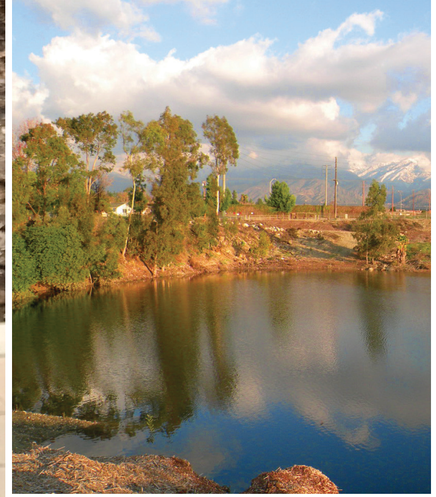
# CHINO BASIN WATER CONSERVATION DISTRICT

2016/17 ANNUAL REPORT



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## ANNUAL REPORT

Fiscal Year 2016/2017

## LETTER FROM THE ACTING EXECUTIVE DIRECTOR

The 2016/17 fiscal year was one of embracing change, establishing new relationships, strengthening existing partnerships, igniting innovation, and turning ideas into action.

As the fiscal year began, California was in its fifth year of drought and under a drought State of Emergency. In October, over 62% of the state was in "severe", "extreme", or "exceptional" drought conditions. While the State mandated conservation, the District focused on its ongoing mission of supporting behavior change with education, services, research, forums, and programs; providing resources to inspire and empower residents to embrace the region's native landscapes; increasing groundwater recharge opportunities; and instilling water stewardship.

**VIVIAN CASTRO**
*Acting Executive Director*

***"IDEAS TAKE ACTION HERE"***

# SPHERE OF INFLUENCE UPDATE

This year, three new Board members were sworn-in and nine employees were hired, all quickly coalescing into a proactive, passionate team committed to the District's water conservation mission.

In August 2016, the Inland Empire Utilities Agency submitted a proposal to the San Bernardino County Local Area Formation Commission ( LAFCO) to t ake over the CBWCD. Despite this challenge, we remained rooted in our core mission and committed to action. It provided us an opportunity to better understand diverse perspectives and bring together complementary partners. The experience highlighted the District's relevance as our community partners, local elected officials and the public voiced their strong support for our programs, services, and continued independence. The IEUA Board rescinded the action in December and our two agencies quickly moved on to strengthen our collaborative efforts in support of water sustainability in the Chino Groundwater Basin.

CBWCD is fortunate to be part of a larger community of water utilities, local governments, educational institutions, and professional associations committed to making conservation a way of life through increased awareness, greater efficiency, and diversified water supply in order for the public and region we serve to thrive. To accomplish this, water conservation must be understood, planned, and implemented in a broader context that incorporates land use, environmental and habitat impacts, quality of life, and economic effects. Our partnerships allow us to provide richer, more informed support to our residents. Not if, but when the next drought comes, the region will be better prepared to use and manage water efficiently because of our joint and individual efforts.

As you look through this annual report, you will see highlights of the innovative programs, services, and resources envisioned and implemented by our energetic staff over the past year. You will also get a g limpse of some of the e xisting o fferings and operations that benefited from staff's dedication to continuous improvement. Governed by an elected Board that continues to display leadership and independence, we remain committed to being a forward-looking, efficient agency that embodies a cooperative, creative spirit as we work to ensure that the current and future water needs of the Chino Basin and its residents are met.

# OUR MISSION

The Chino Basin Water Conservation District is sustaining a regional water supply through public stewardship by engaging in the following strategies:

## DEMONSTRATE

the multiple benefits of water efficient landscapes to conserve water, capture stormwater, and use recycled and grey water while providing beautiful and inspiring places to live, work, and play

## EDUCATE

to inspire the broad adoption of a water conservation ethic and ACTIVATE public stewardship and a water-efficiency workforce.

## PERCOLATE

stormwater and promote distributed onsite capture to replenish local groundwater supplies, ensuring our region's needs are efficiently met.

