Environment

Section Highlights

Ranking in Residential Solar Power	3rd
Days of "Good" Air Quality in 2016	28
Tons of Solid Waste Diverted from Landfills	117,031
Number of Illegal Discharges of Pollutants into Waterways in 2016	339

A Success Story

More Used Oil Filter Events Increases Participation

San Bernardino County Fire Department's Used Oil Program hosts used oil filter exchange events to increase safe and environmentally sensitive disposal of these items. Thanks to extensive outreach in the form of mailers, newspaper advertising, and use of social media, as well as an increase in the number of exchange events held (from six in fiscal year 2016 to 11 in fiscal year 2017), County Fire increased participant turnout for all events. This, in turn, helped drive the increase in pounds of household hazardous waste collected.

Region Holds Position as a Leader in Solar Power

New policies and innovations are driving a shift from the use of carbon-based energy sources to alternative sources, clean technology, and increased energy efficiency. This indicator uses the Green Innovation Index to measure San Bernardino County's progress in achieving sustainable economic growth. The Green Innovation Index provides statewide rankings of 26 metro areas on several measures of green innovation: installed solar capacity, clean vehicle rebates, and electricity consumption per capita.[1]

How is San Bernardino County Doing?

Compared to 26 metro areas in California, Riverside-San Bernardino is a top region for solar power:

- In 2016, Riverside-San Bernardino ranked third out of 26 California metro areas for the most kilowatts of solar power added by residents and businesses.
- Riverside-San Bernardino was also a statewide leader in industrial solar power additions, ranking 5th in the state.
- Riverside-San Bernardino held its position as 5th out of 26 in the number of clean vehicle rebates issued in 2016.
- In terms of residential electricity consumption per capita, Riverside-San Bernardino ranked 14 out of 26 metros in 2015, coming in at 2.53 kilowatt hours per 1,000 residents. This is an increase of two spots over 2014 rankings.

Selected Green Innovation Metrics Ranking Among 26 California Metro Areas
Selected Metro Areas, 2015 or 2016

	Riverside-San Bernardino	Los Angeles-Orange County	San Diego
Most Solar Installations: Residential	3	2	1
Most Solar Installations: Commercial	3	1	2
Most Solar Installations: Industrial	5	4	15
Most Clean Vehicle Rebates	5	1	4
Lowest Electricity Consumption per Capita: Residential	14	3	8
Lowest Electricity Consumption per Capita: Non-Residential	8	14	6

Worst Rank — 26   Best Rank — 1

Source: Next10, California Green Innovation Index, 2017

[1] For additional green metrics, visit www.next10.org.

Days of "Moderate" Air Quality Increase

Poor air quality can aggravate the symptoms of heart and lung ailments, including asthma. It can also cause irritation and illness among the healthy population. Long-term exposure increases the risks of lung cancer, cardiovascular disease, and many other health conditions. Poor air quality can also put children's lung development at risk. This indicator uses the Air Quality Index (AQI) to measure air quality in San Bernardino County, neighboring California counties and peer regions outside of California.

How is San Bernardino County Doing?

Air quality was in the "moderate" range for over half of the days in 2016:

- There were 200 days in the "moderate" range (or 55% of days) in 2016, an increase from 10 years ago when there were 144 days in the moderate range.
- Meanwhile, days of "good" air continue to decline, from 70 in 2007 to 28 in 2016.
- After several years of declining counts of "unhealthy" and "very unhealthy" days, 2016 marked an increase for both levels of air quality.
- However, air quality has improved substantially from over 30 years ago when the median AQI value in 1985 was 122 (in the "unhealthy for sensitive groups" range) compared to 83 in 2016 (in the "moderate" range).[1]
- Compared to air quality in neighboring and peer regions, San Bernardino County has poorer air quality than all regions compared.

