

# Environment

## Section Highlights

Residential Solar Power ..... Ranked No. 1

Days of Unhealthy Air Quality ..... Up in 2017

Generation of Solid Waste ..... Rising

Collection of Household Hazardous Waste ..... Rising

Reports of Pollutants Discharged into Waterways... Highest in 10 Years

## A Success Story

*The California legislature passed Assembly Bill 32, the Global Warming Solutions Act, in 2006. As a result, local cities and counties must seek to reduce their greenhouse gas (GHG) emissions consistent with statewide goals. Yet, local jurisdictions face a difficult challenge to reduce emissions while population and economic activity are growing in the region. To proactively address this need, the San Bernardino Council of Governments, in partnership with 21 cities, developed the San Bernardino County Regional Greenhouse Gas Reduction Plan and Environmental Impact Report. The Reduction Plan creates a framework for comprehensive and consistent assessment of GHG emission sources. It also provides for a strategic evaluation of reduction measures, their effectiveness, costs and savings, and community benefits, like improved air quality. In addition, the Reduction Plan gives cities a tool to inventory their GHG emissions and summarizes the reduction actions that each city has selected in order to reduce them.*

## Region is Number One in Residential Solar Power

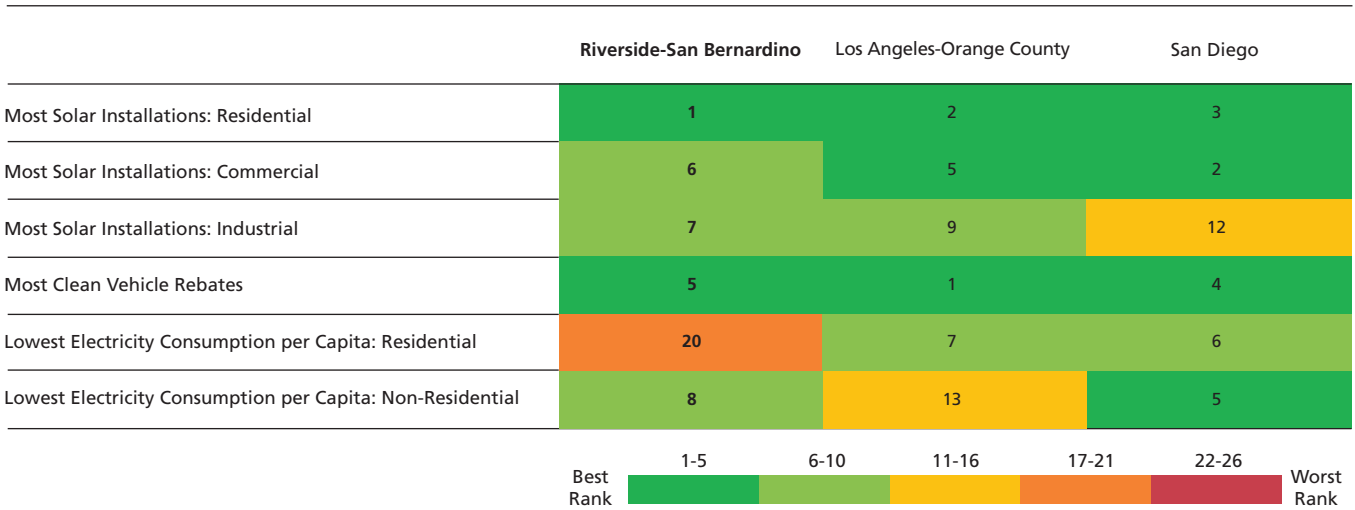
New policies and innovations are driving a shift from the use of carbon-based energy sources to alternative sources, clean technology, and increased energy efficiency. This indicator uses the Green Innovation Index to measure San Bernardino County's progress in achieving sustainable economic growth. 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.<sup>1</sup>

### How is San Bernardino County Doing?

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

- In 2017, Riverside-San Bernardino ranked first out of 26 California metro areas for the most kilowatts of solar power added by residents.
- Riverside-San Bernardino was also a statewide leader in commercial and industrial solar power additions, ranking 6th and 7th, respectively.
- Riverside-San Bernardino held its position as 5th out of 26 in the number of clean vehicle rebates issued in 2017.
- In terms of the lowest residential electricity consumption per capita, Riverside-San Bernardino ranked 20 out of 26 metros in 2016, which is a drop in ranking since 2015 when the region ranked 14th.
- The region is 8th in the state for the lowest non-residential electricity consumption.

