



**Sonoma  
Water**



# 2021 Annual Report

**Clean.  
Reliable.  
Essential.  
Everyday.**



# WELCOME



**Susan Gorin**  
*District 1*



**David Rabbitt**  
*District 2*



**Chris Coursey**  
*District 3*



**James Gore**  
*District 4*



**Lynda Hopkins**  
**Chair**  
*District 5*

## MESSAGE FROM LYNDA HOPKINS, CHAIR, BOARD OF DIRECTORS, SONOMA WATER

Throughout 2021 our county faced challenges on numerous fronts: We continued the fight against the deadliest pandemic of our time; prepared for the perennial threat of wildfire; and tightened our collective belt against one of the worst droughts on record. As the chair of the Sonoma County Board of Supervisors and the Sonoma Water Board of Directors, I am proud of the work we have done in response to these challenges, and the plans we have to respond and adapt to the greatest threat of our time – climate change. If there was a silver lining to 2021 it was that our county did not experience a major wildfire. But we know that there will be major fires in our future, just as we know there will be longer droughts and more severe weather.

I had the privilege of attending the COP26 — the 26th United Nations Conference of Parties on Climate Change – in Glasgow last year and I experienced a mix of emotions, from hope and inspiration to dread. There is so much work to do on climate change and the frustration over the pace at which change is occurring can be overwhelming. But here is where we can replace the dread with determination.

There are plenty of things we can do locally to solve the problem. We — state and local governments, research institutions, activists and stewards of the land — are already at work. And the more we come together, the more we share solutions in real time, the more we can accomplish before it's too late.

The Sonoma Water Board was proud to adopt its first Climate Adaptation Plan this year, which gives us a road map for adapting to a changing climate and the inevitable impacts. Few things are more important than identifying the risks and vulnerabilities to our critical water and wastewater infrastructure, and adopting strategies to protect those facilities from the impacts of a changing climate.

Sonoma Water has been a leader in local climate change response, from the germination of Sonoma Clean Power to its successful Carbon Free Water initiative. As the outgoing chair of the Sonoma Water Board of Directors, I am encouraged by the progress we have made to address climate change and I hope we continue to make that a priority. I appreciate the dedicated Sonoma Water staff for their persistence in helping our community address the most important issue of our time.

On behalf of the Sonoma Water Board of Directors, I'd like to thank Sonoma Water staff for their service to our community and thank our community for allowing us to serve you.

Respectfully,

**Lynda Hopkins**

Chair, Sonoma Water Board of Directors

## MESSAGE FROM GRANT DAVIS, GENERAL MANAGER, SONOMA WATER



**Grant Davis**  
*General Manager*

We are truly living in unprecedented times. Looking back on 2021, we can take stock of the significant challenges we faced as well as our accomplishments. We lived through a full calendar year with the effects of the COVID pandemic. This ongoing tragedy had a profound impact on our organization and our broader community. I am quite proud of how Sonoma Water staff responded to this crisis by staying focused on the important work required to keep clean reliable drinking water flowing to over 600,000 residents of the North Bay. Throughout the year we continued to make sure our wastewater was treated and made flood control and stream maintenance a priority. Simultaneously, we faced the second year of severe drought that revealed – once again – our reliance on local rainfall for water supply. Last year the specter of climate change and increasing weather extremes motivated us to redouble our efforts to address the impacts and adapt to a rapidly changing climate.

Facing these obstacles has become an all-too-familiar exercise for all of us, and Sonoma Water is no different. Just as our North Bay community has coped with multiple natural disasters in recent years, the Sonoma Water team has endured and excelled in carrying out its mission despite floods, fires, drought and pandemic.

In response to another year of severe drought, our water customers responded to calls for conservation and wise water use and we met and exceeded the state's requirement to reduce diversions from the Russian River by 20%. While we are cautiously optimistic following some storms in late 2021, we will continue to encourage our customers to conserve water every day and protect our precious water supply.

Our Board of Directors adopted Sonoma Water's first Climate Adaptation Plan that provides a roadmap for the agency as it navigates the impacts of climate change on its infrastructure and operations. The plan identifies threats to the agency's water supply, flood control, and sanitation infrastructure and operations and develops adaptation strategies to reduce vulnerabilities and risks that will be exacerbated by climate change. Increased temperatures and highly variable rainfall will result in extreme droughts and floods, in addition to increased wildfire intensity and sea-level rise. This kind of resiliency and planning is one of the trademarks of Sonoma Water. Our staff's preparedness and their willingness to persevere stand out as we look back on the past year.

