



Fact Sheet Region 8

Santa Ana Regional Water Quality Control Board

Overview

Although the smallest of California’s nine water quality control boards, the Santa Ana Region is one of the most densely populated, with over 5 million residents distributed over 2800 square miles of three counties, including most of Orange County, and some of the most populated portions of Riverside and San Bernardino Counties. The region encompasses well-known ski resorts in the San Bernardino mountains to sandy and popular beaches in Orange County. The Mediterranean climate is generally dry in the summer with wet mild winters. Average annual precipitation in the region ranges from 12-40 inches per year, occurring largely between November and March, with snow occurring in the higher elevation mountains.

The region’s two main rivers are the Santa Ana River and the San Jacinto River. The Santa Ana River originates in the San Bernardino Mountains flowing nearly 100 miles through San Bernardino, Riverside and Orange counties draining an area of 2,650 square miles, the largest coastal stream system in Southern California, eventually emptying into the Pacific Ocean in Huntington Beach. The Santa Ana River trail currently runs alongside the river for 50 miles, in two disconnected segments, although plans are to have one trail connecting Big Bear

Lake in the San Bernardino Mountains to Huntington Beach. The San Jacinto River, a major tributary to the Santa Ana, is ephemeral, flowing only during large storm events. The terminus of the San Jacinto River is typically Lake Elsinore during most storm events. When large storm events occur, Lake Elsinore spills to join the Santa Ana River via Temescal Creek.

There are a number of listed species of concern that are found within the region, including two bearing the region’s namesake -the Santa Ana River woolly star (a plant) and



Regional Facts

.....
Around 2,800 square miles in size

.....
22 miles of coastline

.....
25 square miles of lakes, ponds, and reservoirs

.....
Almost 3,100 miles of rivers and streams

.....
Two State Water Quality Protection Areas in coastal zone



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the Santa Ana sucker (a fish). Multiple management plans are in place to protect habitat and other species of concern.

The Santa Ana Region is also home to significant coastal water resources, including 22 miles of coastline, estuaries (e.g., Newport Bay, Upper Newport Bay Ecological Reserve, Anaheim Bay, Huntington Harbour, Bolsa Chica Ecological Reserve), and two State Water Quality Protection Areas (i.e., Newport Beach Marine Life Refuge and Irvine Coast Marine Life Refuge).

The Santa Ana Region is a leader in recycled water use, with more than 200,000 acre-feet per year of water recycled in 2015 through a number of facilities. As a result, salt and nutrient management are top priorities. The region is home to a 100-mile long pipeline that removes brine out of the watershed to the Orange County Sanitation District (OCSD) for treatment before being discharged to the ocean.

Surface flow of the Santa Ana River, comprised of more than 93 million gallons per day (mgd) of treated wastewater effluent from Riverside and San Bernardino counties, recharges the Orange County Groundwater Basin. Around 100 mgd of

treated wastewater from OCSD is sent to Orange County Water District's (OCWD) world-famous Groundwater Replenishment System (GWRS) where it undergoes purification in a three-step process and is then added back to the groundwater basin. North and central Orange County communities are able to meet approximately 75% of their water demands from the groundwater basin while imported water accounts for the other 25%.

The Santa Ana Region is also home to one of the world's largest anaerobic digester facilities. The design of the Perris CR&R Environmental Services' facility includes the processing of pre- and post-consumer food, landscape, and green waste, to convert them to fertilizer and renewable natural gas. At the same time, the facilities provide a potential means for cities to reduce their carbon emissions and conserve landfill capacity.

The region's population density and resulting land use activities affect its water resources. Many of the region's surface water bodies are included on the Clean Water Act Section 303(d) List of Impaired Waters because beneficial uses are degraded by excessive nutrients, excessive bacterial levels, and contamination due to legacy pesticides usage.

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Vision and Goals for Monitoring

SWAMP's mission is to provide resource managers, decision-makers, and the public with timely, high-quality information and tools needed to evaluate the condition of surface waters throughout California. The primary goal for SWAMP in the Santa Ana Region is to provide the necessary data and information to protect and assess beneficial uses.

Regional SWAMP monitoring objectives include:

- Collecting data to use for the State's 303(d) and 305(b) integrated report process.
- Integrating bioassessment in regional monitoring programs.
- Expanding and improving upon the existing causal assessment framework.
- Assessing the ecological integrity of surface waters.
- Coordinating with internal and external stakeholders to ensure the comparability of data.
- Communicating information to internal and external stakeholders, and the general public.

Program Activity

During the initial years of SWAMP, the Santa Ana Region focused on expanding the assessment of 303(d) listed waterbodies, specifically Anaheim Bay, Huntington Harbour, and Lake Elsinore by collecting hundreds of sediment and toxicity samples. In recent years, the Santa Ana Region has used the allocation of SWAMP funds to:

- Assess the biological condition of over 1700 km of wadeable streams throughout the Region following the SWAMP bioassessment protocol for benthic macroinvertebrates (2006-2011).
- Collaborate with the Southern California Stormwater Monitoring Coalition's (SMC) regional probabilistic monitoring and assessment program, to include additional indicators (such as diatoms, soft algae, riparian wetlands, hydromodification surveys, microcystins, water and sediment toxicity) in order to supplement the information obtained at each bioassessment monitoring site (2009-present).
- Revisit 91 bioassessment stream sites and calculate whether the biological condition of the sites improved or declined (2012-2015).
- Coordinate with other regions and agencies to develop and implement bioassessment monitoring at depressional wetland sites (2011-2017).

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- Work with the Southern California Coastal Water Research Project (SCCWRP) and local stakeholders to develop a new method for selecting comparator sites and conduct a casual assessment of a 1.4-mile ling reach of San Diego Creek in the Woodbridge area (2014-2017).
- Supplement monitoring for the Newport Bay Watershed Bioaccumulation Trend Monitoring Program (2014-2017).
- Work with SCCWRP to conduct a study of harmful algal blooms in Lake Elsinore and Canyon Lake (2015-2017).
- Develop stream periodicity models in the Santa Ana Region to better map ephemeral streams and to predict flows throughout the watershed (2015-2017).

Collaborative Efforts

The Santa Ana Region coordinates with both the San Diego and Los Angeles Regional SWAMP staff, as well as with SCCWRP, in order to provide consistency with monitoring and in the development of new methods and protocols that southern Cali-

fornia agencies can use to meet existing management measures. The Santa Ana Region SWAMP staff also works with staff from the Stream Ecology and Assessment Laboratory at California State University Long Beach to perform bioassessment monitoring and participates in the SMC's regional bioassessment monitoring along with a number of southern California stormwater permittees. Through these regional partnerships, we understand and value the cooperation and collaboration of the many stakeholders.

For More Information on SWAMP in the Santa Ana Region,
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*The methods used to obtain the "Regional Facts" statistics can be found at: [Calculations for Regional Facts](#)