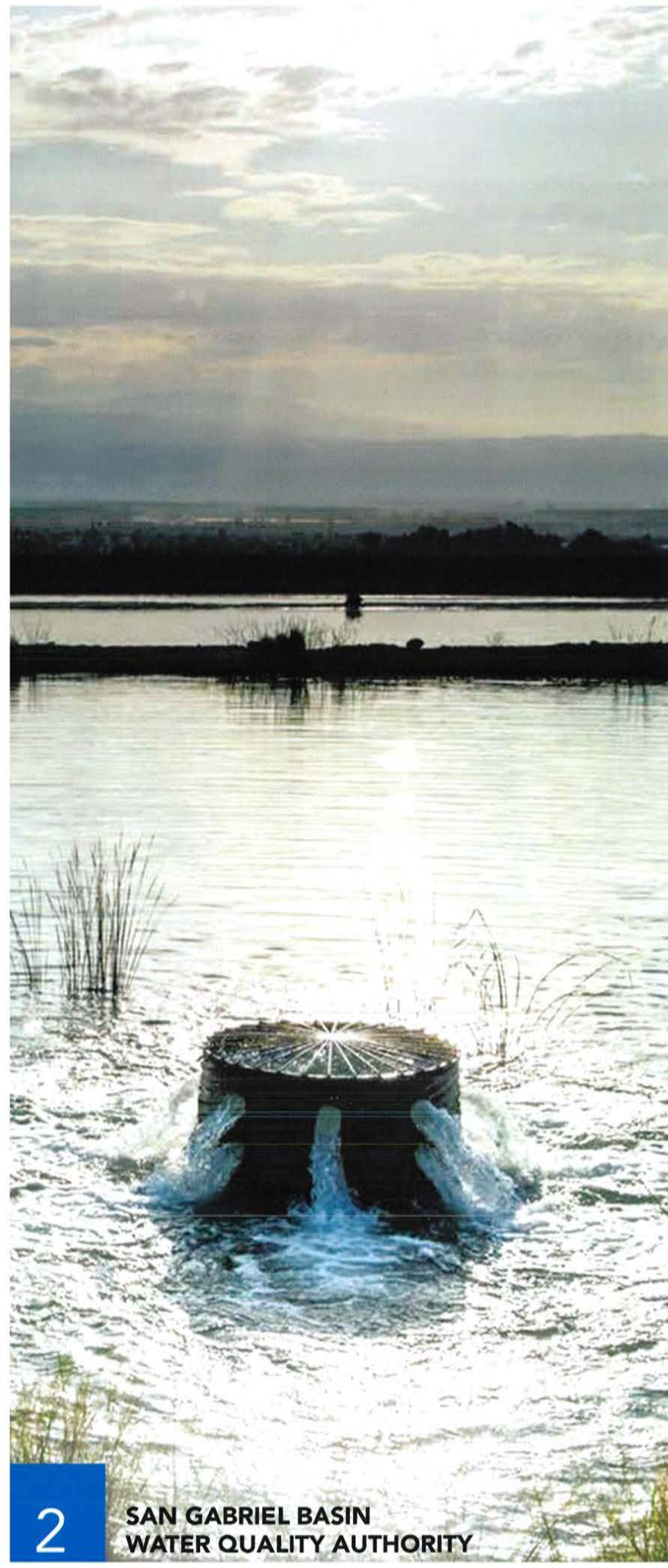


2018-2019 ANNUAL REPORT

San Gabriel Basin Water Quality Authority



Water Quality Authority



who we are

Over its 25-year history, the San Gabriel Basin Water Quality Authority (WQA) has worked with its partners to clean up 1.6 million acre-feet of contaminated groundwater – enough to meet the water needs of Basin customers for almost six years.

what we do

COORDINATE Groundwater Cleanup

INFORM the Public

CHARACTERIZE Groundwater Contamination

ASSIST Cooperating Respondents

PREVENT or Minimize Migration of Contamination

REMOVE Contamination Quickly and Efficiently

PROTECT Groundwater Resources

FUND WQA Projects and Programs with Outside Funding Sources

staff

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Utilizing Partnerships to Get the Job Done

When the California legislature created the San Gabriel Basin Water Quality Authority (WQA) more than 25 years ago, no one knew how to treat the groundwater or where the money would come from. The WQA was a pioneering agency. Today, we are considered to be one of the experts. The WQA is using this knowledge to form partnerships to complete the groundwater cleanup and to help others make good decisions.



