

# Environment

## Section Highlights

Residential Solar Rank in California #1

Commercial and Industrial Solar Rank in California #2

Air Quality Compared to 10 Years Ago Slightly Worse

10-Year Participation in Hazardous Waste Collection  19%

Stormwater Pollution Reports in 2018 419

## Success Story

*Where does all the trash that people throw out go? The trash collector hauls it away and many people don't give it a second thought. It ends up in landfills, taking up space and creating gases and liquids that can cause pollution. The San Bernardino County Public Works Department/Solid Waste Management Division works hard to reduce waste through recycling. Selected loads of waste are sorted and materials are pulled out for further processing to be reused or recycled. This program has significantly helped the County reach its state-mandated waste diversion goals. In fact, during 2018, the Solid Waste Management Division diverted 60% of waste from landfills – 145,160 tons. And since 2006, they have diverted over 1.13 million tons of materials – equivalent in volume to two Empire State Buildings full of waste.*

# Region Still 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 holds its position as a top region for solar power:

- In 2018, Riverside-San Bernardino ranked first out of 26 California metro areas for the most kilowatts of installed residential solar power.
- Riverside-San Bernardino was also a statewide leader in commercial and industrial solar power installations, ranking 2nd on both categories.
- Riverside-San Bernardino continues to hold its position as 5th out of 26 in the number of clean vehicle rebates issued in 2018.
- In terms of the lowest residential electricity consumption per capita, Riverside-San Bernardino ranked 18 out of 26 metros in 2017, which is an improvement over the prior year (20th), but a drop since 2015 when the region ranked 14th.
- The region is 7th in the state for the lowest non-residential electricity consumption in 2017 – a slight improvement from 8th the previous year.

### Big Solar in the San Bernardino County Desert

In February 2019, the San Bernardino County Board of Supervisors took action to restrict new “utility-oriented” solar development in certain rural communities. Utility-oriented solar is defined as a project in which more than 50% of the energy produced would be used outside the local area and sent to the energy grid. The board’s action seeks to steer large-scale projects away from rural communities and direct the development of new projects to less populated or already disturbed areas. Community-oriented installations, such as roof top panels, are still allowed in all parts of the county.

Source: San Bernardino County, County Administrative Office; Emerson, Sandra. “It’s lights out on big solar in San Bernardino County desert.” *The Sun*. February 28, 2019. Accessed September 13, 2019. Retrieved from: <https://www.sbsun.com/2019/02/28/san-bernardino-county-board-to-prohibit-renewable-energy-development-in-key-desert-areas/>

## Selected Green Innovation Metrics Ranking Among 26 California Metro Areas Selected Metro Areas, 2017 or 2018

	Riverside-San Bernardino	Los Angeles-Orange County	San Diego
Most Solar Installations: Residential	1	3	1
Most Solar Installations: Commercial	2	4	1
Most Solar Installations: Industrial	2	11	13
Most Clean Vehicle Rebates	5	1	4
Lowest Electricity Consumption per Capita: Non-Residential	7	14	5
Lowest Electricity Consumption per Capita: Residential	18	3	5

	1-5	6-10	11-16	17-21	22-26	
Best Rank						Worst Rank

Note: Solar installation and clean vehicle rebate data are from 2018. Electricity consumption data are from 2017.

Source: Next10, California Green Innovation Index, 2019

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

# Slight Worsening of Air Quality Over Past 10 Years

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?

