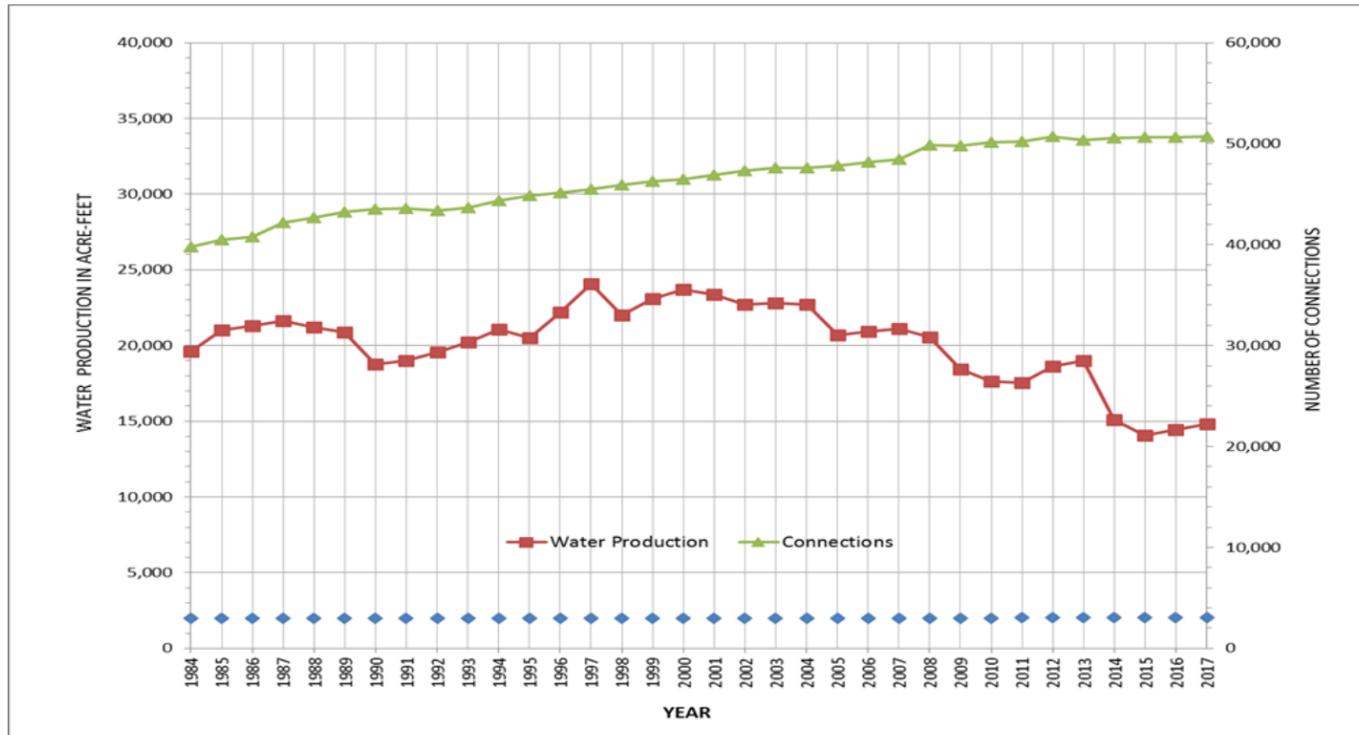


## Water Quality

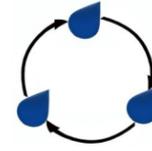
- County staff continue to work with the State, City of Capitola, and the County Sanitation District to implement projects and conduct monitoring to assess public health threats, reduce bacterial contamination, and improve beach water quality.
- County staff continued to participate with the City of Santa Cruz, Save the Waves Coalition, Surfrider Foundation, and the Sierra Club in the Cowell Beach Working Group to better understand and control the elevated bacteria levels at Cowell Beach. Previous City improvements have eliminated any significant sources of human contamination. In 2016, the City installed pigeon exclusion fencing under the wharf. Since then, bacteria counts were far less than in previous years, and the number of days of posting was significantly reduced.
- County staff continue to work with the City of Watsonville to monitor harmful algae blooms in Pinto Lake. The Resource Conservation District (RCD) completed work on a sediment basin on one of the tributaries to the Lake, while the City implemented an alum treatment to reduce internal nutrient loadings that drive cyanobacteria blooms.
- County staff maintain ongoing efforts for water quality protection through septic system management, monitoring, and investigation. Properly functioning onsite sewage systems are a good method of groundwater recharge and contribute to approximately 14% of the San Lorenzo River's summer baseflow.