Productive partnerships. WQA worked with the City of South Pasadena to address contamination at their Wilson Reservoir. A granular activated carbon (GAC) wellhead treatment system was partially funded by WQA to clean wells that supply 95 percent of the city's drinking water.

New direction. WQA's primary focus has been on cleaning up contamination plumes in the groundwater. A new focus is on source remediation. We are allocating funds to find and clean up the sources of the contamination before it migrates down to the groundwater.

Advancing technology. Last year, construction began on a new groundwater treatment facility in the Puente Valley Operable Unit, which is funded primarily by Northrop Grumman. This is the first San Gabriel Valley cleanup project to use reverse osmosis technology. Water from Puente Valley will be used in Hacienda Heights, Rowland Heights and the City of Industry.

Education for the future. WQA is working with other water agencies on a guidebook on how to obtain a policy 97-005 permit from the state Division of Drinking Water for the use of highly impaired groundwater as a drinking water source. With the creation of Sustainable Groundwater Agencies throughout

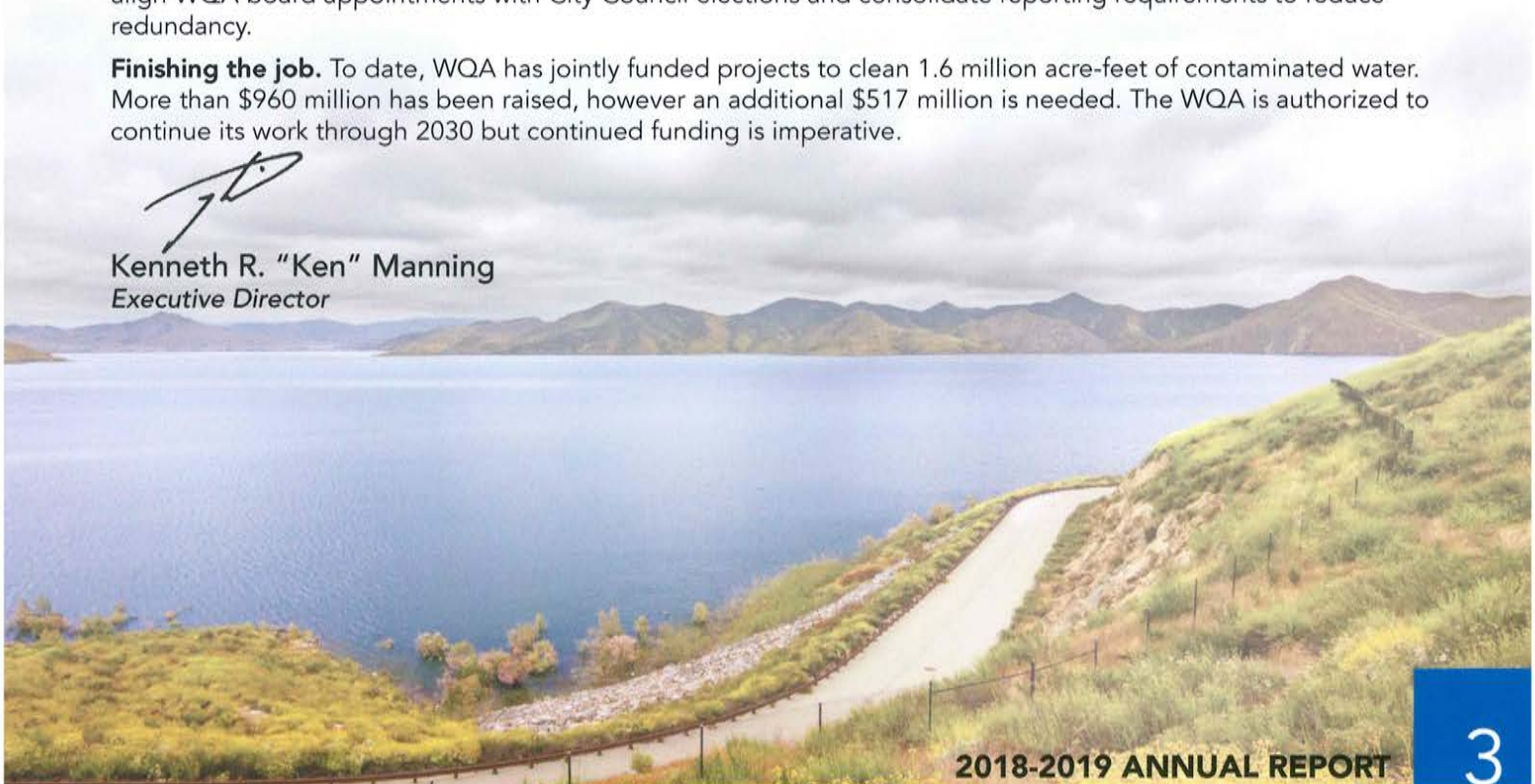
the state more communities are being required to test for contamination within their groundwater sources. Undoubtedly this new condition will mean new 97-005 permits will be issued statewide. Since the WQA has utilized this process for over twenty years it was only natural that the WQA would lead the effort to educate others on this difficult permitting process.

