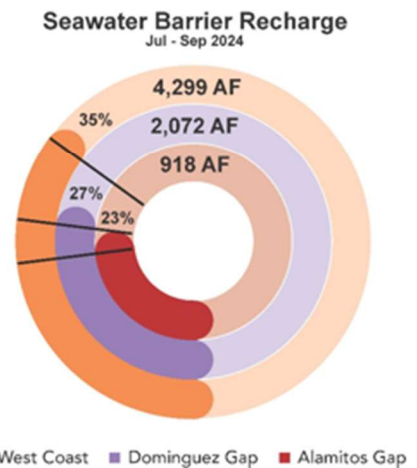
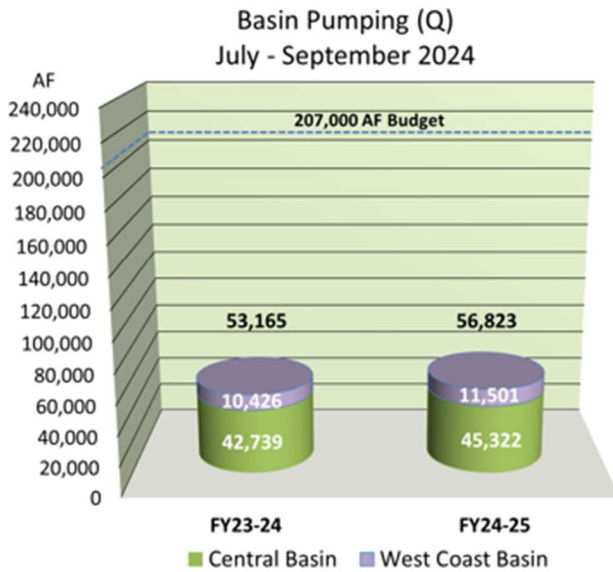
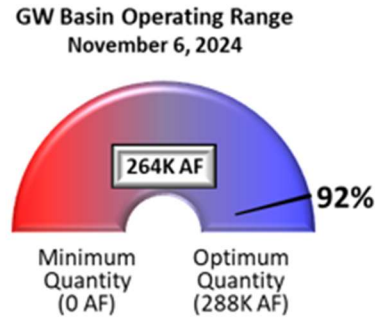
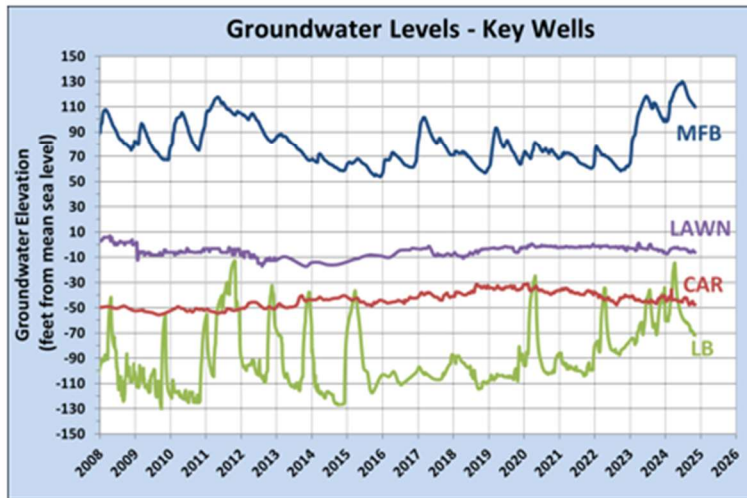
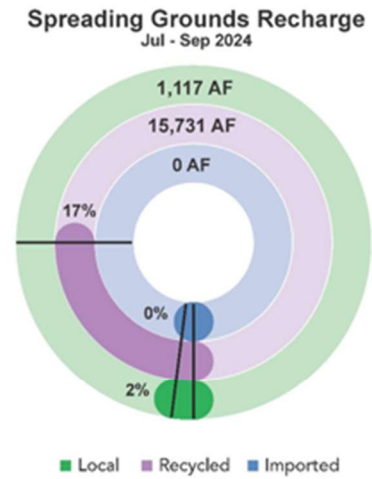
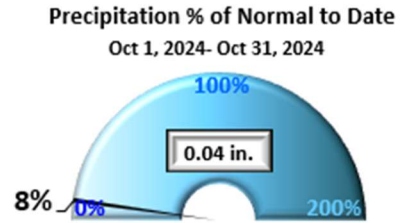
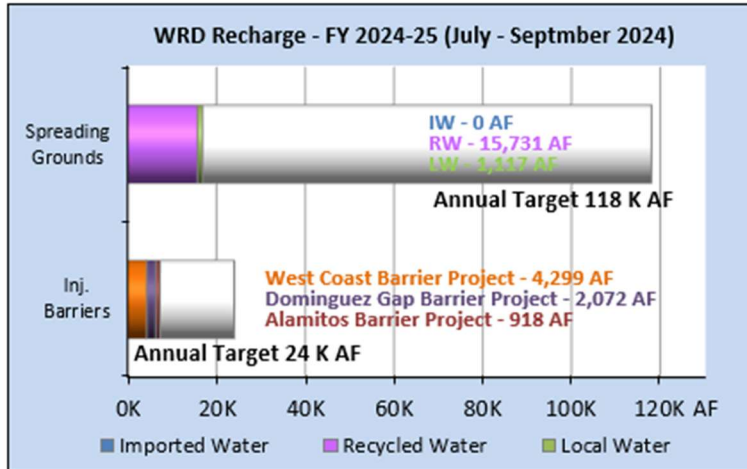


GROUNDWATER BASIN UPDATE FOR NOVEMBER 2024

GROUNDWATER BASINS AT A GLANCE*



* - Preliminary numbers, subject to change.