Over the past 10 years, there has been a slight worsening in the median air quality index value:

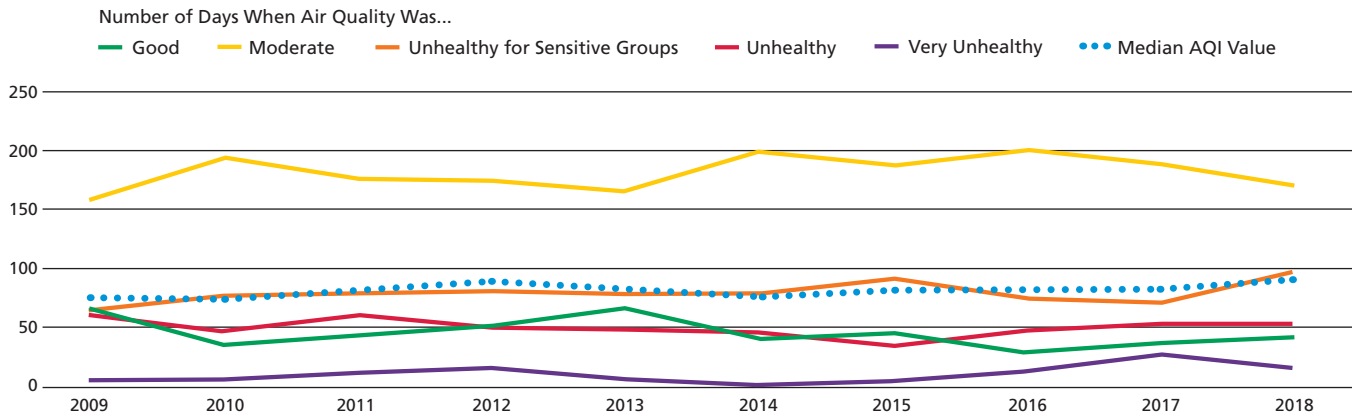
- The median air quality index value has increased slightly from 10 years ago when the value was 82, compared to 88 in 2018. Both values are in the “moderate” range.
- Most days (168, or 46% of days) were in the “moderate” range in 2018, more than 10 years ago when there were 158 days in the moderate range.
- The second most common air quality status in 2018 was “unhealthy for sensitive groups,” which accounted for 96 days out of the year, up from 70 days 10 years ago.
- One in seven days (51 days) were considered “unhealthy” in 2018, compared to one in six (63 days) in 2009.
- Meanwhile, there were 43 days of “good” air in 2018, compared to 68 in 2009.
- Compared to air quality in neighboring and peer regions, San Bernardino County had poorer median air quality in 2018 than all regions compared.

### Breathmobiles Help Kids Breathe Easier

The Arrowhead Regional Medical Center operates two “Breathmobiles” – mobile health clinics specializing in the treatment and prevention of asthma symptoms in children. The Breathmobiles regularly visit approximately 40 locations county-wide, including Head Start and school locations. They offer free of charge services, including lung function testing, asthma and allergy education, and prescriptions for medications. Outcomes have been striking. Among participants who were in the program one year or longer, emergency department visits were halved, hospitalizations were cut from 9% to 3% of participants, and school absenteeism due to asthma plummeted from 31% of participants before starting the program to 6% after.