I want to recognize the Sonoma Water Board of Directors for its continued leadership throughout another challenging year and our staff for extraordinary resilience. In addition, I want to acknowledge our partners, customers and community for their resilience and their commitment to water conservation and the many other contributions they make in support of our mission.

# A timeline of the 2021 Drought



**January 7**  
Sonoma Water files a Temporary Urgency Change Petition requesting that water supply conditions for the Upper Russian River be changed from inflow into Lake Pillsbury to storage at Lake Mendocino

**February 7**  
State Water Resources Control Board issues an order approving Sonoma Water's petition



**April 21**  
Governor Newsom proclaims a regional drought emergency and provides emergency drought assistance to Russian River Watershed with executive order



**March 14**  
Sonoma Water social media campaign includes water supply infographics on a weekly basis to education public on declining reservoirs levels



**October 9**  
"Drought Drop By" - More than 10,000 water saving kits distributed to date

**September 15**  
A virtual Drought Town Hall is hosted by Sonoma County Supervisor and Sonoma Water Director David Rabbitt

**October 22**  
State Water Resources Control Board issues an amended order. It requires Sonoma Water customers that are urban water suppliers to implement the appropriate stage of Water Shortage Contingency Plans

**October 7**  
Santa Rosa Plain Drought Resiliency Project -Todd Road well online providing additional drinking water to cities and water districts in the North Bay



**September 30**  
The watershed experienced a second water year of extremely dry weather conditions. A water year begins of October 1 and ends on September 30th of the following year



**October 24**  
Atmospheric River hits the North Bay. Water stored in Lake Sonoma increases by 13,000 acre feet and in Lake Mendocino by 4,000 acre feet

**November 16**  
Sonoma Water files Temporary Urgency Change Petitions with the State Water Resources Control Board Division of Water Rights requesting a change in the hydrologic index used to establish the water supply conditions in the Russian River watershed



**May 14**

Sonoma Water files a new Temporary Urgency Change Petition requesting that storage in Lake Mendocino be used to determine the water supply condition for the Russian River

**May 18**

Sonoma County Board of Supervisors/Sonoma Water Board of Directors approve \$400,000 to implement an emergency Santa Rosa Plain well project

**April 27**

Sonoma County Board of Supervisors declares a local drought emergency



**May 21**

Sonoma Marin Saving Water Partnership launch campaign to customers emphasizing the need to save water by highlighting actions to reduce water use and improve efficiency

**June 3**

A virtual Drought Town Hall is hosted by Sonoma Water and Board of Supervisors Chair Lynda Hopkins and Supervisor and Sonoma Water Director James Gore



**August 21**

“Drought Drop By” held at 13 locations throughout the three counties. In August, Sonoma County Board of Supervisors adopt a resolution calling for 20% voluntary water conservation.



**June 12**

“Drought Drop By” event in Sonoma, Marin and Mendocino counties. Residents pick up free water saving kits and information



**August 27**

Lake Mendocino falls below 20,000 acre-feet (AF) of storage, falling short of a water conservation goal established to maintain adequate downstream flows for fisheries and human health and safety needs for municipal users

**June 14**

State Water Resources Control Board issues an order approving Sonoma Water’s May petitions. State Board requires Sonoma Water to reduce its Russian River diversions by 20% from July 1 to December 11

**December 10**

State Water Resources Control Board issues a new order that approved the requested changes of the TUCPs

**December 23**

Sonoma Water awarded close to \$9 million from the California Department of Water Resources to make our water supply system more resilient. The funds will assist with developing planning efforts in the Russian River watershed to address drought conditions and climate change



# WATER SUPPLY

## WATER SUPPLY UPDATE

### RAINFALL IN SANTA ROSA:

OCTOBER 2020-2021 Average:  
(1950-2020 water years)



30.71"

Current Water Year:  
(42.07% of average)



12.92"

### RAINFALL IN UKIAH:

OCTOBER 2020-2021 Average:  
(1894-2020 water years)



36.86"

Current Water Year:  
(34.15% of average)



12.59"

### LAKE SONOMA STORAGE:

LEVELS ON 9/30/2021  
Target Storage Curve:



245,000  
acre-feet

Current Storage:  
(44.64% of Water Supply  
Pool)