SUMMARY

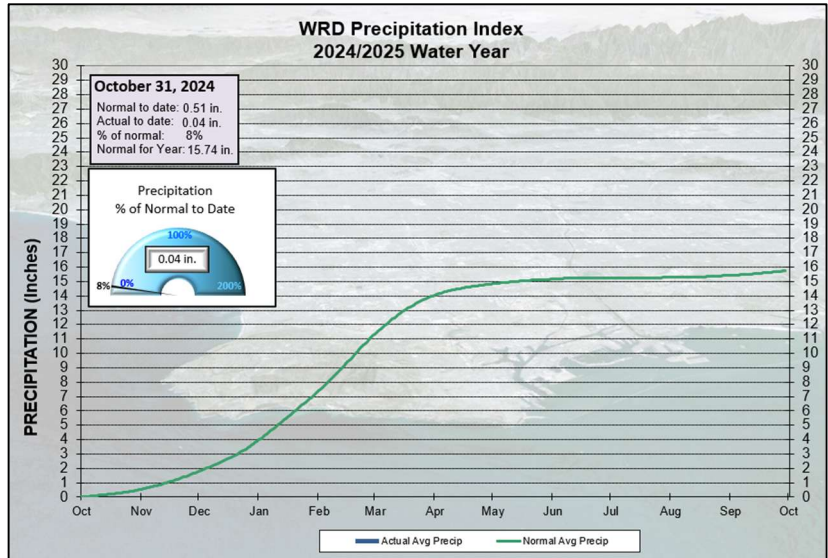
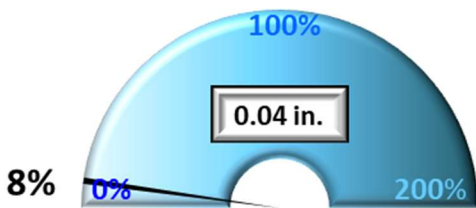
Staff monitors groundwater conditions in the District’s service area throughout the year. A summary of the latest information is presented below.

Precipitation (October 2024)

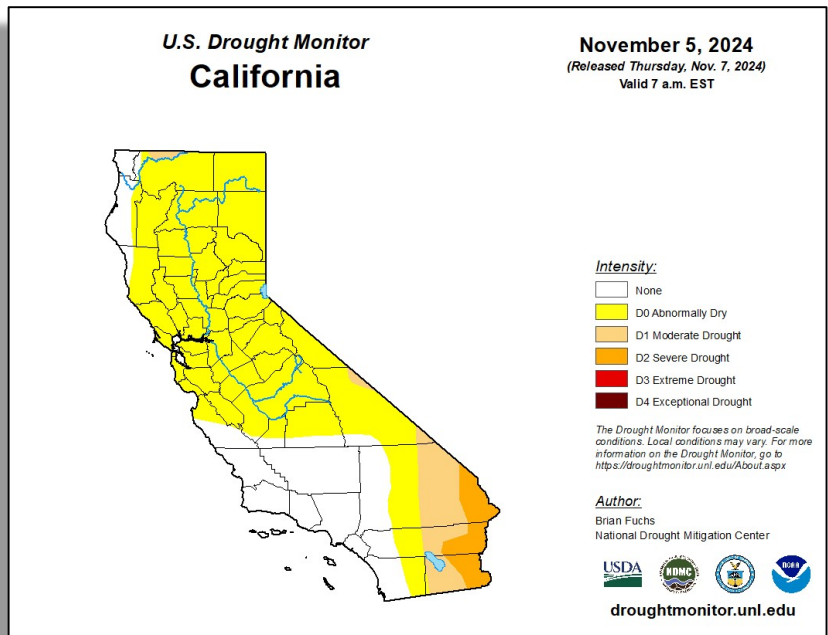
The WRD precipitation index reports that for the 2024-25 Water Year, there has been no measurable rainfall (0.04 inches) through October 31, 2024. The normal rainfall for this time period is 0.51 inches, so the District is 8% of normal.

Precipitation % of Normal to Date

Oct 1, 2024- Oct 31, 2024

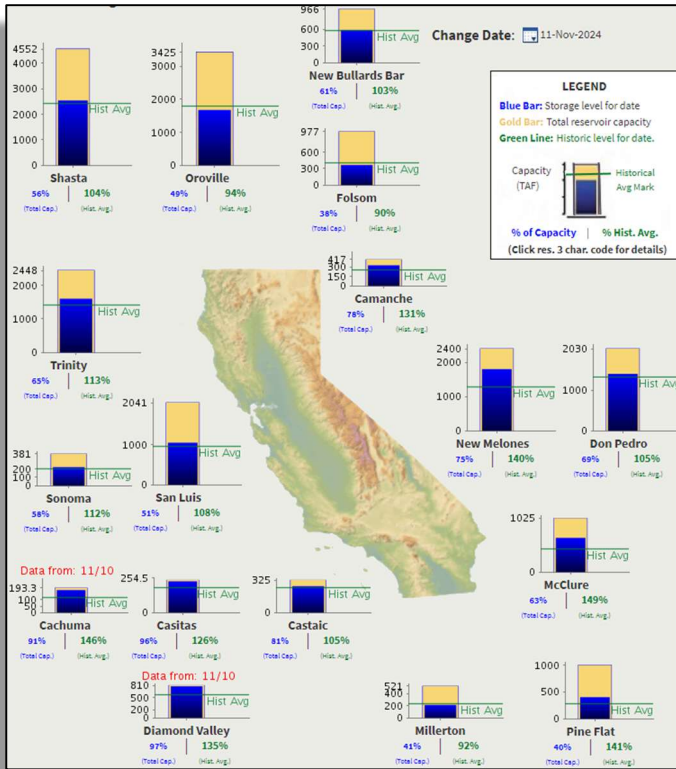


As of November 5, 2024, the U.S. Drought Monitor is reporting 74% of the State is abnormally dry (up 2%), 12% under moderate (up 1%), 4% under severe (up 4 %), 0% under extreme (same), and 0% exceptional (same) drought conditions. According to the U.S. Drought Monitor, Los Angeles County is currently not in a drought.



Reservoirs (as of November 11, 2024)

For the 21 reservoirs reported monthly to the committee, water levels have increased in 3 of 21 reservoirs. The largest increase occurred at San Luis and Pine Flat Reservoirs (0.01 million acre feet, MAF). The smallest increase occurred at Perris Lake and Lake Mead (<0.01 MAF). The largest decrease (-0.20 MAF) occurred at Lake Shasta. The smallest decrease (<-0.01 MAF) occurred at Casitas, Silverwood, and Diamond Valley Lakes.