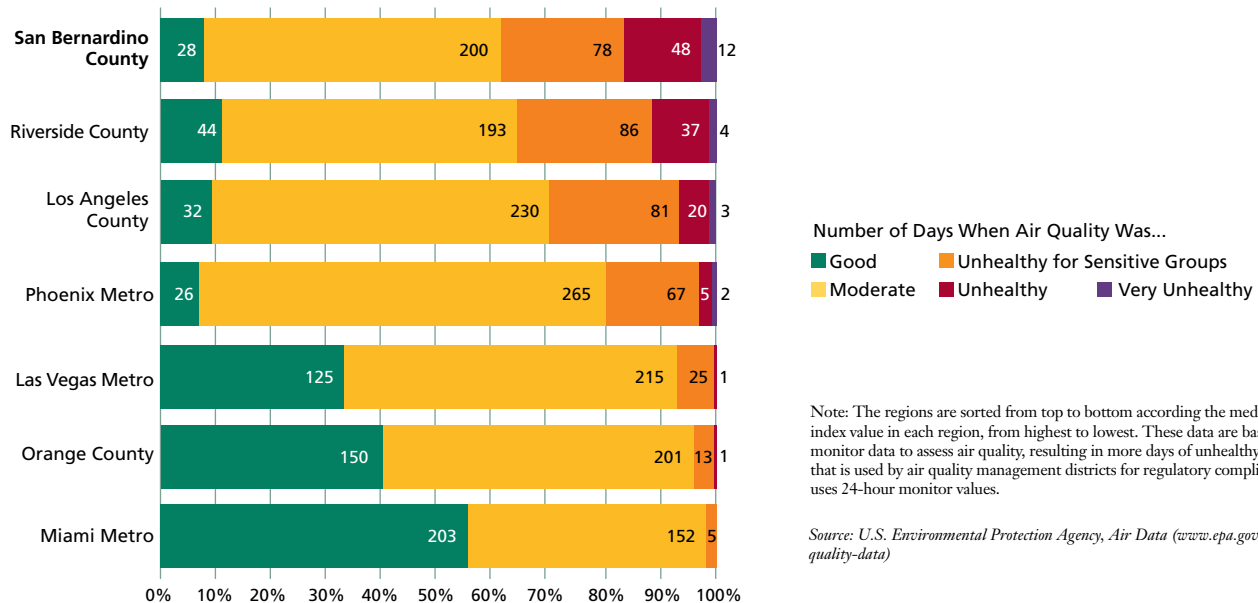**Air Quality Index**
San Bernardino County, 2007-2016

Number of Days When Air Quality Was...

— Good — Moderate — Unhealthy for Sensitive Groups
— Unhealthy — Very Unhealthy ••• Median AQI Value
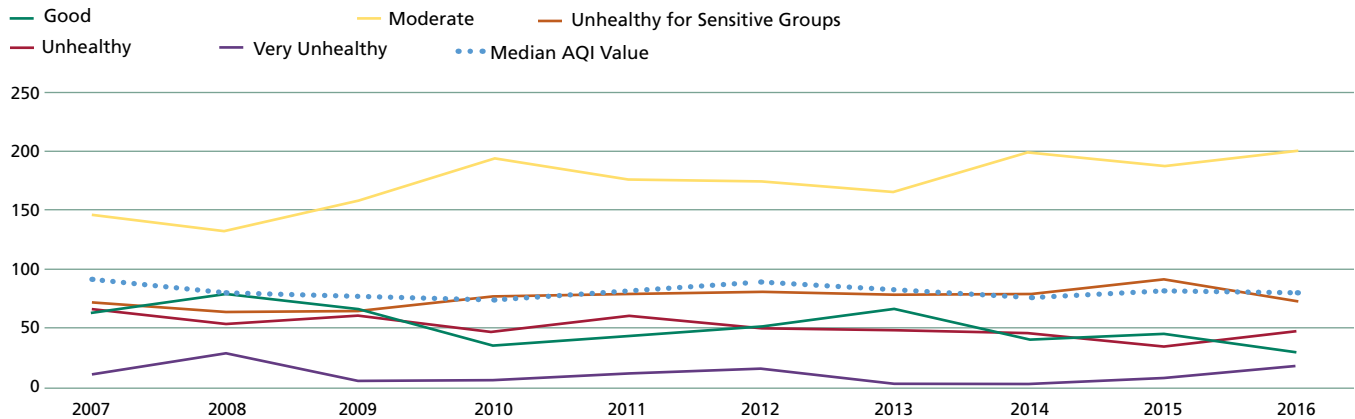
Source: U.S. Environmental Protection Agency, Air Data (www.epa.gov/outdoor-air-quality-data)