Looking ahead. WQA is working with Wildermuth Environmental to create animations of the basin cleanup to show how the plumes are shrinking. The agency has also introduced legislation with State Sen. Susan Rubio to align WQA board appointments with City Council elections and consolidate reporting requirements to reduce redundancy.

Finishing the job. To date, WQA has jointly funded projects to clean 1.6 million acre-feet of contaminated water. More than \$960 million has been raised, however an additional \$517 million is needed. The WQA is authorized to continue its work through 2030 but continued funding is imperative.

A handwritten signature in black ink, appearing to be "Ken Manning", written over a light blue background.

Kenneth R. "Ken" Manning
Executive Director



Expanding Our Role in Basin Remediation

The San Gabriel Valley's groundwater Basin has the dubious distinction of being one of the most contaminated in the nation. The Basin's groundwater is contaminated from the improper disposal – dating back to World War II – of volatile organic compounds used primarily as solvents in industrial and commercial activities. WQA was created and authorized by the State Legislature in 1993 to address the critical need for coordinated and accelerated groundwater cleanup programs in the Basin. WQA has worked with the responsible parties, water agencies, state and federal authorities and the public to build 32 treatment facilities operating throughout the Basin. Now, with much of the infrastructure built, WQA can turn its focus to site remediation and to the improvement of technologies and processes to ensure completion of the massive cleanup.

Finding the Source

For more than 25 years, WQA has coordinated efforts to clean the basin's groundwater. However, very little has been done to cleanup the source areas of the plume. There are more than 400 sites in the valley where pollution is suspected that have yet to be addressed. WQA is turning its attention to this site remediation problem.

Pioneering New Technologies

WQA continues to be among the first in the state to test and employ new water treatment technologies. A new facility in the Puente Valley Operable Unit that is now under construction is the first reverse osmosis plant in the region. Another plant in the Baldwin Park Operable Unit will become one of the first in the state to test an updated Advanced Oxidation system, which uses UV light technology to treat water.

Streamlining Processes

In partnership with California State Senator Susan Rubio, WQA is pursuing amendments to the legislation that created the authority. State Senate Bill 413, introduced by Rubio, would eliminate redundancies in the authority's reporting requirements and offset the election of its board members from local council election years. Thus, city representatives are first elected to local councils before being elected to the WQA board. There is no known opposition to the bill. WQA also has a new lobbying advocate in Washington, D.C. who is engaging a new strategy to expedite the appropriation of the \$54.5 million in federal funds authorized for the WQA.



"I think Water Quality Authority can be the leader in making sure the technologies that they are using and developing are brought up to the rest of the state."

California
Assemblywoman
Blanca Rubio

Our History in San Gabriel Basin

After severe groundwater contamination was detected in the San Gabriel Basin and the EPA designated four Superfund sites in the area, a plan of action was needed. The WQA has coordinated the cleanup efforts since its creation more than 25 years ago. As a result, 1.6 million acre-feet of water has been treated, thus making the region less dependent upon imported water.

- 2019** Construction begins on the first reverse osmosis treatment system in the San Gabriel Valley.
- 2018** WQA advocated for the passage of Proposition 68.
- 2014** WQA acquired the General Discharge Permit needed to continue the cleanup.
- 2013** The WQA mandate is extended through 2030.
- 2012** WQA secures \$10 million in state funding for four projects.
- 2009** WQA obtains additional \$50 million for WQA Restoration Fund. H.R. 910, which established the San Gabriel Basin Restoration Fund to facilitate groundwater cleanup, became Public Law 106-554.
- 2002** The first 15-year BPOU project agreement is executed.
- 1999** WQA spearheads legislation for \$75 million in federal funding.
- 1995** WQA's first treatment facility is completed in Monrovia.
- 1994** WQA adopts a consensus approach to integrating water supply and cleanup programs.
- 1993** WQA is established by the California State legislature.
- 1983** The US Environmental Protection Agency (USEPA) declares four Superfund sites in portions of the Main San Gabriel Basin.
- 1979** Groundwater contamination is first detected in the San Gabriel Groundwater Basin.

cleanup by the numbers

1,658,698

Acre-feet of groundwater treated in San Gabriel Basin as of June 30, 2019.