MWD Reservoirs (SWP) Storage in Million Acre Feet

Reservoir	Capacity	Storage	% Full	Change
Trinity Lake (CLE)	2.45	1.60	65%	-0.10
Lake Shasta (SHA)	4.55	2.54	56%	-0.20
Lake Oroville (ORO)	3.54	1.68	49%	-0.17
New Bullards Bar (BUL)	0.97	0.59	61%	-0.05
Folsom Lake (FOL)	0.98	0.37	38%	-0.08
Camanche Lake (CMN)	0.42	0.32	78%	-0.03
New Melones L. (NML)	2.40	1.80	75%	-0.02
Don Pedro Res (DNP)	2.03	1.41	69%	-0.10
Lake McClure (EXC)	1.02	0.65	63%	-0.05
Lake Sonoma (WRS)	0.38	0.22	58%	-0.01
San Luis Res (SNL)	2.04	1.05	51%	0.01
Millerton Lake (MIL)	0.52	0.21	41%	-0.03
Pine Flat Res. (PNF)	1.00	0.40	40%	0.01
Cachuma Lake (CCH)	0.19	0.18	91%	0.00
Castaic Lake (CAS)	0.33	0.26	81%	-0.01
Casitas Lake (CSI)	0.25	0.23	96%	0.00
Perris Lake (PRR)	0.13	0.10	79%	0.00
L. Silverwood (SLW)	0.08	0.07	87%	0.00

MWD Reservoirs (CRA) Storage in Million Acre Feet

Reservoir	Capacity	Storage	% Full	Change
Lake Powell	23.31	9.01	39%	-0.14
Lake Mead	26.12	8.51	33%	-0.19
Diamond Valley L (DVL)	0.81	0.79	97%	0.00

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

These 21 reservoirs are at 44% capacity (31.99 MAF) which is down 1.18 MAF (-1.6%) from the prior month (-0.85 MAF State Water Project [SWP] and -0.33 MAF Colorado River Aqueduct [CRA]).

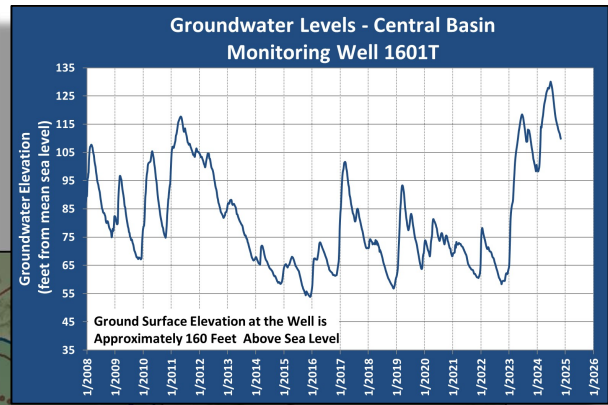
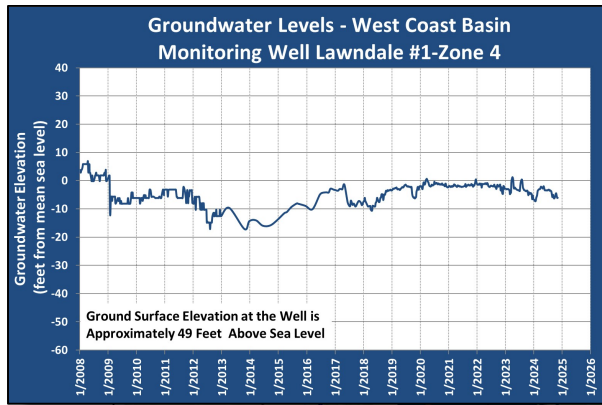


Did you know?

It's not all coming from upstream - about 30% of U.S. streamflow is from groundwater, though that amount may be higher or lower in some areas.

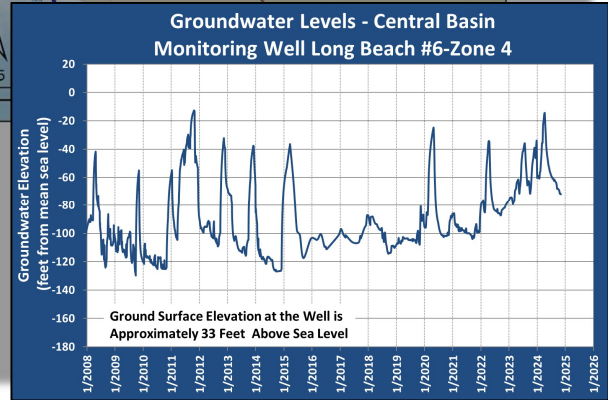
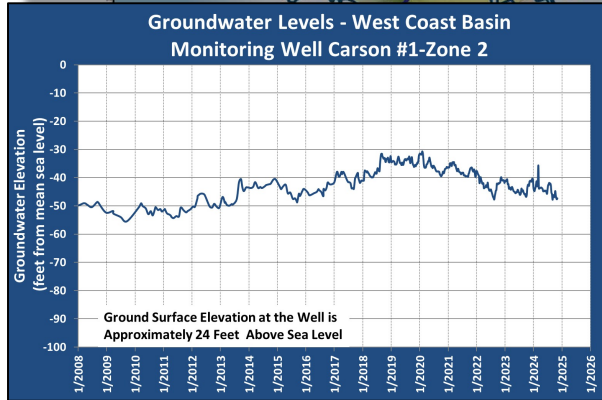
Groundwater Levels (through November 6, 2024)

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 3.4 feet	Increased 5.4 feet
Central Basin Key Well Long Beach #6_4	Decreased 3.7 feet	Decreased 23.5 feet
West Coast Basin Key Well Lawndale #1_4	Decreased 0.4 foot	Decreased 1.7 feet
West Coast Basin Key Well Carson #1_2	Decreased 0.6 foot	Decreased 4.4 feet

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

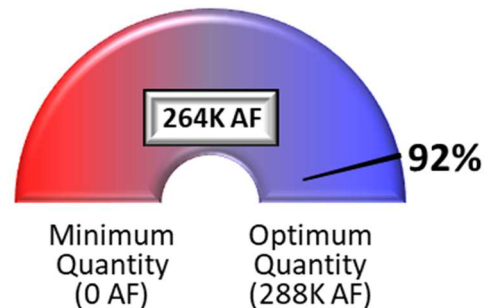
Optimum and Minimum Groundwater Quantity (November 6, 2024)

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 6, 2024, has been estimated at 636,170 acre feet (subject to change), which is 263,830 acre feet above the Minimum Quantity and 24,170 acre feet below Optimum Quantity. The Basin is at 92% of Optimum Quantity which is 9% lower than what was reported last month (~25,000 AF lower).