Air Quality Index
Regional Comparison, 2016

Number of Days When Air Quality Was...
■ Good ■ Unhealthy for Sensitive Groups
■ Moderate ■ Unhealthy ■ Very Unhealthy

Note: The regions are sorted from top to bottom according the median air quality index value in each region, from highest to lowest. These data are based on hourly monitor data to assess air quality, resulting in more days of unhealthy air than data that is used by air quality management districts for regulatory compliance, which uses 24-hour monitor values.

Source: U.S. Environmental Protection Agency, Air Data (www.epa.gov/outdoor-air-quality-data)

[1] U.S. Environmental Protection Agency, Air Data (www.epa.gov/airdata).

Solid Waste Disposal Up 10% Over Two Years

Reducing solid waste production and diverting recyclables and green waste extends the life of landfills, decreases the need for costly alternatives, and reduces environmental impact. California has set a goal of diverting 75% of waste away from landfills through source reduction, recycling, and green waste composting by 2020. Collection of household hazardous waste (HHW), such as oil, paint, electronics, thermostats, batteries, and fluorescent tubes, helps protect the environment and public health by reducing illegal and improper HHW disposal. This indicator measures the tons of commercial and residential solid waste generated in San Bernardino County destined for disposal in County and out-of-County landfills. It also measures the pounds of HHW collected and the number of annual participants in the HHW program.
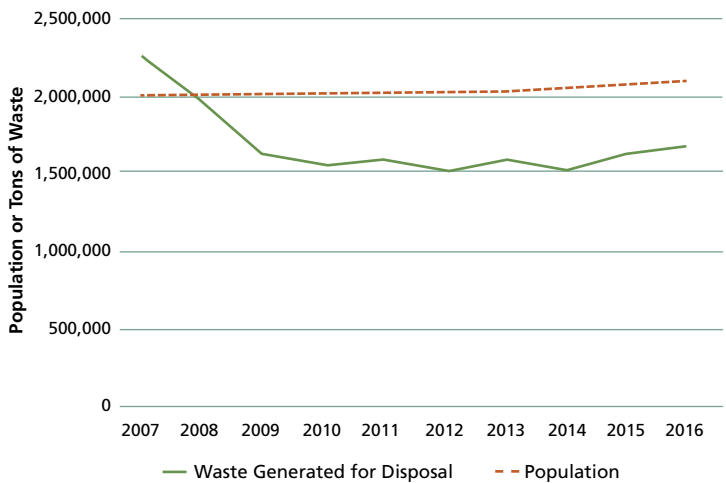
How is San Bernardino County Doing?

Solid waste disposal grew over the past two years, but tonnage remains below the 10-year high:

- In 2016, approximately 1.7 million tons of waste were generated and disposed by San Bernardino County residents.
- Waste disposal decreased 23% since 2007, but has started increasing again over the last two years.
- Over the same period, San Bernardino County's population grew an estimated 7%, suggesting that economic factors and diversion programs – not population growth – are the primary drivers of solid waste disposal trends.
- In 2016, San Bernardino County residents and businesses produced slightly less waste than California overall (0.9 tons per person in San Bernardino County compared to 1.0 tons per person in California).[1]

Household hazardous waste collection is on the rise:

- Both the number of households bringing HHW to regional collection centers and the number of pounds collected grew in 2016/17. Each participating household contributed an average of 64 pounds of HHW.
- On average, California's per capita HHW disposal rate was slightly higher (2.5 pounds per person) than San Bernardino County's (1.6 pounds per person).[2]

Solid Waste Generated for Disposal Compared to Population Growth
San Bernardino County, 2007-2016

Note: Solid waste generated for disposal includes cities and unincorporated areas.