325,851

The amount of water in gallons in just one acre-foot.

5,500

The number of times you could fill the Rose Bowl with the 1.6 million acre-feet of treated water.

8,000,000

The number of residents supplied water for a full year with the 1.6 million acre-feet of treated water.

180,820

The amount in pounds of contaminants removed as of June 30, 2019.

12

The number of elephants equal to the weight of the contaminants removed.

26

Years WQA has been coordinating the cleanup efforts.

32

Active groundwater treatment facilities in the San Gabriel Basin.

1

New treatment plant is under construction.

Positive Progress Made in Puente Valley and South Pasadena

The Water Quality Authority coordinates groundwater cleanup across six operable units in the San Gabriel Basin. These six areas are: Area Three Operable Unit (ATOU); Baldwin Park (BPOU); El Monte (EMOU); Puente Valley (PVOU); South El Monte (SEMOU); and Whittier Narrows (WNOU). The largest in geographic size and most significant in terms of the severity of contamination is the BPOU. Progress continues in all of the operable units with significant new developments in Puente Valley and Area 3.

PUENTE VALLEY OPERABLE UNIT

Reverse Osmosis Plant Under Construction

In September 2018, WQA in conjunction with USEPA held a groundbreaking event for the region's first reverse osmosis treatment plant. Construction of the facility commenced in December and continues to move forward. La Puente Valley County Water District will operate and maintain the plant. Northrop Grumman Corporation is paying for the treatment facility that will also clean up naturally occurring contaminants to make the water drinkable, in addition WQA has contributed approximately \$4.7M of federal funding.

As of June 30, 2019, other PVOU facilities have treated approximately 96,428 acre-feet of water and removed approximately 5,138 lbs. of VOCs.

UTC Engages in Shallow Remediation

United Technologies Corporation (UTC), after years of delays, has agreed to help fund a shallow zone remediation program in the City of Industry. WQA will continue to help facilitate and coordinate with state and federal agencies to ensure shallow zone remediation stays on track.