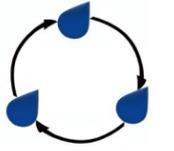
This table provides information on the water used by the residents Santa Cruz County in 2016

Water Supplier	Population	Water Use acre-feet/yr	Ground water	Surface Water	Other
City of Santa Cruz Water Dept.	96,142	7,856	6%	94%	
City of Watsonville Water Division	65,966	6,640	97%	3%	
Soquel Creek Water District	40,404	3,090	100%		
San Lorenzo Valley Water District	25,485	1,862	41%	59%	
Scotts Valley Water District	10,509	1,268	87%		13%
Central Water District	2,700	381	100%		
Lompico Creek Water District	1,300	66	60%	40%	
Big Basin Water Company	1,680	135	95%	5%	
Mount Hermon Association	1,283	141	100%		
Forest Lakes Mutual Water Company	1,076	41	100%		
Smaller Water Systems (5-199 con.)	7,157	770	77%	14%	9%
Individual Users (estimate)	21,000	2,630	95%	5%	
Agriculture		24,830	92%	1%	7%
<b>Totals</b>	<b>274,702</b>	<b>49,710</b>			

The County of Santa Cruz, Regional Water Management Foundation and the Santa Cruz Local Agency Formation Commission (LAFCO) present:



# Connecting the Drops Working Together for Water



## Santa Cruz County Water Status Report

[www.santacruzirwmp.org/DROPS](http://www.santacruzirwmp.org/DROPS)

Santa Cruz County continues to address major water resource challenges. Most of the County's groundwater basins have historically been pumped in excess of sustainable yield and the major water supply agencies do not have sufficient supplies to meet current and future demand. Historic coho salmon and steelhead populations have been greatly diminished by reductions in streamflow, increased erosion and sedimentation, barriers to migration, and removal of large woody material from streams. Water quality has been degraded by urban runoff, leaky sewer systems, and failed septic systems. The natural benefits of wetlands, floodplains, riparian corridors, and groundwater recharge areas have been significantly diminished by land development and agricultural use. The effects of climate change are expected to increase the challenges by increasing rainfall intensity and flooding, reducing groundwater recharge, and increasing irrigation water demand. The County and its partner agencies continue to conduct a range of efforts to address these and other water resource challenges. Following is a summary of topic areas of 2017 water resource management:

### Groundwater Management

- Agencies within the County are pursuing sustainability as required by the Sustainable Groundwater Management Act of 2014 for the three major groundwater basins in the County as follows:
  - Santa Cruz Mid-County Groundwater Agency (MGA) is a Joint Powers Agency (JPA) consisting of the County, City of Santa Cruz, Soquel Creek Water District and Central Water District. The governing board includes three private well representatives and two representatives from each agency. In 2017, the MGA formed an Advisory Committee comprising representatives from various interest groups in the Basin, tasked with analyzing groundwater sustainability questions and making policy recommendations to the MGA Board. More information is available at [www.midcountygroundwater.org](http://www.midcountygroundwater.org).
  - The Santa Margarita Groundwater Agency (MGA) is a JPA consisting of the County, Scotts Valley Water District, and San Lorenzo Valley Water District. The governing board includes two private well representatives, two representatives from each partner agency, and one representative each from the City of Scotts Valley, the City of Santa Cruz, and the Mount Hermon Association. More information is available at [www.smgwa.org](http://www.smgwa.org).
  - The Pajaro Valley Water Management Agency (PV Water) is the designated Groundwater Sustainability Agency for the Pajaro Valley Basin within the current Agency boundaries. More information is available at [www.pvwma.dst.ca.us](http://www.pvwma.dst.ca.us).
- In May 2017, the MGA organized a project to map seawater intrusion in the groundwater aquifers immediately offshore of the Mid-County area. They collected and recorded geophysical measurements with a low-flying helicopter, using technology originally used in Denmark. The system collected measurements needed to identify where the offshore underground freshwater/saltwater interface occurs, essential information for understanding the risk to coastal wells from seawater intrusion. The results of this work are expected to be available in early 2018.