109,356  
acre-feet

### LAKE MENDOCINO STORAGE:

LEVELS ON 9/30/2021  
Target Storage Curve:



64,342  
acre-feet

Current Storage:  
(23.51% of Target)



15,130  
acre-feet

## FORECAST INFORMED RESERVOIR OPERATIONS

**In its seventh year, the Lake Mendocino Forecast Informed Reservoir Operations (FIRO) program continued to make great strides in 2021 by demonstrating the viability of this innovative strategy to more effectively operate reservoirs using modern technology and forecasting skill.** This nationally recognized demonstration project involves several state and federal agencies in collaboration with Sonoma Water to assess the viability of FIRO at Lake Mendocino. The program is co-led by Jay Jasperse (Sonoma Water) and Dr. Marty Ralph (Scripps Center for Western Weather and Water Extremes) with a steering committee that includes the U.S. Corps of Engineers (USACE), National Oceanographic and Atmospheric Administration (National Weather Service, Office of Atmospheric Research, and National Marine Fisheries Service), Bureau of Reclamation, and California Department of Water Resources.

In 2021, Lake Mendocino was operated under a Major Deviation that was approved in 2020 to implement FIRO on an interim basis for 5-years. Because 2021 was one of the driest years on record, storage in the lake never reached levels needed to implement FIRO. However, the additional 12,800 ac-ft of water stored in 2020 due to the Major Deviation in place for that year was critical to providing water to release from the reservoir for fisheries, recreation and consumption. Without this water the reservoir would have come close to going dry as it reached a near record low level of 12,900 ac-ft in October. Early season atmospheric river (AR) in late October provided needed inflow and added storage to Lake Mendocino. ARs continue to come in and we will be using the tools developed under FIRO to help the Corps operate with a full reservoir.

Sonoma Water has also been assisting the Center for Western Weather and Water Extremes (CW3E) with other FIRO projects throughout the state including Prado Dam on the Santa Ana River, Lake Oroville on the Feather River, and New Bullards Bar on the Yuba River. This support has included the development of water control plans that are designed to utilize forecast information that allow water managers to operate reservoirs with higher water levels while maintaining needed flood storage capacity by strategically prereleasing water in advance of forecasted storms. With Sonoma Water's assistance the Prado Dam FIRO Steering Committee completed a preliminary viability assessment (PVA) in spring of 2020 that demonstrated that FIRO is viable for that reservoir as well. Sonoma Water is currently supporting the development of a PVA for Lake Oroville and New Bullards Bar. These are much larger reservoirs: Lake Oroville is 32 times the size of Lake Mendocino (3.55 million ac-ft) and New Bullards Bar is nine times the size of Lake Mendocino (1 million ac-ft). Results for these systems look very encouraging and FIRO may even be viable for these much larger reservoirs. Next the team of CW3E scientists and Sonoma Water engineers will be embarking on a study to evaluate FIRO for Howard Hanson Dam near Seattle.

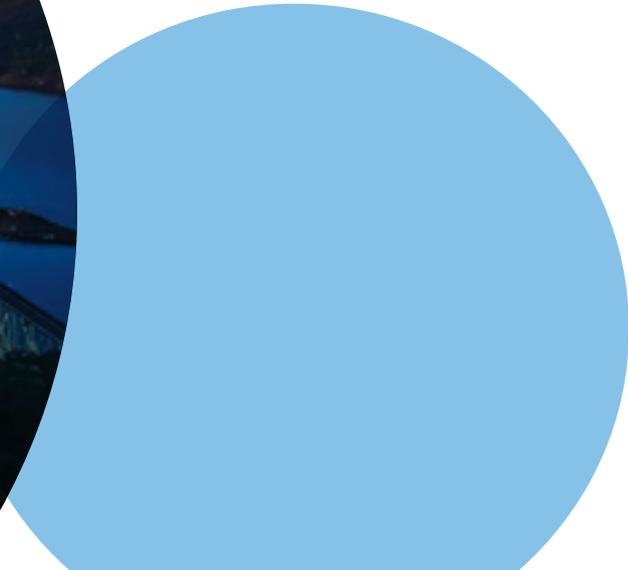
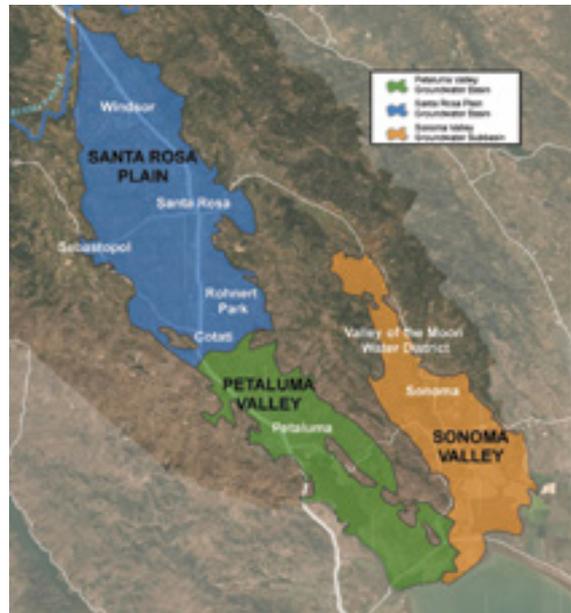
## GROUNDWATER