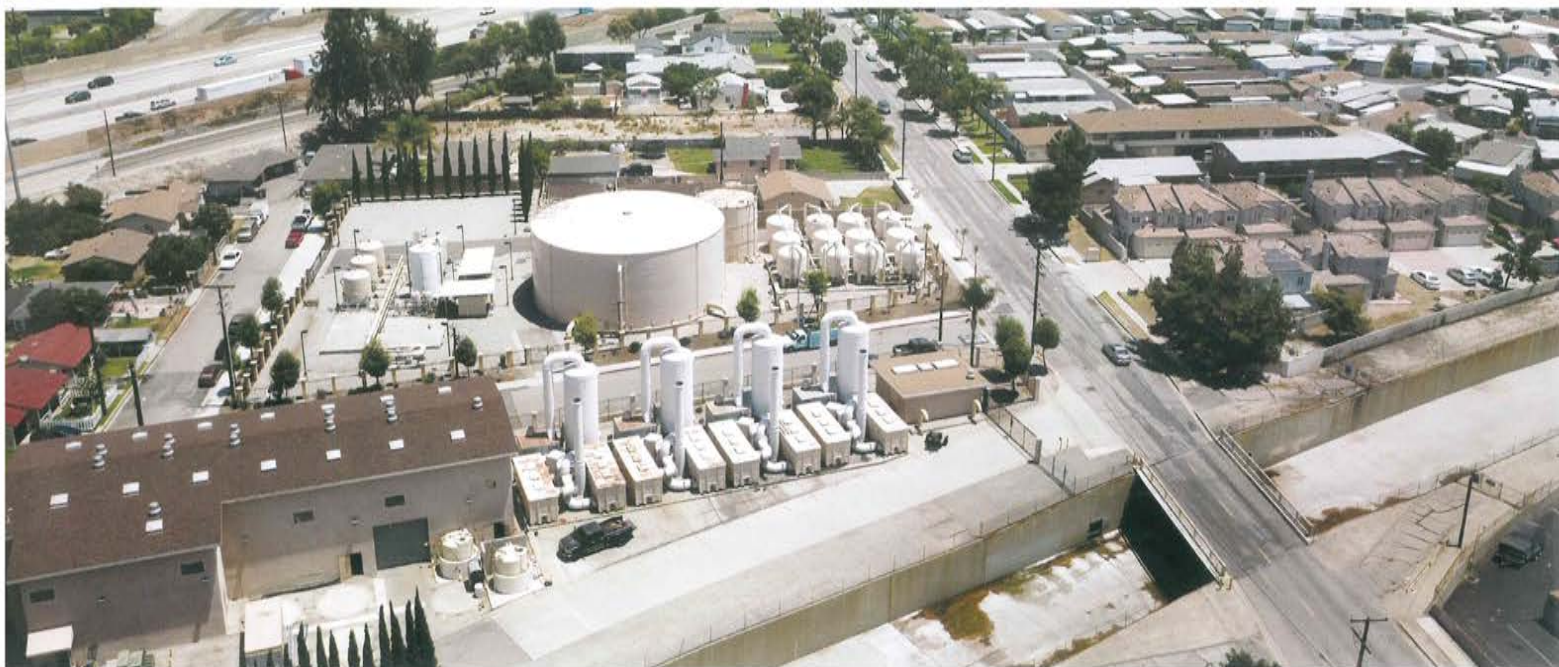


AREA THREE OPERABLE UNIT

South Pasadena Completes Treatment Facility

The City of South Pasadena responded to a regulation that more strictly limits the maximum contaminant level of 1,2,3-trichloropropane (TCP). The city completed construction of its 1,2,3-trichloropropane treatment facility at the Wilson wellsite after the WQA Board approved the transfer of a \$589,000 grant to the urgently needed program. The new state-of-the-art treatment facility will ensure residents have safe and reliable drinking water.

The USEPA appointed a new regional project manager to oversee the groundwater contamination in the ATOU. The EPA is more actively pursuing a remedy and covering the cost instead of seeking out polluters. As of June 30, 2019, the ATOU facilities have treated approximately 34,633 acre-feet of water and removed approximately 1,044 lbs. of VOCs.



BALDWIN PARK OPERABLE UNIT

Tremendous Progress Made in Cleanup

More than two years into a historic 10-year agreement to clean up contaminants in the BPOU, WQA reports continued success. The five state-of-the-art plants treat more than 30,000 gallons per minute, or 1.7 billion gallons per year to better than drinking water standards. The BPOU facilities have treated 870,032 acre-feet of water and removed approximately 105,082 lbs. of VOCs, perchlorate and NDMA as of June 30, 2019.

The San Gabriel Valley Water Company (SGVWC) via a SWRCB Proposition 1 grant began design of its new third generation advanced oxidation (AO) treatment equipment utilizing ultra-violet (UV) light technology at its Baldwin Park Plant B6 that will be replacing outdated AO treatment. The new AO treatment facility is more efficient and will allow SGVWC to continue supplying high-quality drinking water to its customers. The plant will be one of the first of its kind in the state and demonstrates WQA's commitment to developing more environmentally friendly and cost-efficient technologies.

EL MONTE OPERABLE UNIT

According to USEPA, El Monte continues to be a challenge in the implementation of the remedy. The City of El Monte is beginning to operate a series of wells and treatment facilities built with WQA federal funds. The city received its amended water supply permit from the SWRCB Division of Drinking Water for the eastside deep remedy, including the Arden Groundwater Treatment plant. It is treating water from El Monte and Rosemead.

The parties responsible for the westside shallow zone continue to implement remedy enhancements and are working closely with USEPA to ensure compliance. The low water table has negatively affected the remediation plan. Seven additional extraction wells have been installed, and further work is planned.

The EMOU facilities have treated 68,282 acre-feet of water as of June 30, 2019 and removed approximately 2,322 lbs. of VOCs.

SOUTH EL MONTE OPERABLE UNIT

In this operable unit there is evidence of 1,4-Dioxane contamination. To find the source of the contaminant, WQA used a Proposition 1 grant to conduct a site investigation. WQA drilled seven hydropunch wells around the Whitmore Street Groundwater Remediation Facility (WSGRF) to characterize the flow of the contaminant to better understand its probable source area.

Also, progress continues by SGVWC on upgrades to Plant No. 8, where new AO treatment equipment utilizing UV light technology will address 1,4-Dioxane contamination to ensure continued remediation of the SEMOU groundwater.