# OUR COMMUNITY

We provide programs, services,and resources to serve audiences from pre-k to gray to cultivate a community-wide conservation ethic and build regional capacity for water resilience.

PRE-K

ELEMENTARY

MIDDLE SCHOOL


HIGH SCHOOL

## *TOWARDS A COMMUNITY CONSERVATION CULTURE*

FAMILIES

PROFESSIONALS

HOMEOWNERS

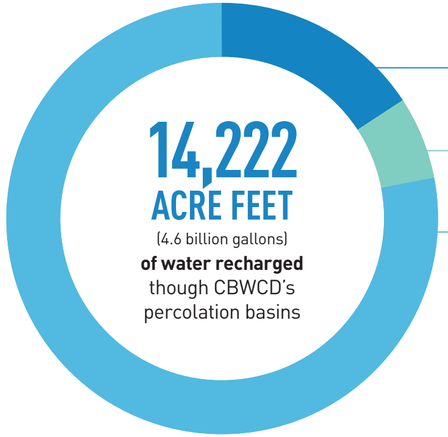
GARDENERS

# 2016/17 BY THE NUMBERS

Numbers tell part of our story, but conservation is more than the numbers. It's a cultural shift that requires an integrated approach to carefully considered and diverse programming. With an ultimate goal of water conservation, our work is to inspire, equip, and support community members, professionals, and partners to make conservation a way of life.

**1.2 MILLION** **residents served** through CBWCD activities, including groundwater recharge

**3,862 GALLONS**
**of water recharged for every resident of the Chino Basin aquifer**
This roughly covers the annual drinking water and toilet water* required for all residents in the Chino Basin




**stormwater:**
**2,249 ACRE FEET**

**recycled water:**
**882 ACRE FEET**

**imported water:**
**11,091 ACRE FEET**

*assuming 1.6 gallons per flush*

## PERCOLATION

**134** acres (5.8 million sq. ft.) of land maintained by CBWCD staff for groundwater recharge

## K-12 EDUCATION

**15,270**
**K-12 students served** by CBWCD next generation science standards curriculum integrated programs

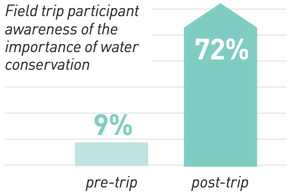
**5,315** **students participated** in Conservation Center field trips

**62** **schools in our service area** that participated in CBWCD Youth Education Programs

**376** **teachers participated** with their classes in CBWCD Youth Education Programs

**627** **teachers & educators** trained in CBWCD teacher training programs

**4** **school gardens constructed,** funded through partnership with Inland Empire Utilities Agency




## ADULT EDUCATION

This year, CBWCD Conservation Programs Provided:

**FORTY-NINE** **landscape efficiency audits** with the potential to save **17.5 MILLION GALLONS** (53.7 acre feet) of water per year

**123** **home landscape transformation consultations** for Chino Basin residents planning to install water saving gardens

**423** residents learned conservation gardening skills in **water wise landscape workshops**

**725** residents received free mulch at **mulch giveaway events**

## WORKFORCE EDUCATION

Creating partners in conservation to multiply our impact, build regional capacity, and support career development

**84** **landscape professionals earned certifications or certificates** from our water efficiency professional development programs

**53** **master gardeners & landscape professionals attended** our Living Landscape continuing education series, launched mid-year

**Valley View High School horticulture students** earned Qualified Water Efficient Landscaper professional certifications through our collaboration w/ Chaffey Joint Union HSD **28**

**EIGHT** **student interns** gained real world experience in conservation programming and education best practices

## DEMONSTRATION

**2.1 MILLION GALLONS** (6.5 acre feet) **of water captured at the CBWCD** Conservation Center demonstration garden, park, and parking lot – **nothing runs off site!**