**Selected Green Innovation Metrics Ranking Among 26 California Metro Areas**  
Selected Metro Areas, 2016 or 2017



Note: Solar installation and clean vehicle rebate data are from 2017. Electricity consumption data are from 2016.

Source: Next10, California Green Innovation Index, 2018

<sup>1</sup> For additional green metrics, visit [www.next10.org](http://www.next10.org).

# More Days of Unhealthy Air in 2017

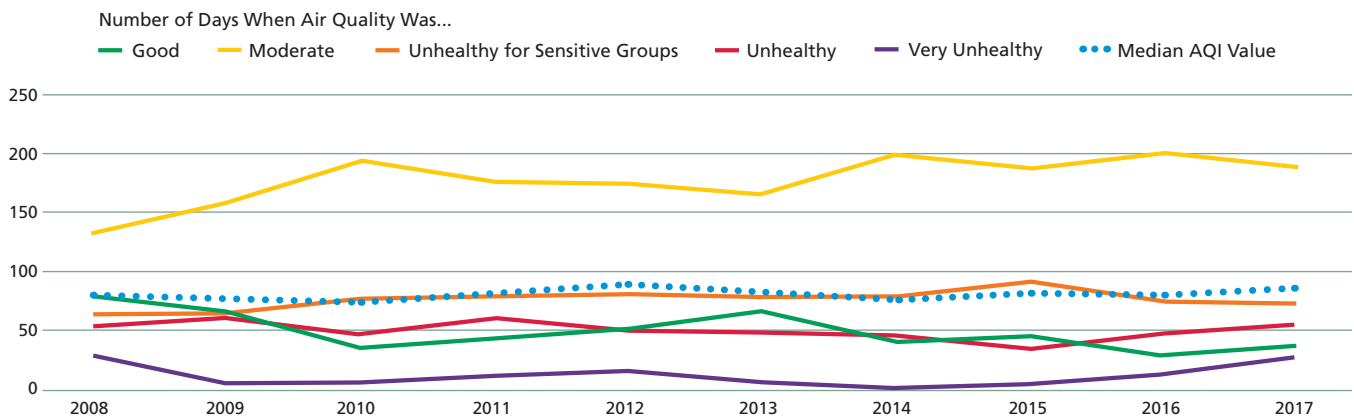
Poor air quality can aggravate the symptoms of heart and lung ailments, including asthma. It can also cause irritation and illness among the healthy population. Long-term exposure increases the risks of lung cancer, heart disease, and many other health conditions. Poor air quality can also put children’s 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 poorer in 2017:

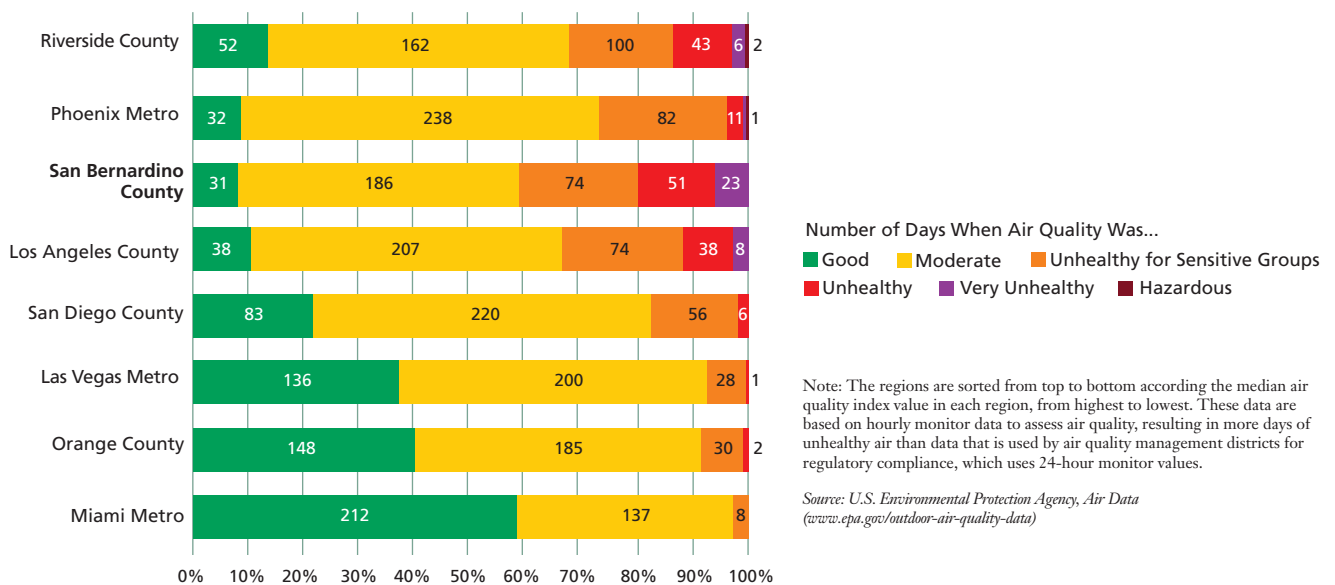
- There were 186 days in the “moderate” range (or 51% of days) in 2017, an increase from 10 years ago when there were 136 days in the moderate range.
- Meanwhile, there were fewer days of “good” air in 2017 (31) compared to 2008 (68).
- After several years of declining counts of “unhealthy” and “very unhealthy” days, 2017 marked another year of increases for both levels of air quality.
- However, the median AQI value shows that air quality has improved substantially from over 30 years ago. In 1986, the median AQI value was 133 (in the “unhealthy for sensitive groups” range) compared to 84 in 2017 (in the “moderate” range).
- Compared to air quality in neighboring and peer regions, San Bernardino County had poorer median air quality in 2017 than all regions compared, except Riverside County and Phoenix Metro.