As of June 30, 2019, the SEMOU facilities have treated more than 208,687 acre-feet of water and removed approximately 25,342 lbs. of VOCs.

WHITTIER NARROWS OPERABLE UNIT

With WQA assistance, the Department of Toxic Substances Control received a Proposition 1 grant to turn the WNOU intermediate zone remedy back into a potable water supply project. The San Gabriel Valley Water Company is using the funds to build a pipeline and a booster station to allow them to use water from the WNOU within their delivery area.

The WNOU facilities have treated 85,605 acre-feet of water and removed approximately 3,444 lbs. of VOCs as of June 30, 2019.



"We cannot take water for granted. We cannot take its purity for granted. We have to work together to eradicate any contaminants."

**California Sen.
Bob Archuleta**



Valerie Munoz, WQA Board Member and Mayor of La Puente

- Advertisements on WQA progress and happenings are distributed via special sections in area newspapers that reach more than 200,000 readers.
- Spanish and Chinese advertisements are also run in various newspapers.
- WQA Executive Director and Main San Gabriel Basin Watermaster Executive Officer jointly participate in Chinese language television interviews.
- Joint sponsorship of the San Gabriel Valley Water Forum.



**DROUGHT OR NOT,
THE WISDOM OF WATER CONSERVATION**

Water is precious
I need water to live
Water is precious
The Sun
The Moon



to Schools and Parks



Teaching Kids

the Science of Water

Scientists are working to understand the complex interactions between water and the environment. This research is crucial for addressing global challenges such as climate change and water scarcity. The following articles explore the latest findings in this field.

Water and Climate Change

Water plays a central role in the Earth's climate system. As temperatures rise, the evaporation of water from the oceans increases, leading to more intense storms and droughts. Scientists are studying the feedback loops between water and climate to better predict future changes.

Water Scarcity and Management

With growing populations and increasing demand for water, managing our resources is essential. New technologies and policies are being developed to conserve water and ensure sustainable access for all.

Water Quality and Pollution

Water pollution remains a significant threat to human health and the environment. Researchers are investigating the sources and effects of various pollutants to develop effective remediation strategies.

Water and Ecosystems

Water is the lifeblood of ecosystems. Understanding how water availability affects different species and habitats helps us protect biodiversity and maintain ecological balance.

Water and Human Health

Clean water is fundamental to human well-being. Studies are ongoing to understand the health impacts of contaminated water and to improve water treatment processes.

Water and the Future

As we look towards the future, it is clear that water will continue to be a key factor in our success. By advancing our knowledge and improving our management practices, we can ensure a sustainable water future for generations to come.

WGA LOOKS TO THE FUTURE

The WGA has sponsored thousands of books during the past three years between its writers perfectly with the editors' goal to cut the price of the books to a price similar to other books in the market. The WGA has also sponsored the government version of the San Jose On-Order Book (ISBN 0-896-11-100-0) to increase the WGA's involvement in the book market. The WGA has also sponsored approximately 1,000 books in the past three years. The WGA has also sponsored more than 170 books of interest to the book market.

The WGA has also worked with the California Book Council to produce a book titled "The California Book Council" to provide information on the book market. The book is available for purchase at a price of \$20.00. The book is available for purchase at the San Jose On-Order Book (ISBN 0-896-11-100-0) to increase the WGA's involvement in the book market. The book is also available for purchase at the San Jose On-Order Book (ISBN 0-896-11-100-0) to increase the WGA's involvement in the book market.

Overall, the California Book Council program has been a tremendously successful and creative avenue for the San Jose On-Order Book. The San Jose On-Order Book is a great way to spread knowledge and increase the WGA's involvement in the book market. The WGA has also sponsored the San Jose On-Order Book (ISBN 0-896-11-100-0) to increase the WGA's involvement in the book market. The WGA has also sponsored the San Jose On-Order Book (ISBN 0-896-11-100-0) to increase the WGA's involvement in the book market.