Sources: San Bernardino County Department of Public Works; California Department of Finance, Table E-2 (www.dof.ca.gov)

Household Hazardous Waste Program Participation and Pounds of Waste Collected
San Bernardino County, 2008-2017
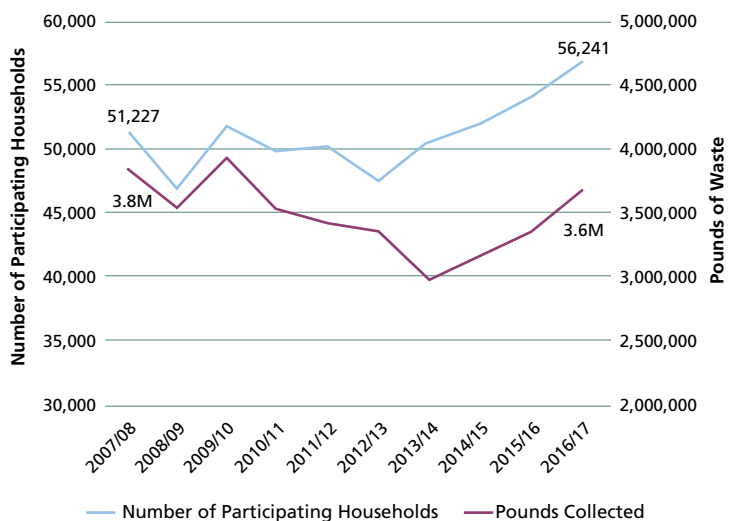
Note: Chart includes San Bernardino County unincorporated areas and all cities except Fontana.

Source: San Bernardino County Fire Department

Diverting Waste and Recyclables is a Win-Win

The County Public Works Department/Solid Waste Management Division is responsible for the operation and management of the County's five regional landfills and nine transfer stations. Since 2008, the Comprehensive Disposal Site Diversion Program (CDSDP) has increased recycling efforts in order to meet the state requirement to divert 50% of waste away from landfills. During 2016, the CDSDP prevented 117,031 tons of waste from being disposed at San Bernardino County disposal facilities. Select loads were sorted to have materials pulled out for further processing to be reused or recycled. This program has significantly helped the County reach its diversion goals, with a 62% diversion rate attained for 2016. Since its inception in 2008, the CDSDP has diverted over 847,000 tons of materials. In addition, the County's Beverage Container Recycling Program also continues to grow with eight new participating schools or businesses in 2016, for a total of 29 groups currently participating. This program is a win-win for the environment and participants; it encourages the recycling of bottles and cans and it raises revenue for the participants through the redemption of the bottles and cans.

Source: County of San Bernardino Public Works Department, Solid Waste Management Division

[1] California Department of Resources Recycling and Recovery (CalRecycle), Disposal Reporting System (DRS), Multi-Year Countywide Origin Summary; California Department of Finance, Report E-1, January Cities, Counties, and the State Population Estimates with Annual Percent Change

[2] Based on 2015/16 data from CalRecycle, 2015-16 Household Hazardous Waste Form 303 Collection Information, as provided by San Bernardino County Fire Department; California Department of Finance, Report E-5, January Population and Housing Estimates for Cities, Counties, and the State

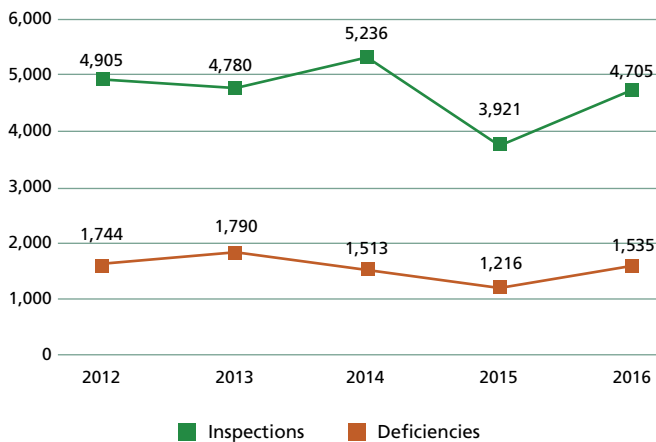# Illegal Pollutant Discharges into Storm Drains Increase in 2016