## Air Quality Index San Bernardino County, 2008-2017



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

## Air Quality Index Regional Comparison, 2017



Note: The regions are sorted from top to bottom according to 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](http://www.epa.gov/outdoor-air-quality-data))

<sup>1</sup> U.S. Environmental Protection Agency, Air Data ([www.epa.gov/airdata](http://www.epa.gov/airdata)).

## Solid Waste Disposal Continues to Rise

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 by 2020 through source reduction, recycling, and green waste composting. 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. It also measures the pounds of HHW collected and the number of annual participants in the HHW program.

### How is San Bernardino County Doing?

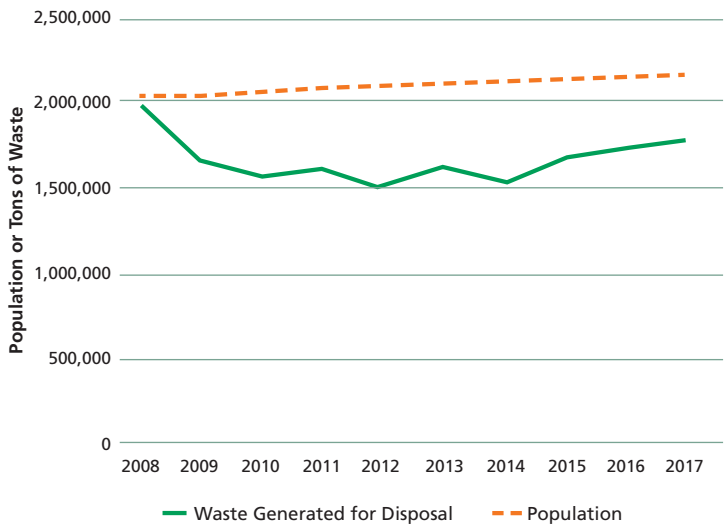
Solid waste disposal grew over the past three years, but tonnage remains below the 10-year high:

- In 2017, San Bernardino County residents generated and disposed approximately 1.76 million tons of waste.
- Waste disposal decreased 10% since 2008 but has increased over the past three 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 2017, 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).<sup>1</sup>

Household hazardous waste collection continues to increase:

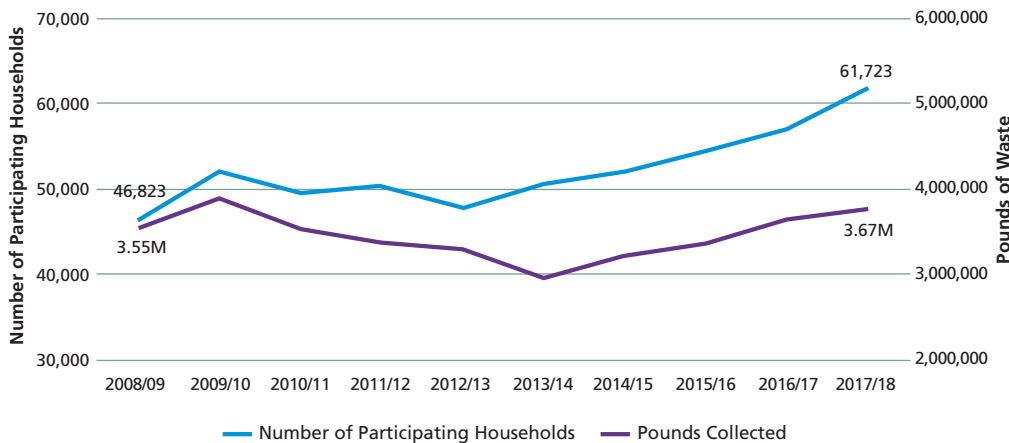
- The number of households bringing HHW to regional collection centers grew in 2017/18, while the number of pounds collected remained the same as the previous year. Each participating household contributed an average of 59 pounds of HHW in 2017/18.
- On average, San Bernardino County’s per capita HHW disposal rate (1.7 pounds per person) was lower than California’s (2.9 pounds per person).<sup>2</sup>

Solid Waste Generated for Disposal Compared to Population Growth San Bernardino County, 2008-2017



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](http://www.dof.ca.gov))

Household Hazardous Waste Program Participation and Pounds of Waste Collected San Bernardino County, 2009-2018



Note: Chart includes San Bernardino County unincorporated areas and all cities except Fontana.  
Source: San Bernardino County Fire Department

**Oil Filter Events (OFE)  
See Increased Participation**

County Fire, which oversees HHW collection for the county, has expanded their outreach methods to encourage more residents to properly dispose of used oil, oil filters, and other hazardous wastes. In addition to mailers and newspaper ads, County Fire has started running radio ads and increasing their social media footprint. It appears to be working; participants have indicated they heard about the OFE’s through these media.

<sup>1</sup> California Department of Resources Recycling and Recovery (CalRecycle), Disposal Reporting System (DRS), Multi-Year Countywide Origin Summary, and Statewide Disposal, Transformation, Import, Export and ADC Disposal Summary; California Department of Finance, Report E-1, January Cities, Counties, and the State Population Estimates with Annual Percent Change  
<sup>2</sup> Based on 2016/17 data from CalRecycle, Household Hazardous Waste Form 303 Collection Information, as provided by San Bernardino County Fire Department and retrieved from CalRecycle.com; 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 2017

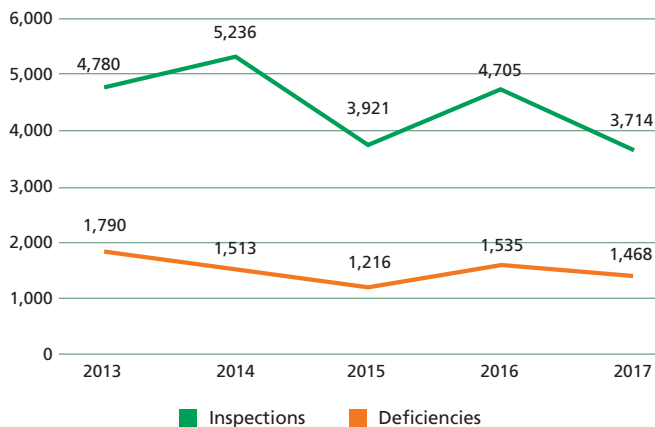
Stormwater pollution refers to urban water runoff that picks up pollutants as it flows through the storm drain system – a network of channels, gutters and pipes that collect rain and snowmelt. Eventually, the runoff empties untreated directly into local rivers and lakes. Pollutants in stormwater runoff, 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 watershed, this indicator 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 the Santa Ana River watershed in San Bernardino County in 2016/17:

- There were 548 illegal discharge reports in 2016/17, the highest in 10 years.
- While the number of reports varies from year to year, this year marks a 60% increase in reports over the past 10 years.
- There were 142 illegal discharges requiring enforcement action, such as a notice of violation or fine. This equates to 26% of all illegal discharges reported.
- San Bernardino Areawide Stormwater Program members conducted 3,714 inspections of industrial and commercial facilities and construction sites in 2016/17. Of this total, 1,468 inspections (or 40%) 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, 2013-2017