**In December 2021, the Boards of Directors of Sonoma County’s three Groundwater Sustainability Agencies (GSAs) unanimously approved Groundwater Sustainability Plans (GSPs) for each basin. The adoption of the GSPs for the Petaluma Valley groundwater basin, the Santa Rosa Plain subbasin, and the Sonoma Valley subbasin capped three years of intensive work. Between April 2018 and December 2021, the three GSA Boards met a total of 73 times, the three GSA Advisory Committees met 86 times and 13 community workshops were conducted.**

In compliance with the Sustainable Groundwater Management Act (SGMA), the GSPs define sustainability for each basin and include projects and management actions to achieve or maintain sustainability through 2042. In early 2022, the GSPs will be submitted to the California Department of Water Resources, which has two years to approve the plans. However, implementation of the GSPs will begin immediately and the GSAs will be conducting fee studies and actively seeking grants to cover implementation costs.

To learn more about the GSA, visit:

- [▶ www.petalumavalleygroundwater.org](http://www.petalumavalleygroundwater.org)
- [▶ www.santarosaplaingroundwater.org](http://www.santarosaplaingroundwater.org)
- [▶ www.sonomavalleygroundwater.org](http://www.sonomavalleygroundwater.org)



## WATER USE EFFICIENCY

**Sonoma Water and the Sonoma-Marín Saving Water Partnership (Partnership), consisting of 12 water retailers and Sonoma Water, work together on water use efficiency programs to enhance water supply and resiliency, and to meet statewide water efficiency goals. The year 2021 marked the final compliance date for the State’s 20x2020 goal to reduce per capita use by 20 percent.**

The Partnership’s per capita water use finished at 113 gallons per day (as calculated using 2020 data), well below the State’s 20x2020 goal of 129 gallons per person per day and down 31% from its peak of more than 163 gallons per person per day in 1997. Sonoma Water and the Partnership will continue to offer programs to lower water use as the state completes the new water-use efficiency standards of the statewide conservation framework to make conservation a California way of life.



In response to a severe multi-year drought, Sonoma Water and the Partnership implemented a year-long outreach campaign in 2021 to save water and to meet the goal of reducing Russian River diversions by 20 percent as required by a State Board Order. More than 10,000 drought kits were distributed during three Drought Drop By events. Kits included a bucket with water-saving devices such as high-efficiency showerheads and faucet aerators. A Saving Water Challenge in the summer relied on trusted community messengers to share water saving tips and encourage taking actions to use less water. The Partnership launched a redesigned website featuring up-to-date drought information, water-saving tips, and new resources like an irrigation scheduling tool and regional water-smart plant database. By late fall, the Partnership had achieved a 23 percent reduction in Russian River diversions, helping preserve reservoir storage levels through the peak summer months.

In spite of ongoing challenges due to the COVID pandemic, Sonoma Water’s management of regional programs on behalf of the Partnership continued to be successful. The annual Eco-Friendly Garden Tour was again held, virtually attracting over 3,400 online visitors, while the Garden Sense program, a collaboration with the University of California Master Gardeners of Sonoma County, returned to offering in-person landscape consultations to residents looking to reduce landscape water use. The Garden Sense program completed a record number of visits in 2021, with more than 285 households participating. The Qualified Water Efficient Landscaper (QWEL) program continued to offer classes online to landscapers interested in certification in efficient water management practices, earning the program its fifth consecutive Sustained Excellence Award from the US Environmental Protection Agency’s WaterSense Program.