## Air Quality Index

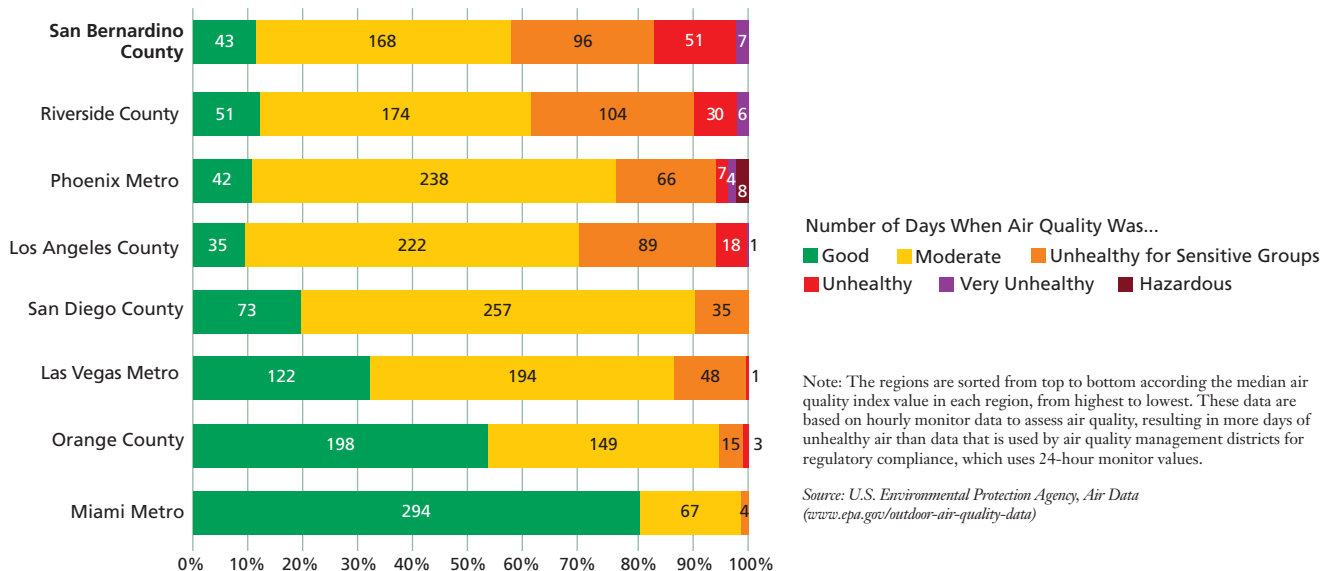
San Bernardino County, 2009-2018



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, 2018



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))

## Participation in Hazardous Waste Collection Grows 19%

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?

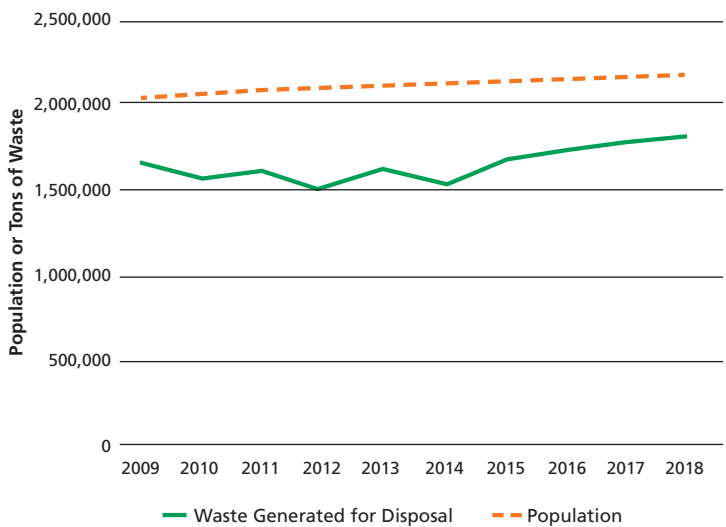
Solid waste disposal has grown steadily since 2014:

- In 2018, San Bernardino County residents generated and disposed approximately 1.82 million tons of waste.
- Waste disposal increased 12% since 2009.
- Since 2009, San Bernardino County’s population grew an estimated 8%. Population growth can have some impact on disposal trends, but economic factors and waste diversion programs are the primary drivers.
- In 2018, 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 trends flattened after years of steady increases:

- The number of households bringing HHW to regional collection centers in 2018/19 was slightly less than the prior year, but there has been an overall 19% increase in participation over the past 10 years.
- The number of HHW pounds collected in 2018/19 was slightly less than the prior year, as well. Each participating household contributed an average of 58 pounds of HHW in 2018/19.
- San Bernardino County’s per capita HHW collection rate (1.7 pounds per person) was considerably lower than California’s (3.2 pounds per person).<sup>2</sup>