**GW Basin Operating Range
November 6, 2024**



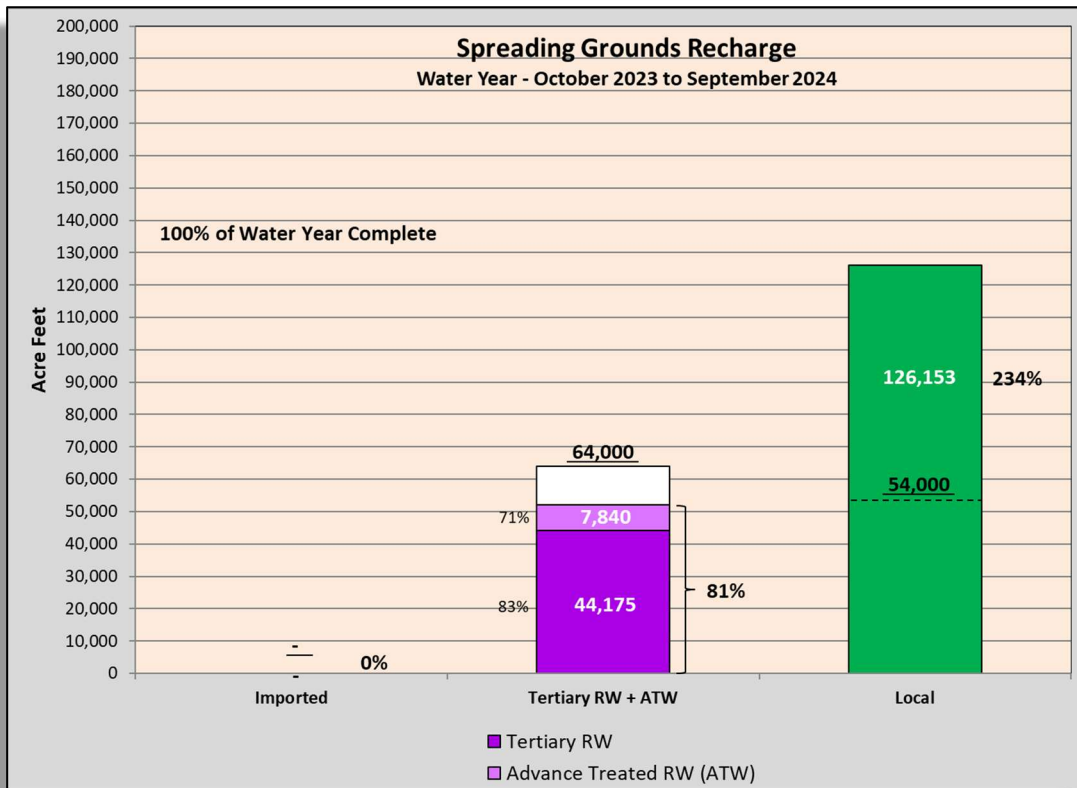
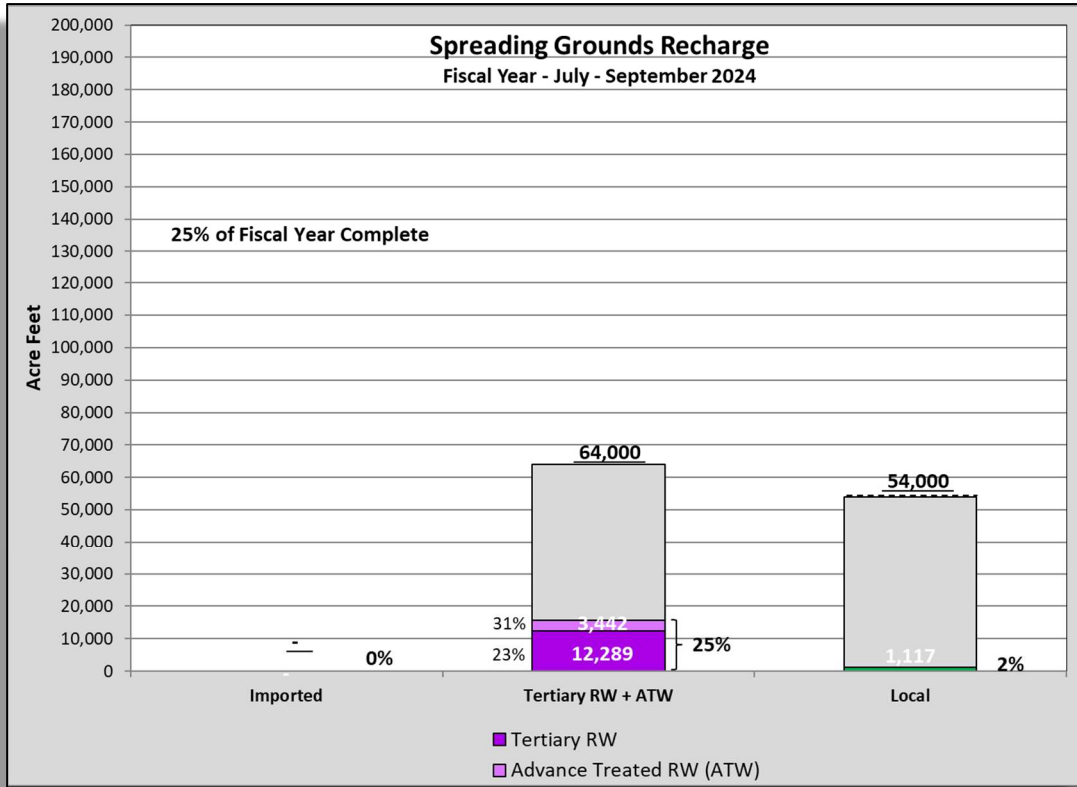
FACT:

The United States is the third largest irrigator in the world, after China and India.



Montebello Forebay Spreading Grounds (July - September 2024)

The following Charts show the preliminary spreading grounds replenishment water for the current Fiscal Year (2024-25; 3 months) and Water Year (2023-24; 12 months):

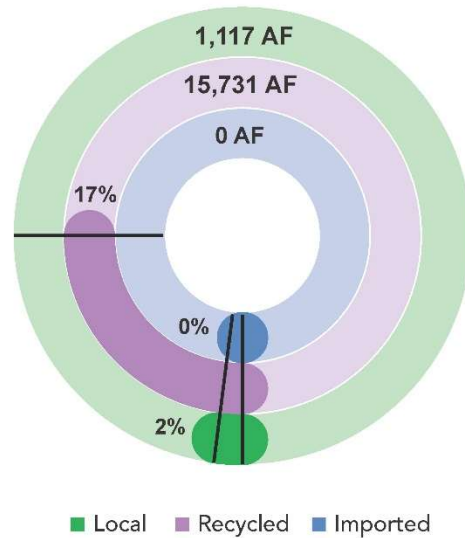


No imported water purchases were planned for Fiscal Year 2024-25.

Local water (stormwater plus dry weather urban runoff) is captured by the Los Angeles County Department of Public Works (LACPW) at the spreading grounds for recharge. Local water amounts are determined as the sum of the total water conserved at the spreading grounds less the imported and recycled water deliveries. For the 2024-25 Fiscal Year, 1,117 acre feet of local water capture have been reported by the LACPW.