To learn more about the Partnership and its programs, visit

 [www.savingwaterpartnership.org](http://www.savingwaterpartnership.org)



## REPLACEMENT OF RUBBER DAM ON RUSSIAN RIVER

**This summer Sonoma Water replaced the inflatable rubber dam located just downstream of the Wohler Bridge on the Russian River near Forestville.**

The rubber dam is a critical component of the Russian River water supply system that provides naturally filtered drinking water to more than 600,000 residents in portions of Sonoma and Marin counties. It was last replaced in 1995 and had reached the end of its structural integrity.

The rubber dam is typically inflated in spring or early summer when demand for potable water increases. When fully inflated, the rubber dam creates a pool of water from which Sonoma Water draws water for use in four off-stream infiltration ponds. The infiltration ponds help recharge groundwater, which is naturally filtered through sand and gravel and delivered to Sonoma Water's customers.

When the rubber dam is raised, a permanent fish ladder provides fish passage and allows Sonoma Water to count the migration of adult salmon and steelhead with its underwater video system located in the fish ladder.





## WASTEWATER TREATMENT

### SONOMA VALLEY COUNTY SANITATION DISTRICT

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**The Sonoma Valley County Sanitation District (SVCS D) continued free residential video inspections and smoke testing of sewer laterals this year. The sewer lateral is the pipe that leads from homes or businesses to the sewer main. Leaking private sewer laterals are often one of the main sources of inflow and infiltration, (commonly referred to as I&I), that is treated by SVCS D at its treatment facility.**

I&I is usually a result of leaky or deteriorating laterals and sewer main lines, which allow groundwater and stormwater to seep into pipes, increasing the amount of water flowing to the wastewater plant for treatment. Additional water from I&I increases the pumping and sewage treatment cost for the wastewater treatment plant.

Many of the sewer lateral pipes are 30 years or older and are at risk for leaking raw sewage into the ground, causing plumbing problems in your home or business and contributing stormwater inflow to the sewer system during wet weather. An estimated two-thirds of the sewer laterals in Sonoma Valley are at least 30 years old and likely in need of repair.



# FLOOD PROTECTION & STREAM MAINTENANCE SERVICES

## FLOOD CONTROL WORKS

Coyote Valley Dam (Lake Mendocino), Warm Springs Dam (Lake Sonoma), Central Sonoma Watershed Project, and Laguna de Santa Rosa.

## CENTRAL SONOMA WATERSHED PROJECT FACILITIES

Santa Rosa Creek Reservoir (Spring Lake), Matanzas Creek Reservoir, Piner Creek Reservoir, Brush Creek Middle Fork Reservoir.

## STREAM MAINTENANCE

Sonoma Water maintains 75 miles of flood control channels and has easements for maintenance on 150 miles of creeks.

Acres grazed:



121.55

Cubic yards of vegetation material removed:



4,188

Pounds of trash removed:



73,010

Miles of creek maintained:



6.25

## BIOLOGICAL OPINION

**The Russian River Biological Opinion directed Sonoma Water and U.S. Army Corps of Engineers to build habitat along six miles of Dry Creek. The 2021 construction season saw the completion of the Phase 3, Part 3 Habitat Enhancement Project, which consisted of stabilizing a failing streambank, construction of two new side channel habitat features, and the removal of a significant amount of concrete and other debris from the creek.** The construction work added new habitat log features, boulder fields, and off-channel areas designed to provide refuge for juvenile coho salmon and steelhead. With the completion of this recent work, a total of 3.5 miles of habitat have been enhanced since 2012. Sonoma Water and the Army Corps have a cost-sharing agreement which has allocated \$28 million in federal funds towards the Dry Creek habitat efforts. These federal funds will be utilized for construction efforts during the 2022 through 2024 construction seasons.

## RUSSIAN RIVER ESTUARY MANAGEMENT PROJECT

**This was the 12th year of implementing the Estuary Management Program. The Russian River Estuary closed twice during the lagoon management season (May 15 - October 15) in 2021 as a result of formation of a barrier beach.** To date, there were eight additional closures outside the management season. There were three closures with estuary water levels that exceeded 10 feet in 2021; the most in a single year since the Biological Opinion was issued. Biological and water quality monitoring was conducted when the lagoon management season began on May 15. Pinniped (seals and sea lions) monitoring continued year-round. The 2021 Russian River Estuary Adaptive Management Plan was finalized in June 2021.





