4,217.11	365.69	9.49%
Bottom 5 Producing by Volume (AF)	July – May 2020	July – May 2021	Difference	% Change
California Water Service Co. (Dominguez)	3,313.63	2,318.92	-994.71	-30.02%
Inglewood, City of	3,098.98	2,603.37	-495.61	-15.99%
Manhattan Beach, City of	155.84	49.64	-106.20	-68.15%
Eco Services Operations, LLC	410.61	314.84	-95.77	-23.32%
California Water Service Co./Hawthorne Lease	588.96	532.35	-56.61	-9.61%

Water Replenishment District (WRD) publishes the Groundwater Basin Update (GWBU) monthly. All information contained herein is preliminary and is meant to be a snapshot the status of the basins at the time of publication and should not constitute an official WRD report. All the information presented in the GWBU utilizes the best available data at the time of publication. Data provided herein is a compilation of WRD data and publicly available information from several of our partners including, by not limited to, the Los Angeles County Department of Public Works - Stormwater Engineering Division, Metropolitan Water District of Southern California, California Department of Water Resources, US Bureau of Reclamation, University of Nebraska - Lincoln, and the US Department of Agriculture - Natural Resources Conservation Service. The GWBU is prepared by Senior Hydrogeologist, Everett Ferguson, who can be contacted directly with questions at eferguson@wrd.org.