Actively Engaging Elected Officials

WQA proudly hosted a number of local, state and federal officials for informational presentations and tours throughout the year. These visits serve to educate influential policymakers about the importance of the ongoing groundwater cleanup through face-to-face conversations and guided tours of treatment facilities. This outreach is vitally important to securing future local, state and federal funding and support. Officials who visited WQA in the past fiscal year included:



- Congressman Gil Cisneros, who represents the 39th Congressional District, which includes the southeast portion of the Basin.
- State Senator Bob Archuleta, whose 32nd District includes the cities of Hacienda Heights and Montebello.
- State Senator Susan Rubio, who serves the 22nd District that covers much of the San Gabriel Valley and includes WQA treatment areas in Baldwin Park, El Monte and South El Monte.
- State Assemblywoman Blanca Rubio, whose 48th District includes many of the eastern and southern San Gabriel Valley cities.
- A few other groups to tour WQA facilities included City of Covina officials and community members, and staff members from Senator Dianne Feinstein's office.



"It was a privilege to be able to tour the treatment facility and see how they operate. Agencies like the San Gabriel Basin Water Quality Authority are excellent examples of how environmentally friendly policies can also support our community health and well-being."

Congressman Gil Cisneros



Troubling Concerns Regarding Long-Term Funding

To date, WQA has raised \$960 million toward the cleanup effort. The money has primarily covered facility construction, which represents only a fraction of the overall funding requirements. Long-term costs for treatment and remediation account for 75 percent of the total Basin cleanup cost. WQA estimates another \$517 million is needed to complete their mission as an organization.

Congress has authorized \$125 million to WQA but has not appropriated the funds for years. So far, the WQA has been given \$70.5 million dollars of the \$125 million authorized. The remaining \$54.5 million is needed to complete the task of operating existing facilities as well as cleaning up the many sites that have been identified as potential pollution sites in the valley. Without federal funding soon, some of the groundwater cleanup projects in the San Gabriel Valley could be forced to shut down, which would jeopardize efforts to contain the contamination plume and reduce a much-needed water supply.



WQA Works to Secure Funding

State Proposition 1: This proposition is a critical source of funding for WQA. Prop. 1 authorizes \$7.545 billion in general obligation bonds to fund ecosystems and watershed protection and restoration, water supply infrastructure projects, including surface and groundwater storage, and drinking water protection. Of that total, about \$720 million is designated to clean up groundwater for public consumption.

In the first two phases of Prop. 1 fund distribution, WQA has helped secure three grants totaling \$8.5 million. WQA continues to seek grants, as more funds are made available.

State Proposition 68: Approved by the electorate in 2018, this measure is a \$4.1 billion bond for parks and habitat restoration as well as flood protection and groundwater cleanup. About \$80 million will be available to operate groundwater remediation projects.