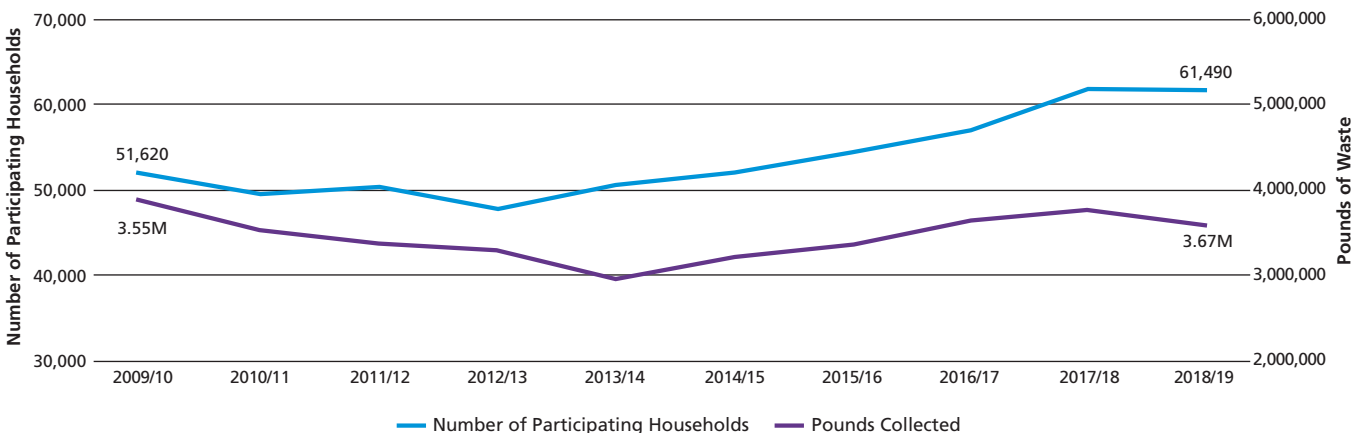
Solid Waste Generated for Disposal Compared to Population Growth  
San Bernardino County, 2009-2018



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, 2010-2019



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

Source: San Bernardino County Fire Department

<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-2 (July population estimates)

<sup>2</sup> Based on 2017/18 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 estimates)

# Illegal Pollutant Discharges into Storm Drains Decrease in 2018

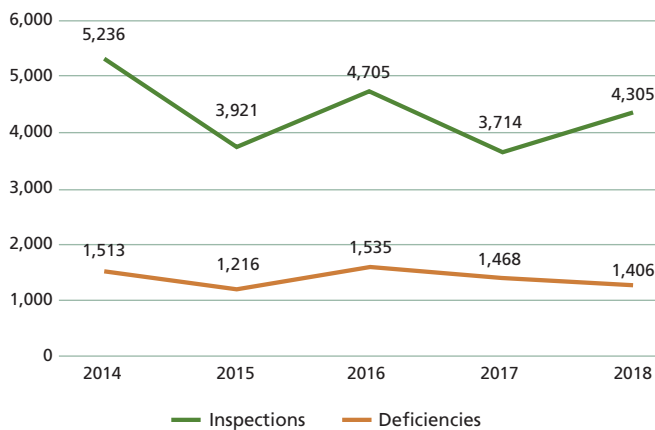
Stormwater pollution refers to urban water runoff that picks up pollutants as it flows through the storm drain system – a network of channels, gutters, and pipes that collect rain and snowmelt. Eventually, the runoff empties untreated directly into local rivers and lakes. Pollutants in stormwater runoff, such as litter, pet waste, motor oil, paint, anti-freeze, pesticides, fertilizers, and toxic household chemicals, can have serious effects. They can contaminate 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 a decrease in the number of illegal discharge, dumping and spill event reports in the Santa Ana River watershed in San Bernardino County in 2017/18:

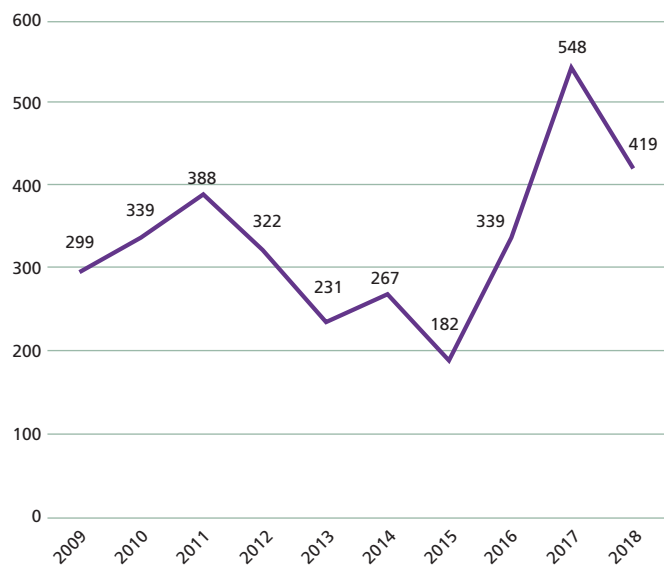
- There were 419 illegal discharge reports in 2017/18, the second highest in 10 years.
- While the number of reports varies from year to year, this year marks a 40% increase in reports since 2009.
- There were 134 illegal discharges requiring enforcement action, such as a notice of violation, fines, or verbal outreach and education. This equates to 32% of all illegal discharges reported.
- San Bernardino Areawide Stormwater Program members conducted 4,305 inspections of industrial and commercial facilities and construction sites in 2017/18. Of this total, 1,406 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, 2014-2018



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

## Illegal Discharge, Dumping and Spill Events in the Santa Ana River Basin (San Bernardino County portions), 2009-2018



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



## Graywater Program Conducts Survey and Increases Outreach

Graywater is the relatively clean water from baths, sinks, laundry, and kitchen appliances. County ordinance requires graywater to be kept on the property because discharge into the street can harm the environment and infrastructure. A 2018 survey of unincorporated areas in the Valley Region conducted by the County of San Bernardino Public Works NPDES team found that several neighborhoods have higher concentrations of graywater discharges. These neighborhoods also have higher amounts of illegal dumping. The NPDES team determined that many residents in these areas neither knew that these discharges are illegal nor understood California requirements, so an effort was made to increase awareness and education through updated flyers in both English and Spanish. The flyers encourage residents to use their graywater to water plants as a means of complying with the law.