**16,553** **in-person visitors** to the CBWCD Conservation Center

**FIFTY-TWO** **new trees** planted in our park and tree-study landscapes

## ONLINE OUTREACH

**50,712** **website visitors** to cbwcd.org

**1,826** **followers** on Facebook, Twitter, and Instagram


## MAKING AN IMPACT ON PROFESSIONAL PRACTICE

**1,085** **professionals across all disciplines** served by CBWCD trainings, workshops, and conferences

# A LIVING DEMONSTRATION THAT IS BEYOND JUST BEAUTIFUL

Chino Basin Water Conservation District calls our 4.5 acre headquarters the Water Conservation Center. Integrating a public park, demonstration garden, and environmentally friendly buildings with classrooms, meeting spaces, and interpretive displays, the campus functions as a living exploration of contemporary best practices for water efficiency, landscape design, small-scale green infrastructure, and urban landscape management.

## WATER WISE DEMONSTRATION GARDEN

Reopened in 2014 after extensive renovation, CBWCD's Water Wise Demonstration Garden has now significantly grown and is serving as the multi-audience community resource it aimed to become. The garden hosts a comprehensive series of regular gardening and irrigation workshops for homeowners, standards-based K-12 field trips, and a wide variety of conservation focused special events for community members, students, and professionals. With far too many programs over the last year to cover, these pages give a glimpse of some highlights from the last year.



# A LIVING DEMONSTRATION THAT EDUCATES

...students and professionals alike about low impact development strategies and green urban infrastructure.

...new and hobby gardeners about composting, pruning, and low-water garden maintenance through dozens of free workshops each year.

...homeowners about sheet mulching and turf removal during free workshops.

...over 6,500 K-12 students, over 500 teachers, and hundreds of professionals, college students, and homeowners per year through field trip garden investigations and tours.

# A LIVING DEMONSTRATION THAT CELEBRATES

...pollinators and beneficial insects

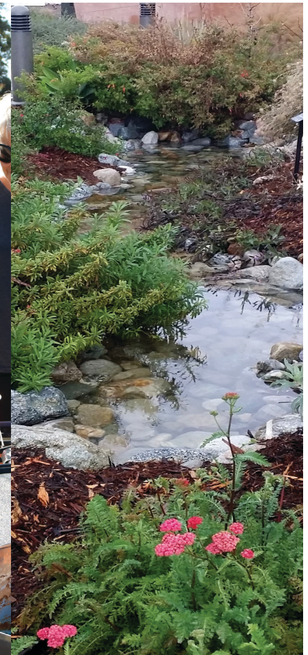
...the 25th Annual Earth Day Festival with over 1,100 students, teachers, and community partners

...the Butterfly Release at the summer Pollination Festival

...edible California native plants at workshops with Rancho Santa Ana Botanical Garden

# A LIVING DEMONSTRATION THAT INFILTRATES

...through a raingarden and bioswale by the front entrance of the Water Conservation Center



...using a rainscupper and bioswale system

...through a Southwest Garden bioswale

...through a stormwater Low Impact Development demonstration bioswale in the parking lot



# DEMONSTRATION & RESEARCH

## TREES FOR A RESILIENT WATER FUTURE

A healthy tree canopy in our region is integral to both urban livability and the "watershed approach" to urban landscape and stormwater management. Tree leaf canopy slows the fall of rain and the root systems of trees improve the structure and porosity of the soil under the canopy, increasing the soil's capacity to infiltrate the water. Mulch and leaf litter under trees, as demonstrated in our park, further increases this capacity. Even over paved surfaces, large evergreen trees can help reduce storm water peak flows by slowing the fall of water. The living soil in the root zone of the trees further helps purify water by removing pollutants as water infiltrates past the biologically active root zone. In addition to all this, urban trees provide carbon sequestration, habitat value, increased property values, improved air quality, reduction of the urban heat island effect, and shade which can help reduce home energy use. So many benefits can arise from the simple act of planting and caring for the right tree in the right place.