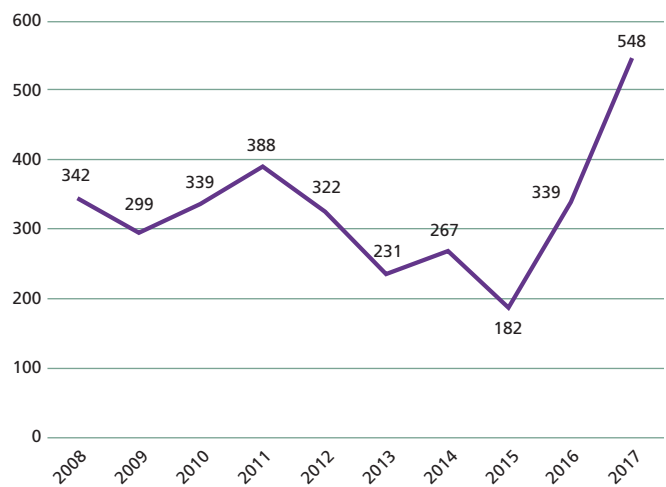


Source: San Bernardino County Flood Control District Stormwater Program, Annual Report

#### What Contributes to Illegal Discharge Reporting?

Increases in reports of illegal discharges can be attributed to population growth and greater public awareness that leads to more incident reporting, while decreases can be attributed to fewer severe weather events leading to debris blockage as well as improved public compliance with posted signs and laws related to dumping. The County's Stormwater Program attributes the recent increases to population growth, the initiation of the "Where Water Meets the Community" public outreach campaign in 2016/17, and the increase in outreach events aimed at engaging county residents to protect water quality, the environment, and their communities.

### Illegal Discharge, Dumping and Spill Events in the Santa Ana River Basin (San Bernardino County portions), 2008-2017



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



#### Stormwater Outreach Rebranding: Where Water Meets Community

Bernardino County Stormwater Program (Program) has conducted public education and outreach activities on water pollution prevention since 1994. Over the years, the Program noticed that the community was not engaging with the long-running stormwater pollution prevention message. A survey of county residents revealed that community-centered messages around protecting water resources resonated more with residents, such as "It is the right thing to do," "I care for the environment," and "I want to keep my community clean."

Thus, in fiscal year 2016/17, the Program underwent a rebranding effort to streamline its multiple education campaigns into one comprehensive brand, "Where Water Meets Community." The new brand creates a fresh voice to motivate county residents to adopt stormwater pollution prevention behaviors. The Program redesigned its website, updated the messaging, created new public education materials, and produced an animated video – all available in English and Spanish. The Program's rebranding effort was awarded the California Stormwater Quality Association (CASQA) Outstanding News, Information, Outreach, and Media Project at its recent 2018 conference.