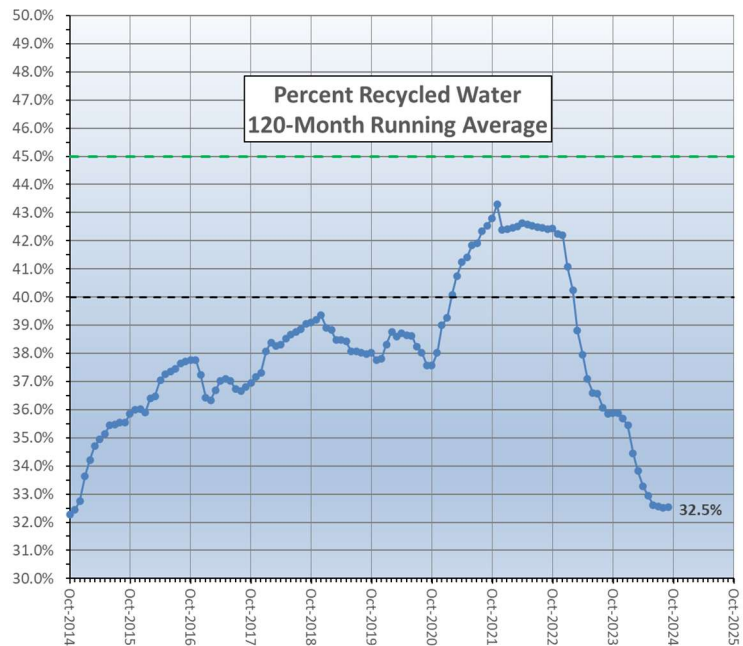
Preliminary numbers for the 2024-25 Fiscal Year show that approximately 15,731 acre feet of recycled water has been recharged with 3,442 acre feet consisting of advanced treated water from the ARC AWTF and 12,289 acre feet of tertiary recycled water. Presuming the advanced treated water as “Null Water”, the 120-month running average of the recycled water contribution in the Montebello Forebay is 32.5% and the regulatory maximum is 45%, with additional monitoring being required once 40% is reached.

Spreading Grounds Recharge Jul - Sep 2024



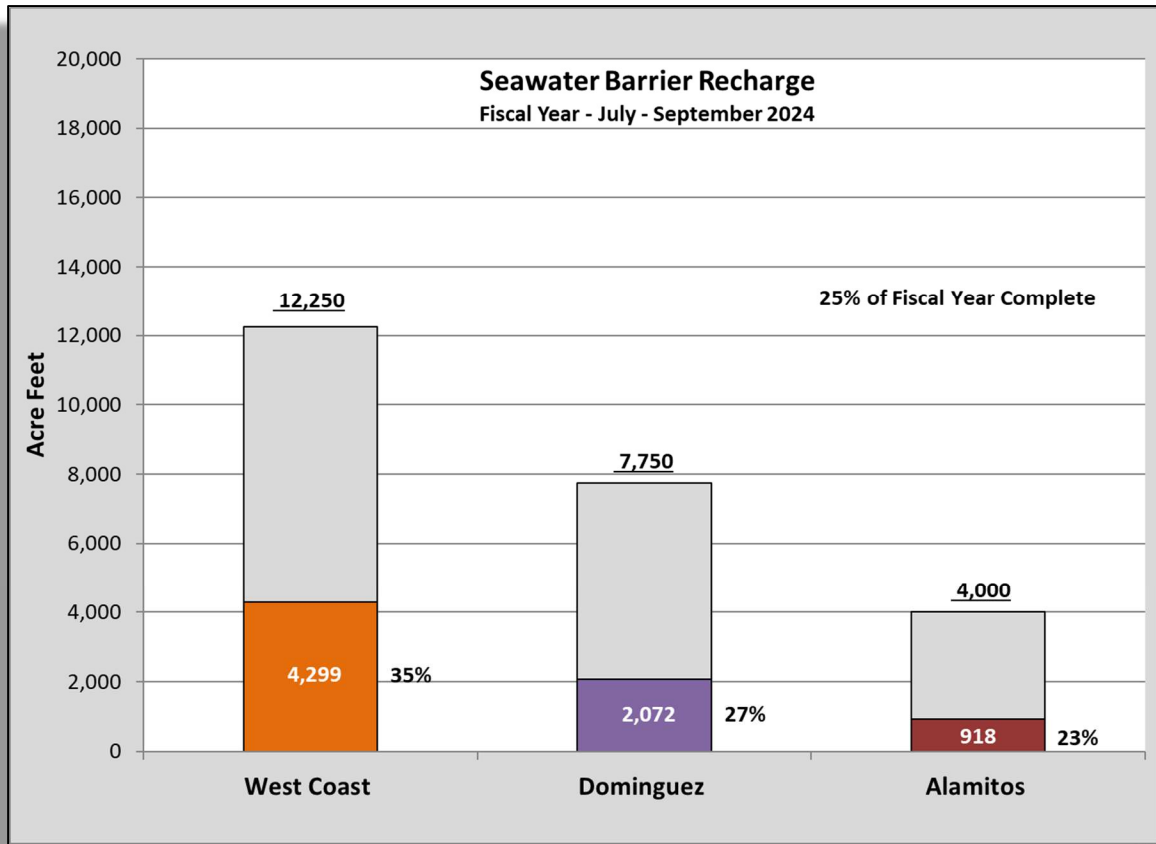
Tertiary Recycle Water Permit Update

The permit is continuing to progress with LACSD and WRD staff working to update pertinent sections of the new Title 22 Engineering Report. Due to the persistent drought conditions over the past few decades and associated emergency drought proclamation by Governor Newsom, LACSD and WRD submitted a request to modify the recycled water contribution percentage to 50% and the advanced treated water classification to diluent in a letter to the LARWQCB and CA-DDW dated July 8, 2022. LACSD and WRD staff are targeting 2025 to have the new Title 22 Engineering Report submitted, including the requests to increase the recycled water contribution percentage to 50% and reclassify the advanced treated water as diluent.