### 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.

## Water Usage Rates Vary Dramatically Within the County

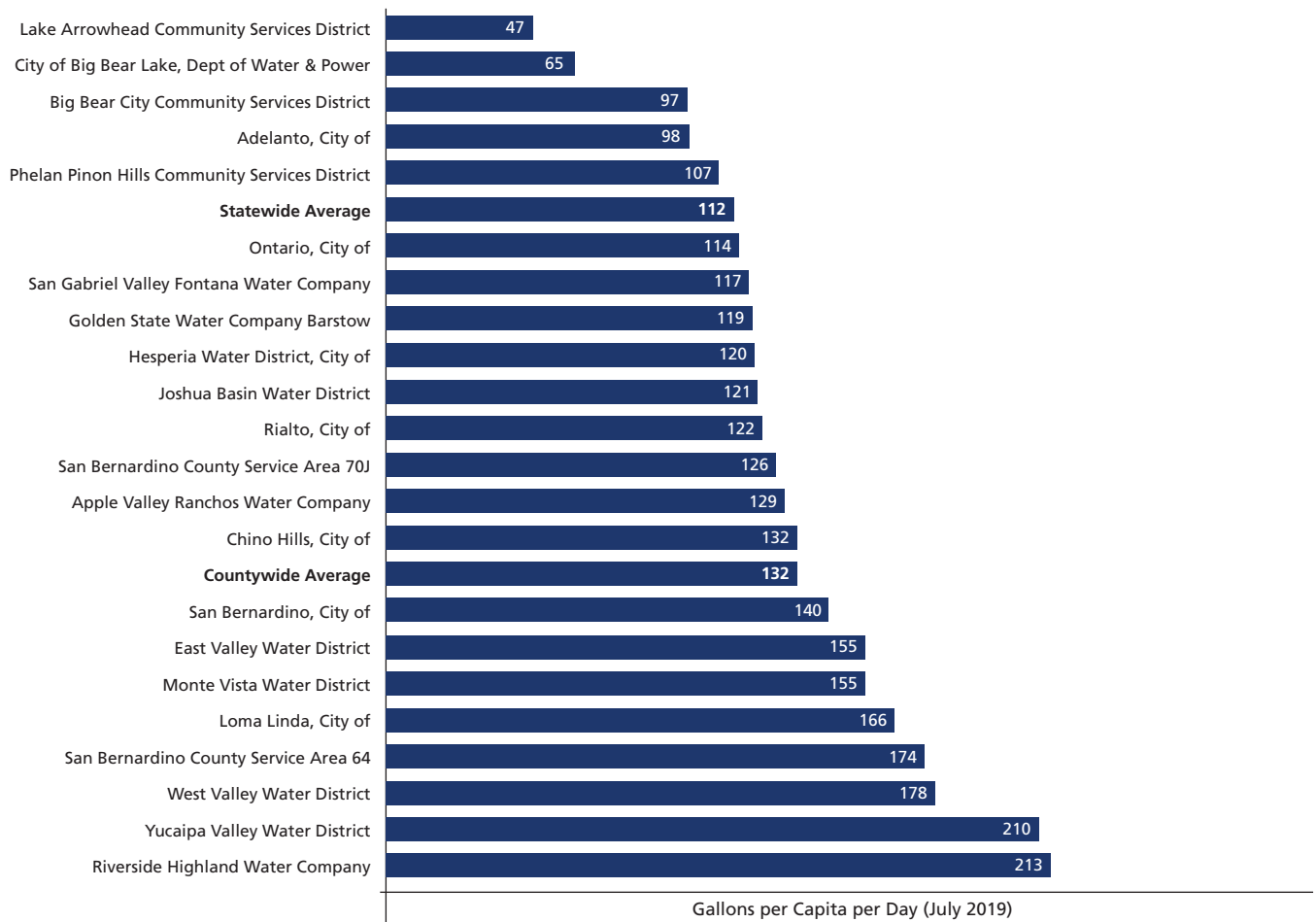
Given San Bernardino County’s arid climate, effective water management is essential to ensure that the county has an ample water supply now and in the future. Statewide mandatory urban water restrictions, which went into effect in July 2014 and were lifted in November 2017, imposed water usage limits 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> The water suppliers providing usage data serve approximately 1,450,000 county residents (or roughly 66% of the total San Bernardino County population).<sup>2</sup>

### How is San Bernardino County Doing?

San Bernardino County residents’ daily per capita water consumption is higher than the statewide average:

- On average, according to data by water districts reporting usage statistics, San Bernardino County residential consumers used an estimated 132 gallons per capita per day (GPCD) in July 2019.<sup>3</sup>
- This GPCD rate is above the statewide rate of 112 GPCD.
- The estimated average rate ranged from a low of 47 GPCD in Lake Arrowhead to a high of 213 GPCD in the Riverside Highland Water Company service area.
- Residential water usage can differ due to regional variations in climate, precipitation, land use, tourism, income, and local supplier water costs, usage regulations and conservation programs.

**Estimated Residential Gallons per Capita per Day**  
San Bernardino County Water Suppliers Reporting for July 2019



Note: This chart includes urban water suppliers serving San Bernardino County that have more than 3,000 connections. City of Chino, City of Colton, Cucamonga Valley Water District, City of Redlands, Twentynine Palms, Victorville Water District, and West Valley Water District did not submit July 2019 data to the State Water Resources Control Board.

Source: State Water Resources Control Board, June 2014 - July 2019 Urban Water Supplier Monthly Reports ([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. Countywide estimates are not comparable to previous presentations due to fewer water suppliers reporting in 2019.

<sup>2</sup> Population data are sourced to the State Water Resources Control Board and the California Department of Finance, Table E-1, January 2019

<sup>3</sup> The countywide GPCD average was calculated by averaging the GPCD rate for each supplier and is a rough estimate of countywide usage.