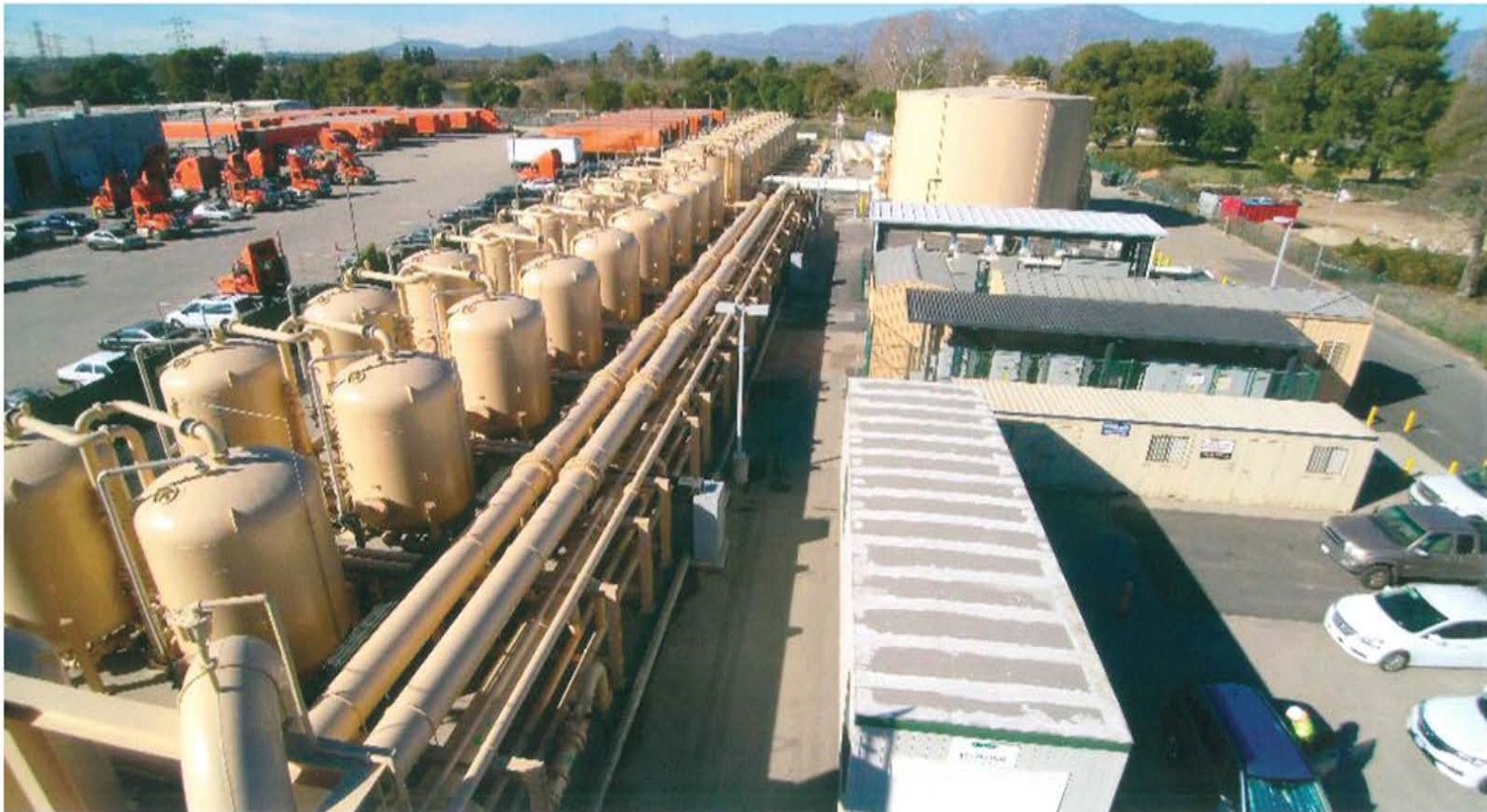
Federal Requests: WQA continues to seek a \$10-million appropriation for the San Gabriel Basin Restoration Fund. This appropriation is now incorporated into the Bureau of Reclamation's current budget request. WQA pays administrative costs to the Bureau of Reclamation. However, restoration agreements have been on hold since 2010 because Congress has not appropriated the funds.

Assessments Increased: The lack of Federal funding to match State funds, led the WQA board to raise the prescriptive pumping rights assessment by \$2 beginning in 2019. The assessment is \$12 per acre-foot of pumping right.



"I was concerned that WQA might be falling short in funding from the federal government. "We have to be stronger partners. I want to become a partner in this venture because funding from the state is going to be really important."

*California Sen.
Susan Rubio*



Proposition 1 is providing critically needed funding during a long period in which federal funding is unobtainable. WQA works closely with local agencies to apply for Prop. 1 grants as funds are released. Three projects have received grants thus far.

1 San Gabriel Valley Water Company Plant B6 Ultraviolet Light Flex Modular Demonstration Project: The San Gabriel Valley Water Company received a \$1.1 million grant for this project. It will integrate a new, advanced ultraviolet water treatment system with an existing treatment facility. It is considered innovative because it would reduce the amount of energy necessary to operate and optimize the treatment of 1,4-Dioxane and other chemical contamination within the area identified as the Baldwin Park Operable Unit Superfund Site.

2 Whittier Narrows Operable Unit Treatment for Drinking Water End Use Project: The Department of Toxic Substance Control (DTSC) will use a \$7.1 million grant for an approximately 7,000-foot pipeline, construction of a 3,000-gallon-per-minute booster station and all necessary blending controls and sensors required. The proposed improvements will enable the DTSC to pump at the target extraction rate needed to provide containment, treatment and remediation of volatile organic compound (VOC) contamination in the groundwater of the Whittier Narrows Operable Unit.

3 San Gabriel Basin Water Quality Authority Whitmore Street Groundwater Remediation Facility Expanded Site Investigation Project: This WQA facility obtained \$115,000 in Prop. 1 funding. This project consists the collection of groundwater samples to address data gaps for VOCs and 1,4-Dioxane contamination, along with further analysis to pinpoint the source of contamination in an area of South El Monte. The project could lead to clean up or prevention of the spread of VOCs and 1,4-Dioxane in the aquifer that serves as a source of drinking water.

"Proposition 1 is the first bond in California history to focus a section on groundwater. It recognizes that using groundwater is a strategy that we need to pay attention to."

*WQA Executive Director
Ken Manning*



Water Quality Authority

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