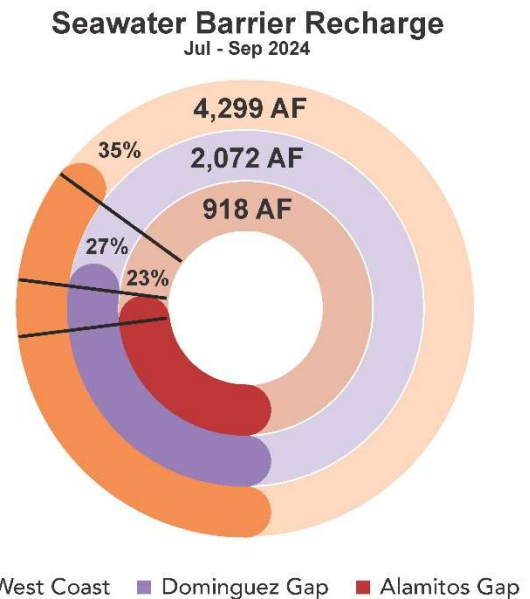


Seawater Barrier Well Injection and Replenishment (July - September 2024)

The following Chart shows the barrier water injection:

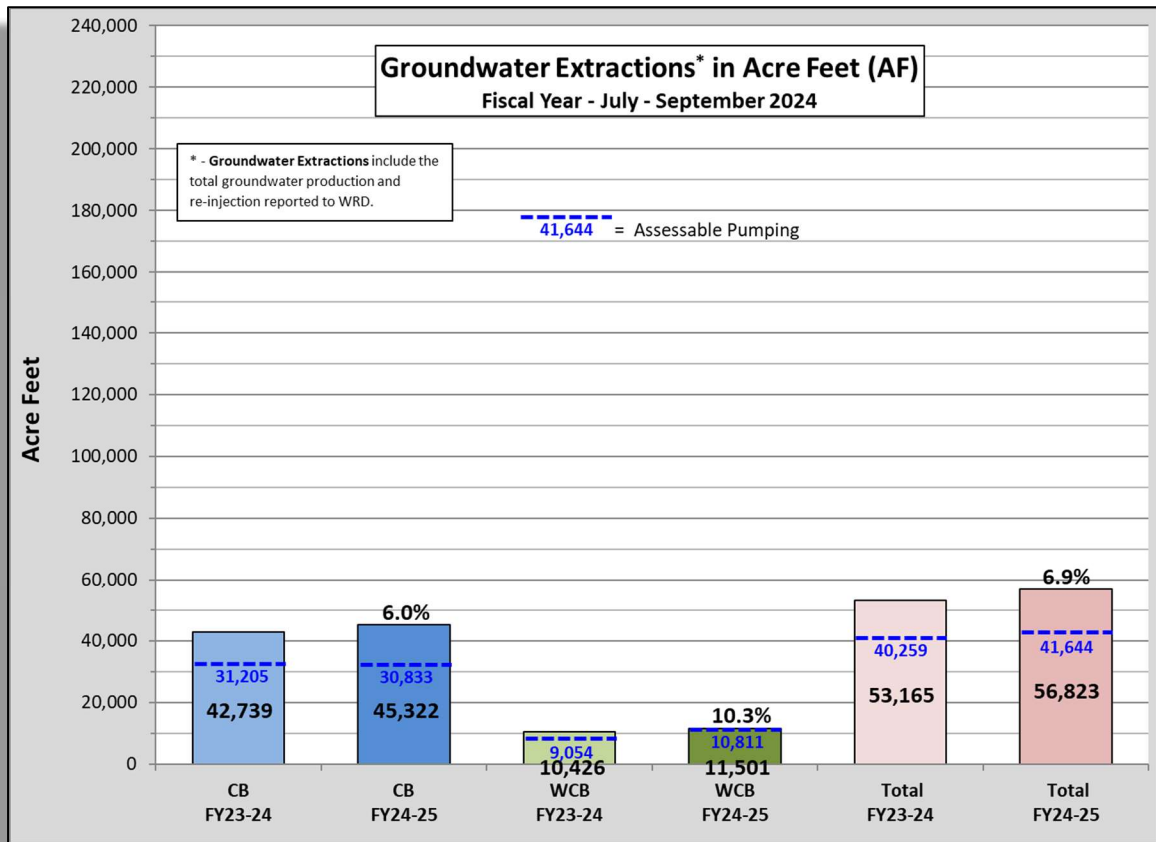


Preliminary numbers for the 2024-25 Fiscal Year show that the West Coast Barrier has used 4,299 acre feet of the total 12,250 acre feet planned for injection, 35% of total for the Fiscal Year. The Dominguez Gap Barrier used 2,072 acre feet of the total 7,750 acre feet planned for injection, 27% of the total for the Fiscal Year. The Alamos Gap Barrier, on the WRD side, used 918 acre feet of the total 4,000 acre feet planned for injection, 23% of the total for the Fiscal Year. Advanced Treated Recycled Water (ATW) usage at the three barriers for the Fiscal Year to date is 51% at the West Coast Barrier (+1), 79% at the Dominguez Gap Barrier (-2%), and 79% Alamos Gap Barrier (-3). The combined ATW usage at all three barriers is 63% (same).



Total Pumping (Fiscal Year 2024-25, July - September 2024)