Stormwater pollution refers to urban water runoff that picks up pollutants as it flows through the storm drain system – a network of channels, gutters and pipes that collect rain and snowmelt. Eventually, the water empties untreated directly into local rivers and lakes. Pollutants in stormwater runoff, such as litter, pet waste, motor oil, paint, anti-freeze, pesticides, fertilizers, and toxic household chemicals, can have serious effects. They can contaminate local drinking water supplies and harm the local environment and wildlife. Trash and debris accumulated in catch basins may create foul odors and attract pests. Flooding may also occur due to blocked storm drains during heavy rain events. Effective stormwater management reduces pollution, blocked drains and flooding. To track stormwater quality management in the Santa Ana River and Mojave River watersheds, this indictor shows reports of illegal discharges of pollutants into surface waterways and storm drains. Also measured are enforcement actions and facility inspections.

How is San Bernardino County Doing?

There was an increase in the number of illegal discharge, dumping and spill event reports in San Bernardino County in 2016:

- In the Santa Ana River watershed, there were 339 illegal discharge reports in 2016, the highest in five years.
- While the number of reports varies from year to year, this year marks a 5% increase in reports over the past five years.
- In the Santa Ana River watershed, there were 161 illegal discharges requiring enforcement action, such as a notice of violation or fines. This equates to 47% of all illegal discharges reported.
- In the Santa Ana River basin, San Bernardino Areawide Stormwater Program members conducted 4,705 inspections of industrial and commercial facilities and construction sites in 2016. Of this total, 1,535 inspections (or 33%) resulted in deficiencies requiring corrective action.

San Bernardino Areawide Stormwater Program Inspections of Commercial, Construction and Industrial Facilities and Number with Deficiencies Requiring Enforcement Action, 2012-2016
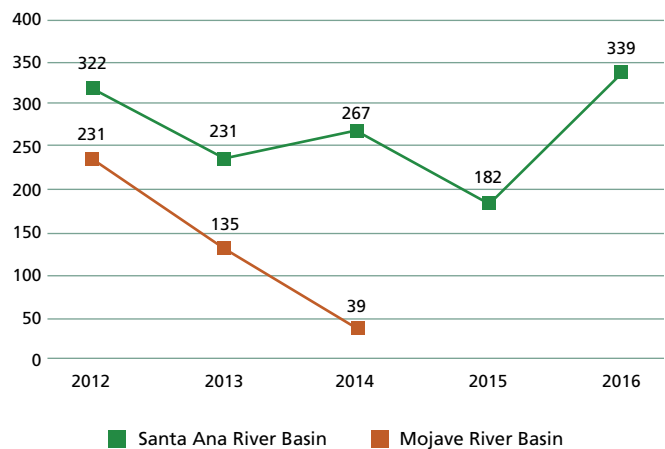

Source: San Bernardino County Flood Control District Stormwater Program, Annual Report

Illegal Discharge, Dumping and Spill Events in the Santa Ana and Mojave River Basins (San Bernardino County portions), 2012-2016

Note: Mojave River watershed data is not available for 2015 and 2016.

Source: San Bernardino County Flood Control District Stormwater Program, Annual Report; Mojave River Watershed Group Small MS4 General Permit Annual Report

Stormwater Management: Community Collaboration at Work

Polluted stormwater runoff can be washed into Municipal Separate Storm Sewer Systems (MS4s, or commonly known as storm drains). Owners of storm drains – such as a state, county, city, or other public entity – must obtain a National Pollutant Discharge Elimination System (NPDES) permit to develop and implement programs to help prevent harmful pollutants from being washed into local bodies of water. In San Bernardino County, public entities work together under two separate MS4 permits. The *San Bernardino Areawide Stormwater Program* – consisting of the County, Flood Control District, and all 16 cities in the area (Big Bear Lake, Chino, Chino Hills, Colton, Fontana, Grand Terrace, Highland, Loma Linda, Montclair, Ontario, Rancho Cucamonga, Redlands, Rialto, San Bernardino, Upland, and Yucaipa) – works to protect the Santa Ana River watershed. The *Mojave River Watershed Group* – consisting of the County and the three cities in this basin (Apple Valley, Hesperia, and Victorville) – works to protect the Mojave River watershed. The public entities within each group work cooperatively to comply with complex regulations that require extensive multi-agency collaboration and numerous initiatives to effectively reduce pollutants from urban runoff.