## ENVIRONMENT

### CLIMATE ADAPTATION PLAN

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**In 2021, Sonoma Water’s Board of Directors approved its Climate Adaptation Plan that provides a roadmap for the agency as it navigates the impacts of climate change on its infrastructure and operations, which provide drinking water to 600,000 residents, wastewater collection and treatment for 70,000 residents, and flood control to communities in Sonoma and Marin counties.**

The Climate Adaptation Plan identifies threats to Sonoma Water’s water supply, flood control, and wastewater infrastructure and operations and develops adaptation strategies to reduce vulnerabilities and risks that will be exacerbated by climate change. Development of the plan assumes that climate change is inevitable, it is already occurring, and the agency must adapt quickly to protect its critical infrastructure. Increased temperatures and highly variable rainfall will result in extreme droughts and floods, in addition to increased wildfire intensity and sea-level rise. Our Climate Adaptation Plan allows us to meet the public health and safety needs of our community as we adapt to climate change, which will drastically affect some of our most essential services.

Largest among the impacts identified in the plan is the anticipated variability in precipitation; the severity of droughts is likely to increase, and stronger flood events will occur due to the increased role of atmospheric rivers. An increased risk of wildfires is also predicted as temperatures rise and droughts become more severe.

Our Climate Adaptation Plan includes strategies aimed at maximizing reservoir storage, managing floodwaters for aquifer recharge, and protecting critical infrastructure from severe flooding, wildfire, and sea-level rise. Sonoma Water is currently implementing projects and actions identified in the plan; identifying and pursuing funding; developing partnerships with local, state and federal entities; and establishing a monitoring plan and timeline for updating the plan.

To learn more about Sonoma Water’s Climate Adaptation Plan, please visit

[▶ http://www.sonomawater.org/climate](http://www.sonomawater.org/climate)

## EMERGENCY PREPAREDNESS & RESPONSE



**150** staff trained in Basic Emergency Management



**7** substantial emergencies responded to (including wildfire, flood, drought, and pandemic)



**3** years of emergency management trainings, exercises, and resource development scheduled



**9** Emergency Action Plans for local dams, reservoirs, and storage ponds completed



**16** emergency management plans, tools, and resources developed for all-agency use





# COMMUNITY

## WATER EDUCATION

During the 2020/2021 School year, our education program fully adapted to distance learning, developing 17 different synchronous and asynchronous lessons. We continued to share free educational curriculum materials and resources, and the ZunZun musical assembly program provided virtual assemblies. In response to the historic drought, we developed drought education programs available in Sonoma, Mendocino, and northern Marin counties. We also developed a new grant program, A Call to Action. Classes can receive up to \$1,000 toward a solutions-focused project that addresses a water-related environmental challenge like drought.

### Education Engagement

- 

**4,679** students in 181 classrooms participated in synchronous lessons
- 

**7,631** students participated in virtual assemblies
- 

**20,298** students in 759 classrooms received free schools supplies that support natural resources conservation
- 

**106** classes participated in the Steelhead in the Classroom program, raising and releasing steelhead fry

### Social Media Engagement

- 

**348** posts
- 

**277** posts
- 

**176** posts
- 

**40** posts

# GRANTS

Sonoma Water leverages local funds with state grants to help pay for projects. This year, Sonoma Water received more than \$908,264 in state grants, helping to keep its cost of service as low as possible.

		LOCAL COST SHARE	GRANT AMOUNT	TOTAL PROJECT COST
<b>State Awards</b>				
Russian River County Sanitation District Backup Power Generators	Cal OES Community Power Resilience	\$-	\$160,291	\$160,291
Airport Larkfield Wikiup and Geyserville Sanitation Zone Backup Power Generators	Cal OES Community Power Resilience	\$-	\$70,807	\$70,807
Spring Lake Park Wildfire Vegetation Management	CA Coastal Commission	\$28,834	\$277,166	\$306,000
Lake Sonoma Quagga/Zebra Mussel Grant Program	CA State Parks Division of Boating & Waterways	\$-	\$400,000	\$400,000
		<b>\$28,834</b>	<b>\$908,264</b>	<b>\$937,098</b>









**Sonoma  
Water**

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404 Aviation Boulevard, Santa Rosa, CA 95403

[www.sonomawater.org](http://www.sonomawater.org)

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