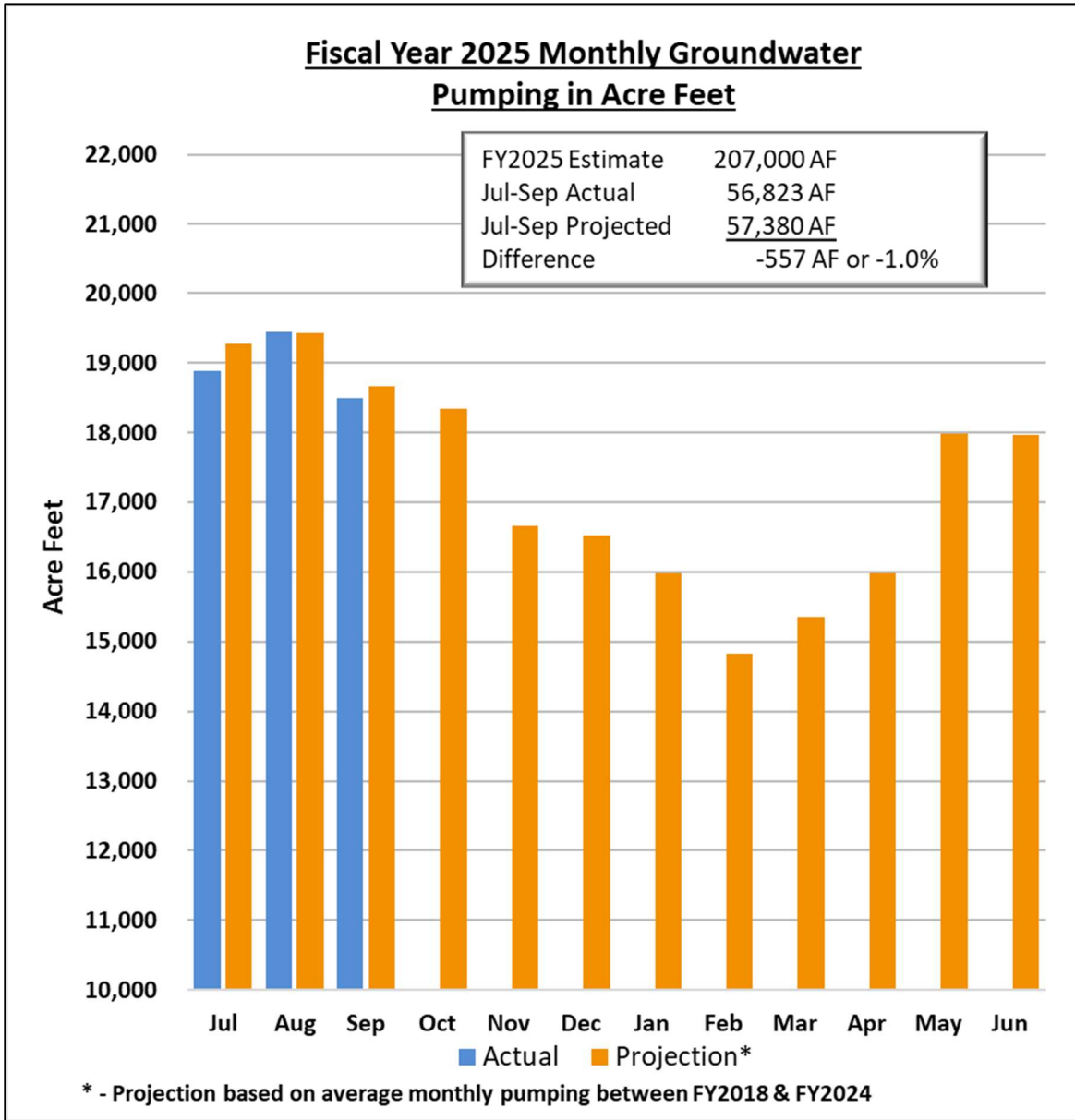
Preliminary numbers for groundwater production in the District for the Fiscal Year 2024-25 (July-September) indicate total pumping in the Central Basin was up 2,584 acre feet from the same time of the previous fiscal year (+6.0%) and the West Coast Basin total pumping was 1,074 acre feet higher than the previous fiscal year (+10.3%). The total pumping is 56,823 acre feet compared to 53,165 acre feet during the same time the previous year for an increase of 3,658 acre feet, or +6.9%. The current pumping data does not include twelve (12) Central Basin pumpers and two (2) West Coast Basin pumper, who have not yet reported, for an estimated 820 additional acre feet.



Interesting...

Water expands by 9% when it freezes. Frozen water (ice) is lighter than water, which is why ice floats in water.

Preliminary numbers indicate 56,823 acre feet of groundwater have been pumped this fiscal year and is 1.0% below the projected fiscal year to date goal of 57,380 acre feet (or -557 acre feet). Monthly actual production versus the 7-year average monthly production projections (FY 2018 through 2024) are included in the chart below.



"Anyone who can solve the problems of water will be worthy of two Nobel Prizes - one for peace and one for science." - John F. Kennedy



For the Fiscal Year 2024-25 (July-September 2024), 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 data for all the pumpers can be found in the attached Exhibit A (Central Basin) and Exhibit B (West Coast Basin).

Production Trends - Central Basin				
Top 5 Producing <u>by Volume</u> (AF)	Jul-Sep 2023	Jul-Sep 2024	Difference	% Change
Long Beach, City - CB	6,170.02	8,318.29	2148.27	25.83
Santa Fe Springs, City	96.28	608.94	512.66	84.19
Suburban Water Systems	328.14	721.80	393.66	54.54
South Gate, City	2,102.31	2,235.28	132.97	5.95
Cerritos, City	2,035.16	2,160.14	124.98	5.79
Bottom 5 Producing <u>by Volume</u> (AF)	Jul-Sep 2023	Jul-Sep 2024	Difference	% Change
Lynwood, City	1,257.68	883.39	-374.29	-42.37
Bellflower-Somerset MWC	1,269.21	916.42	-352.79	-38.50
Whittier, City	1,775.65	1,426.81	-348.84	-24.45
Lakewood - City	2,002.64	1,931.04	-71.60	-3.71
Cal. American Water Co. Alpha 0679	535.40	467.57	-67.83	-14.51

Production Trends – West Coast Basin				
Top 5 Producing <u>by Volume</u> (AF)	Jul-Sep 2023	Jul-Sep 2024	Difference	% Change
Torrance, City	12.00	1,217.32	1205.32	99.01
Golden State Water Co. - WB	2,137.08	2,939.19	802.11	27.29
Phillips 66 Co. - Alpha 7093	1,237.38	1,496.70	259.32	17.33
L.A. County Department of Parks	18.41	127.31	108.90	85.54
Rolling Hills Country Club	92.00	171.00	79.00	46.20
Bottom 5 Producing <u>by Volume</u> (AF)	Jul-Sep 2023	Jul-Sep 2024	Difference	% Change
Tesoro Refining	2,529.51	2,154.64	-374.87	-17.40
Cal. Water Service Co./Hawthorne Lease	248.62	25.57	-223.05	-872.31
Cal. Water Service Co. Dominguez - WB	1,552.08	1,448.35	-103.73	-7.16
Inglewood, City	469.61	406.37	-63.24	-15.56
Eco Services Operations	83.14	37.08	-46.06	-124.22

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.

Central Basin Production Trends

Central Basin	July 2023 - September 2023	July 2024 - September 2024	Difference	%Change
ABC USD	6.78	2.02	-4.76	-235.64
American Text. M.	15.65	17.13	1.48	8.64
Artesia, City	0.78	0.72	-.06	-8.33
Atlas Iron and Metal Co.	0.09	0.10	.01	10.00
Bell Gardens, City	0.00	0.00	.00	0.00
Bellflower Home Garden	0.00	0.00	.00	0.00
Bellflower-Somerset MWC	1,269.21	916.42	-352.79	-38.50
Boeing Co.	25.93	21.26	-4.67	-21.97
Boeing, Compton Site	17.34	13.40	-3.94	-29.40
Cal. American Water Co. Alpha 0679	535.40	467.57	-67.83	-14.51
Cal. Water Service Co. (East LA)	2,670.97	2,768.41	97.44	3.52
Cal. Water Service Co. Dominguez - CB	209.07	323.30	114.23	35.33
Caltrans	7.17	1.56	-5.61	-359.62
Central Basin MWD	0.00	0.00	.00	0.00
Cerritos, City	2,035.16	2,160.14	124.98	5.79
Coast Packing Co.	33.50	33.66	.16	0.48
Commerce, City	421.45	439.50	18.05	4.11
Compton, City	1,848.06	1,882.22	34.16	1.81
Darling-Delaware Co.	0.00	0.00	.00	0.00
Defense Logistic Agency	1.01	0.61	-.40	-65.57
Demunno Kerdoon	0.60	0.61	.01	1.64
Downey, City	3,878.43	3,922.10	43.67	1.11
El Rancho Unified School District	0.00	0.00	.00	0.00
Golden State Water Co. - CB	4,723.90	4,765.41	41.51	0.87
HMB Bandini, LLC	0.00	0.07	.07	100.00