SANTA MARGARITA  
Groundwater Agency



REGIONAL WATER  
MANAGEMENT FOUNDATION



Pajaro Valley  
Water Management Agency



## Water Supply and Conservation

- 2016-2017 brought the highest rainfall the region has seen in two decades. Water use remained significantly below the pre-drought levels due to the reduced irrigation demand and permanent water conservation measures such as plumbing upgrades and landscaping that many residents implemented during the drought.
- Countywide water use has steadily declined since 2000 even as the population has grown (see figure on back). Despite a significant decline of inland groundwater levels early in the drought, coastal groundwater levels actually came up during the drought as a result of the very substantial conservation efforts. In 2017 groundwater levels in the Pajaro Valley recovered to levels observed in 2011 before the drought, but a significant part of the basin still had groundwater levels below sea level.
- All the large public water systems as well as the County participate in the Water Conservation Coalition of Santa Cruz County to increase outreach and education to the public. Due to local dependence on groundwater, one wet year will not solve the water deficit problems. More information at: [www.watersavingtips.org](http://www.watersavingtips.org).
- The Soquel Creek Water District has maintained the Water Demand Offset (WDO) program which allows new development to proceed without increasing demand on the groundwater basin. The WDO Program requires developers to fund a reduction in existing water use and/or increase in supply amounting to 200% of their projected new water use, thus having a net positive effect on the groundwater basin.
- The City of Santa Cruz Water Department and Soquel Creek Water District are continuing to work towards an initial effort to reduce groundwater pumping from the Mid-County Basin by providing excess winter surface water supply from the City to the District. The agencies are currently investigating the possible impacts that introducing surface water into the District distribution system could have on the pipes.
- The City of Santa Cruz Water Department is investigating the possibility of developing an Aquifer Storage and Recovery (ASR) program which would inject treated surface water into the Santa Margarita, and/or the Mid-County basin to increase storage. The intent would be to withdraw the water during drought years with decreased surface water use. ASR is estimated to take 6-12 years before implementation, though there is a “go, no-go” decision point after the next phase of feasibility testing.
- Soquel Creek Water District is pursuing its “PureWater Soquel” project to recharge purified recycled water into the Mid-County Basin to address the overdraft. This project would yield 1500 acre-feet per year (af/yr). The Environmental Impact Report will be released in 2018.
- The City of Santa Cruz Water Dept. and Scotts Valley Water District both completed feasibility studies for various options to utilize recycled water to further augment water supplies. Scotts Valley will continue to utilize recycled water for landscape irrigation and Santa Cruz will pursue several irrigation projects. Purification for indirect potable reuse was not considered to be cost-effective for those entities at this time.
- The County received a grant from the Wildlife Conservation Board to develop a San Lorenzo Watershed Conjunctive Use and Baseflow Enhancement Plan in partnership with the San Lorenzo Valley Water District. The Plan will be used to improve water supply reliability and increased summer stream flows in the immediate future, and recommend further infrastructure improvements needed in the long run.
- The County, City of Santa Cruz, San Lorenzo Valley Water District, and Scotts Valley Water District recently signed a Memorandum of Agreement to work together on exploring conjunctive water use options in the San Lorenzo Watershed and Santa Margarita Groundwater Basin. These efforts will explore many ways to utilize excess surface water when available to increase groundwater storage and dry season stream flow.
- PV Water initiated the next steps to implementing its Basin Management Plan by meeting with community members to provide information on the College Lake Project, which will provide 2400 acre-feet per year of new water supply. PV Water has applied for water rights and initiated the environmental review process for the project. PV Water is close to completing a grant funded project to provide 1.5 million gallons of additional storage of recycled water at the Watsonville Treatment Plant. PV Water is also implementing programs to encourage water conservation, land fallowing and increased groundwater recharge.
- Pasatiempo Golf Club completed a recycled water project that will utilize treated wastewater from Scotts Valley for golf course irrigation and significantly reduce their demand for City of Santa Cruz potable water. This project was entirely funded by Pasatiempo.
- Santa Cruz County partner agencies continue to work together on integrated regional water management (IRWM), with the Regional Water Management Foundation (RWMF) serving as a hub for the 12 agencies.
- The state has recently made available IRWM grant funds to further evaluate and address the water needs of disadvantaged communities in the Central Coast region, including the Santa Cruz and Pajaro regions.