Facebook: @sbcountystormwater  
 Website: <http://www.sbcountystormwater.org>

## Water Usage Rate Remains Relatively Stable

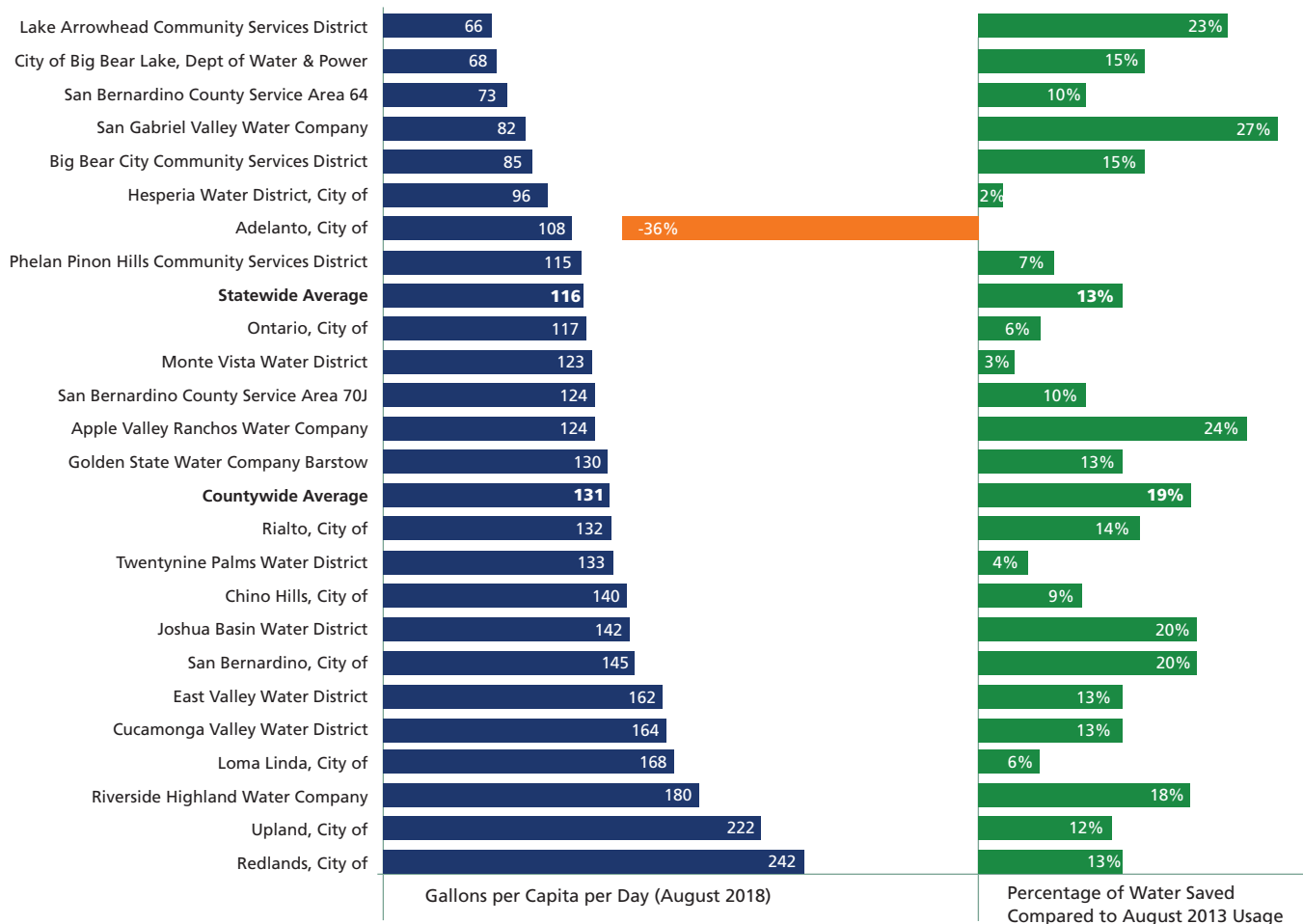
Given San Bernardino County’s arid climate, effective water management is essential to ensure that the county has an ample water supply now and in the future. Statewide mandatory urban water restrictions, which went into effect in July 2014 and were lifted in November 2017, imposed water usage limits 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.<sup>1</sup> It also shows the percentage of water saved since the baseline year of 2013. The water suppliers providing usage data serve an estimated population of just over 1,700,000 (or roughly 78% of the San Bernardino County population).<sup>2</sup>

### How is San Bernardino County Doing?

San Bernardino County residents’ daily per capita water consumption rose slightly between August 2017 and August 2018:

- On average, San Bernardino County residential consumers used an estimated 131 gallons per capita per day (GPCD) in August 2018, compared to 127 in August 2017.<sup>3</sup>
- The estimated average rate ranged from a low of 66 GPCD in Lake Arrowhead to a high of 242 GPCD in Redlands.
- The county is using 19% less water in August 2018 than it used in August 2013, which was estimated at 162 GPCD.
- This percentage ranges from 36% higher usage compared to 2013 in Adelanto, and 27% saved compared to 2013 in San Gabriel Valley.
- Residential water usage can differ due to regional variations in climate, precipitation, land use, tourism, and income, as well as local supplier water costs, usage regulations and conservation programs.

**Estimated Residential Gallons per Capita per Day and Percentage of Water Saved**  
San Bernardino County Water Suppliers, August 2018



Note: This chart includes urban water suppliers serving San Bernardino County that have more than 3,000 connections. City of Chino, City of Colton, Victorville Water District, and West Valley Water District did not submit August 2018 data to the State Water Resources Control Board.

Source: State Water Resources Control Board, July 2018 Water Conservation Data Set ([www.waterboards.ca.gov/water\\_issues/programs/conservation\\_portal/conservation\\_reporting.html](http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/conservation_reporting.html))

<sup>1</sup> As of November 2017, water usage reports to the state are voluntary for urban water suppliers.

<sup>2</sup> Population data are sourced to the State Water Resources Control Board and the California Department of Finance, Table E-1, January 2018

<sup>3</sup> The countywide GPCD is an average of the GPCD for each supplier. The countywide percent saved is the percent change in estimated GPCD between August 2013 and August 2018.