Central Basin	July 2023 - September 2023	July 2024 - September 2024	Difference	%Change
Huntington Park, City - Alpha 2378	714.05	726.02	11.97	1.65
L.A. County Department of Parks	0.00	0.00	.00	0.00
LA County Rancho Los Amigos	61.31	70.84	9.53	13.45
La Habra Heights County WD	734.49	829.07	94.58	11.41
Lakewood - City	2,002.64	1,931.04	-71.60	-3.71
Liberty Utilities - CB	1,165.17	1,107.15	-58.02	-5.24
Little Lake Cemetery District	0.00	0.00	.00	0.00
Long Beach, City - CB	6,170.02	8,318.29	2148.27	25.83
Los Angeles, City - CB	4.21	4.73	.52	10.99
Lunday-Thagard	0.00	0.00	.00	0.00
Lynwood Park Mutual Water Co.	7.07	9.53	2.46	25.81
Lynwood, City	1,257.68	883.39	-374.29	-42.37
Maywood Mutual No. 1	168.22	172.64	4.42	2.56
Maywood Mutual No. 2	249.31	246.04	-3.27	-1.33
Maywood Mutual No. 3	384.54	380.69	-3.85	-1.01
Montebello Land and Water Co.	792.92	825.31	32.39	3.92
Newark Group, Inc.	39.76	35.29	-4.47	-12.67
Norwalk, City	102.16	73.67	-28.49	-38.67
Omega OU1/OU3 LLC	1.35	1.82	.47	25.82
Orchard Dale Water District	507.74	554.76	47.02	8.48
PABCO Building Products	0.00	0.00	.00	0.00
Paradise Memorial Park	3.26	1.03	-2.23	-216.50
Paramount USD	0.41	0.16	-.25	-156.25
Paramount, City	710.14	706.81	-3.33	-0.47
Pico Rivera, City	1,148.33	1,124.79	-23.54	-2.09
Pico Water District	727.53	733.99	6.46	0.88
Rockview Dairies	0.00	42.96	42.96	100.00
Roman Catholic Archbishop - CB	92.59	118.51	25.92	21.87

Central Basin	July 2023 - September 2023	July 2024 - September 2024	Difference	%Change
Rowland Water District	0.00	0.00	.00	0.00
San Gabriel Valley Water Co.	813.90	873.49	59.59	6.82
Santa Fe Springs, City	96.28	608.94	512.66	84.19
Scantlebury, Robert P.	0.12	0.12	.00	0.00
SFPP L.P.	0.00	0.00	.00	0.00
Signal Hill, City	238.50	202.78	-35.72	-17.62
South Gate, City	2,102.31	2,235.28	132.97	5.95
South Montebello Irrigation Dist	438.33	470.71	32.38	6.88
Southern California Edison Co. - CB	0.53	0.00	-.53	-100.00
St. John Bosco School	0.00	4.10	4.10	100.00
Suburban Water Systems	328.14	721.80	393.66	54.54
Tract 180 Water Co.	326.22	326.68	.46	0.14
Tract 349 Mutual Water Co.	161.46	170.50	9.04	5.30
Tucker, William M.	0.02	0.00	-.02	-100.00
Vernon, City	1,272.60	1,211.26	-61.34	-5.06
Virginia Country Club	119.54	115.72	-3.82	-3.30
Walnut Park Mutual	284.70	288.15	3.45	1.20
Whittier Union HSD	9.16	6.70	-2.46	-36.72
Whittier, City	1,775.65	1,426.81	-348.84	-24.45
WRD	25.81	24.59	-1.22	-4.96
Yamamoto, Alice	0.00	0.00	.00	0.00

West Coast Basin Production Trends

West Basin	July 2023 - September 2023	July 2024 - September 2024	Difference	%Change
	0.00	0.00	.00	0.00
ABC Nursery	3.00	0.00	-3.00	-100.00
Cal. Water Service Co. Alpha 7050	262.35	282.86	20.51	7.25
Cal. Water Service Co. Dominguez - WB	1,552.08	1,448.35	-103.73	-7.16
Cal. Water Service Co./Hawthorne Lease	248.62	25.57	-223.05	-872.31
Eco Services Operations	83.14	37.08	-46.06	-124.22
Golden State Water Co. - WB	2,137.08	2,939.19	802.11	27.29
Hillside Memorial Park	37.07	49.54	12.47	25.17
Honeywell International	0.00	0.00	.00	0.00
Inglewood, City	469.61	406.37	-63.24	-15.56
Kinder Morgan Liquids Terminals	11.02	7.12	-3.90	-54.78
L.A. County Department of Parks	18.41	127.31	108.90	85.54
L.A. County Sanitation Districts-JWPCP	0.00	0.00	.00	0.00
Lockheed Martin Corp.	0.00	0.00	.00	0.00
Lomita, City	0.00	0.00	.00	0.00
Long Beach, City - WB	0.41	0.00	-.41	-100.00
Manhattan Beach, City	46.13	29.78	-16.35	-54.90
Montrose Chemical Corp.	-0.08	0.05	.13	260.00
Myron Z. Chalavin	0.00	0.00	.00	0.00
Phillips 66 Co. - Alpha 7093	1,237.38	1,496.70	259.32	17.33
Rolling Hills Country Club	92.00	171.00	79.00	46.20
Roman Catholic Archbishop - WB	67.06	87.99	20.93	23.79
SCI Funeral Services	14.62	14.85	.23	1.55
Shell Oil Co NCWUP	19.28	19.86	.58	2.92
Southern California Edison Co. - WB	8.74	5.22	-3.52	-67.43

West Basin	July 2023 - September 2023	July 2024 - September 2024	Difference	%Change
Tesoro Refining	2,529.51	2,154.64	-374.87	-17.40
Torrance Refining	296.08	277.74	-18.34	-6.60
Torrance, City	12.00	1,217.32	1205.32	99.01
West Basin Brewer Desalter	0.00	0.00	.00	0.00