## Stormwater, Recharge, Flood Management, and Climate Change

- County staff worked closely with representatives from the four cities, the RCD, Ecology Action, and UCSC to write a Storm Water Resources Plan, which is required to receive certain grant funds. In spring 2017 the County received the letter of approval from the State Board accepting the document: <http://www.santacruzirwmp.org/resources/swrp>.
- Dr. Andrew Fisher from UCSC has completed work with the Resource Conservation District on a Managed Aquifer Recharge (MAR) Suitability Study. MAR is a landscape management strategy that can help reduce aquifer overdraft by facilitating stormwater capture and infiltration into the aquifer. The results from the study include recharge suitability maps that identify possible recharge projects based on a number of factors.
- The County and Soquel Creek Water District are partnering with the State Water Board to pilot a project to use DualEM geophysical survey equipment to assess potential recharge locations initially identified through the MAR suitability maps. The device measures the electrical resistivity at different depths to provide a detailed evaluation of subsurface conditions. In November 2017, nine locations in and around the Mid-County Basin were surveyed with the DualEM equipment. The results will allow prioritization of the most promising sites and rule out sites with lower recharge potential.
- The Resource Conservation District, UCSC, and PV Water have started the Recharge Net Metering program. This is a unique 5-year pilot program that provides a financial incentive to landowners in the form of a rebate issued by PV Water for building a managed aquifer recharge (MAR) system on their property.
- The County, City of Watsonville, and other entities continue to pursue implementation of a project with the Army Corps of Engineers to significantly upgrade the flood conveyance system to provide an adequate level of flood protection for the Pajaro River, Salsipuedes Creek, and Corralitos Creek. The draft General Reevaluation Report and Environmental Assessment were completed by the Corps of Engineers and released in November 2017 for public review and comment.

## Watershed Health and Aquatic Habitat

- 2017 was a big year for high runoff, landsliding and flooding, with substantial damage to public roads and private property. The San Lorenzo River discharged approximately 400,000 tons of sediment to Monterey Bay, as estimated by the US Geological Survey. However, the sediment load in 2017 was less than half the load produced by comparable flows in 1982-83, indicating a significant improvement in watershed conditions.
- Staff continued to work with water agencies to maintain annual sampling of stream habitat and juvenile salmonids in four watersheds: San Lorenzo, Soquel, Aptos and Pajaro. In 2017, steelhead numbers increased significantly as a result of good stream flow, after four years of drought. Environmental Health is completing a database and an interactive website to manage and display the results of fish monitoring efforts that were started by the County in 1981.
- County staff continued to implement the Large Woody Material Management Program to maintain large wood for habitat value in County streams without increasing flood risks or jeopardizing public safety.
- The County's Fishery Resource Planner partnered with California Department of Fish and Wildlife and the Monterey Bay Salmon and Trout Project to conduct a fish rescue on Corralitos Creek. In one day, 660 young steelhead were moved from a drying section of Corralitos Creek to better habitat further upstream.
- The Resource Conservation District received a grant to investigate the possibility of offstream storage and other methods for property owners along Soquel Creek to reduce dry season stream diversions. Several new stream gages have been installed along the creek to monitor flows.

## Small Water Systems

- County staff continue to assist and oversee 110 small water systems with 5 to 199 connections to maintain compliance with public health standards. This includes regulation of water quality, quantity, treatment, distribution, water system organization, and evolving compliance requirements.
- The County is tracking water use information based on the 2015 requirements for metering and reporting by all small water systems. This provides information for assessment of rural water use and provides the County and the water systems with tools to identify and reduce excessive water use. As a result of this new information, the calculated water use of small water systems and rural properties was reduced by 25% and 18% respectively, from previous estimates.
- County staff continues to hold the Small Water Systems Forum to help build technical, managerial, and financial capacity among the small water systems within the community.