What Factors Contribute to Illegal Discharge Reporting?

Increases in reports of illegal discharges can be attributed to population growth and greater public awareness, which leads to more incident reporting. Decreases can be attributed to fewer severe weather events leading to debris blockage and improved public compliance with posted signs and laws related to dumping.
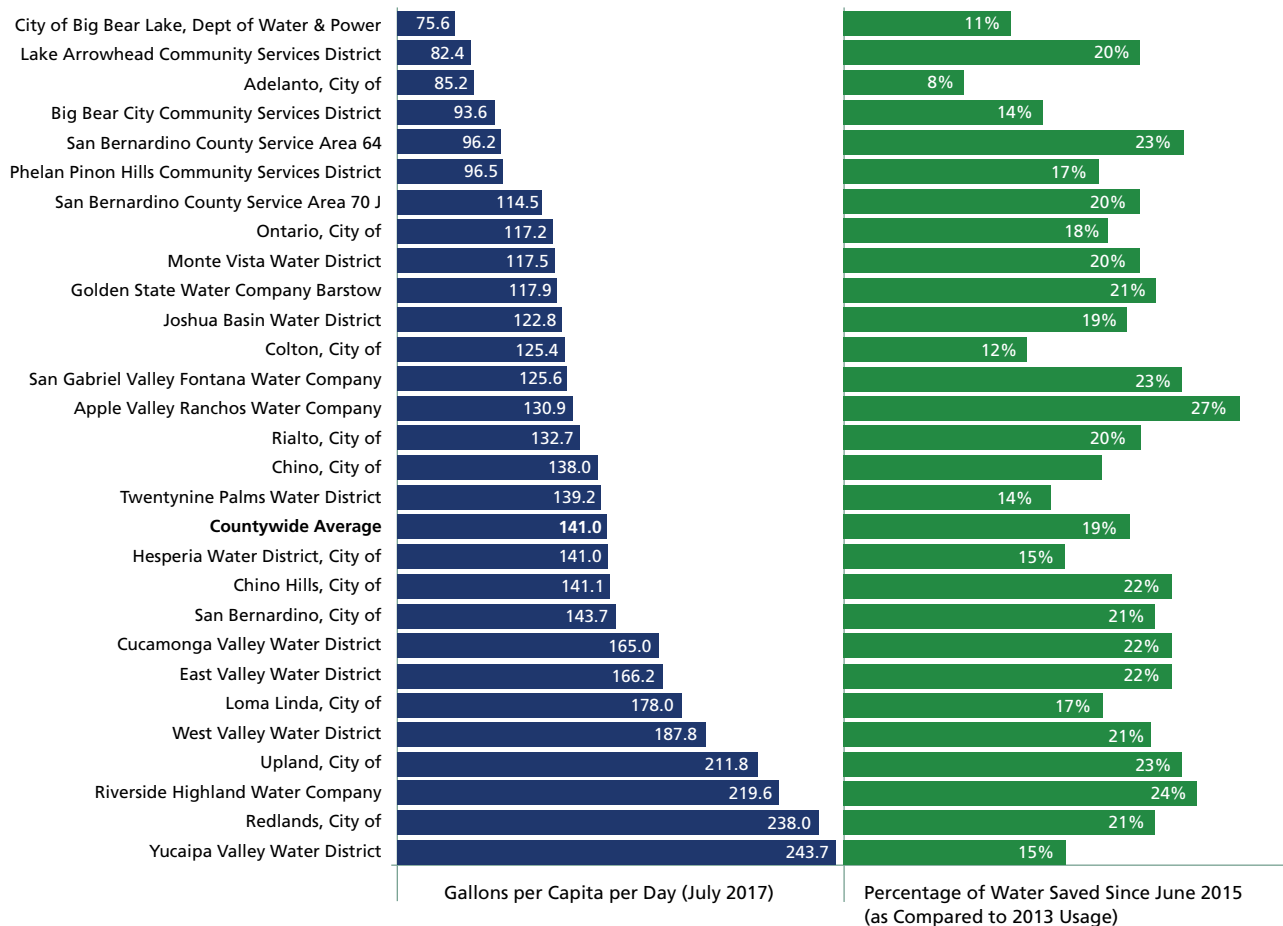
Water Saved Compared to 2013 Usage: 19%

Given San Bernardino County's arid climate, effective water management is essential to ensure that the county has an ample water supply now and in the future. Statewide mandatory urban water restrictions – which went into effect in July 2014 and have now been largely lifted – imposed water usage limits and prompted increased conservation and recycling. This indicator measures estimated residential water consumption in gallons per capita per day from larger water suppliers serving San Bernardino County. It also shows the percentage of water saved over a three-year period. The water suppliers presented serve an estimated population of just over 1,900,000 (or roughly 89% of the San Bernardino County population).[1]

How is San Bernardino County Doing?

San Bernardino County residents' daily per capita water consumption rose slightly between May 2015 and May 2017:

- On average, San Bernardino County residential consumers used an estimated 108 gallons per capita per day (GPCD) in May 2017, compared to 102 in May 2016 and 101 GPCD in May 2015.[2]
- In July 2017, the latest data available and when water demand is typically higher, the estimated average rate was 141 GPCD, rate ranging from a low of 75.6 GPCD in Big Bear Lake to a high of 243.7 GPCD in Yucaipa Valley.
- Between June 2015 and July 2017, the cumulative countywide percentage of water saved compared to usage rates in 2013 was approximately 19%.
- This percentage ranges from a low of 8% saved in Adelanto and a high of 27% saved in Apple Valley.
- Residential water usage can differ due to regional variations in climate, precipitation, land use, tourism, income, local supplier water costs, usage regulations and conservation programs.

Estimated Residential Gallons per Capita per Day and Percentage of Water Saved (Since June 2015, as compared to 2013 Usage)
San Bernardino County Water Suppliers, July 2017

Water Supplier	Gallons per Capita per Day (July 2017)	Percentage of Water Saved Since June 2015 (as Compared to 2013 Usage)
City of Big Bear Lake, Dept of Water & Power	75.6	11%
Lake Arrowhead Community Services District	82.4	20%
Adelanto, City of	85.2	8%
Big Bear City Community Services District	93.6	14%
San Bernardino County Service Area 64	96.2	23%
Phelan Pinon Hills Community Services District	96.5	17%
San Bernardino County Service Area 70 J	114.5	20%
Ontario, City of	117.2	18%
Monte Vista Water District	117.5	20%
Golden State Water Company Barstow	117.9	21%
Joshua Basin Water District	122.8	19%
Colton, City of	125.4	12%
San Gabriel Valley Fontana Water Company	125.6	23%
Apple Valley Ranchos Water Company	130.9	27%
Rialto, City of	132.7	20%
Chino, City of	138.0	
Twentynine Palms Water District	139.2	14%
Countywide Average	**141.0**	19%
Hesperia Water District, City of	141.0	15%
Chino Hills, City of	141.1	22%
San Bernardino, City of	143.7	21%
Cucamonga Valley Water District	165.0	22%
East Valley Water District	166.2	22%
Loma Linda, City of	178.0	17%
West Valley Water District	187.8	21%
Upland, City of	211.8	23%
Riverside Highland Water Company	219.6	24%
Redlands, City of	238.0	21%
Yucaipa Valley Water District	243.7	15%

Note: This chart includes urban water suppliers serving San Bernardino County that have more than 3,000 connections. Victorville Water District did not submit July 2017 data to the State Water Resources Control Board in time to be included in the dataset.

Source: State Water Resources Control Board, May 2016 Water Conservation Report by Supplier

[1] California Department of Finance, Table E-1, January 2016
[2] The countywide GPCD average and the countywide average percentage saved were calculated by averaging the calculated GPCD rate or percent saved for each supplier.