## UNDERSTANDING TREES

As a part of University of California Cooperative Extension's Climate Ready Tree Study, CBWCD installed a research planting of 28 trees along the perimeter of the Montclair Basin #4, directly north of our main Water Conservation Center property. Selected species will be evaluated for suitability for use as part of the Inland Empire's urban forest and are being studied to quantify the effects of woodchip mulch on plant growth. The planting consists of four species, planted in mulched and un-mulched conditions, with the complete planting replicated three times. While beautifying the property edge, visible to the local community, this planting is making a contribution to the body of knowledge needed to meet the challenges of managing the green urban infrastructure of our region's future. In addition, we are working with researchers at the University of California Riverside and Earthwatch Institute to monitor the impact of green infrastructure and on air temperature and quality.

# DEMONSTRATING CLIMATE-APPROPRIATE TREES

The Chino Basin Water Conservation District co-maintains a public park on our headquarters property in partnership with the City of Montclair. The park features a small arboretum of 50 locally adapted tree species and cultivars, planted as a demonstration of appropriate tree selections for residential and commercial landscapes in the Inland Empire. 23 of those species and cultivars were introduced to the collection in the Spring of 2017. Many of the trees are low water use, low maintenance, and feature beautiful flowers, foliage, or bark color. The collection includes small and medium sized trees ideal for residential situations but not often seen in public plantings. This valuable resource allows us to not only provide recommendations for the best tree choices for local landscapes, but also lets us provide a space where the public can see many options in a single location to better understand the trees' scale and aesthetic impact. The ultimate function of the planning is to inspire area residents to select and plant the best locally adapted trees to contribute to a valuable and thriving urban tree canopy.

***RESEARCH & DEMONSTRATION PROJECTS LIKE THIS ARE KEY TO ENSURING OUR REGION IS ON THE PATHWAY TO SUSTAINABILITY & RESILIENCY***

"We've planted many great low-water trees in the demonstration landscapes adjacent to our percolation basins, but with an ongoing drought and record high temperatures, we have been asking if there are trees better suited for our changing climate. This project will help provide answers to that question so that we can continue to demonstrate best practices for our region,"

**FRANKIE SOTOMAYER**
*Facilities & Landscape Supervisor*

"We strive to provide meaningful and relevant learning experiences about water conservation and stewardship to students. Collaborative partnerships and field trips build a unique connection to the place where we live, inspiring our youngest generation to be watershed stewards."

**EUNICE ULLOA**
*Executive Director, Chino Basin Water Conservation District*

# AN EDUCATIONAL APPROACH TO CONSERVATION

One of the most significant questions in Southern California today is how we can holistically manage our water quality and water supply during a period of extended drought and in a changing climate. Students from the urban settings of our service area are rarely afforded the opportunities to explore their local streams and rivers. As water resource management becomes an increasingly complex challenge to ensure water supply for growing populations in the, an environmentally literate citizenry could not be more critical. We strive to provide local students from under-served communities opportunities explore and investigate their local watersheds. Through increased understanding of water systems, a stronger sense of place, and experiential learning, we hope to inspire the next generation of watershed stewards and conservationists.

In addition to our traditional Water Conservation Center Field trips in which we provide bussing and facilitate science and engineering investigations related to water conservation concepts for over 5,000 K-12 students, we partnered with exceptional education and conservation professionals in the region to pilot watershed field expedition trips.

# WATERSHED EXPEDITIONS

## GIRLS WHO SOLVE

In partnership with San Bernardino Community College District and Curiosity Quest Problem Solvers, we piloted a watershed expedition day camp for middle school girls called Girls Who Solve. Seventeen middle school girls explored the Santa Ana Watershed over the course of four days, from mountains, to rivers, to coast. They spoke with resource management experts, identified issues in the watershed, and developed and presented solutions for water resource issues to members of the public.

***"THANK YOU FOR PROVIDING SUCH AN AWESOME & EMPOWERING OPPORTUNITY FOR MY GIRLS!"***

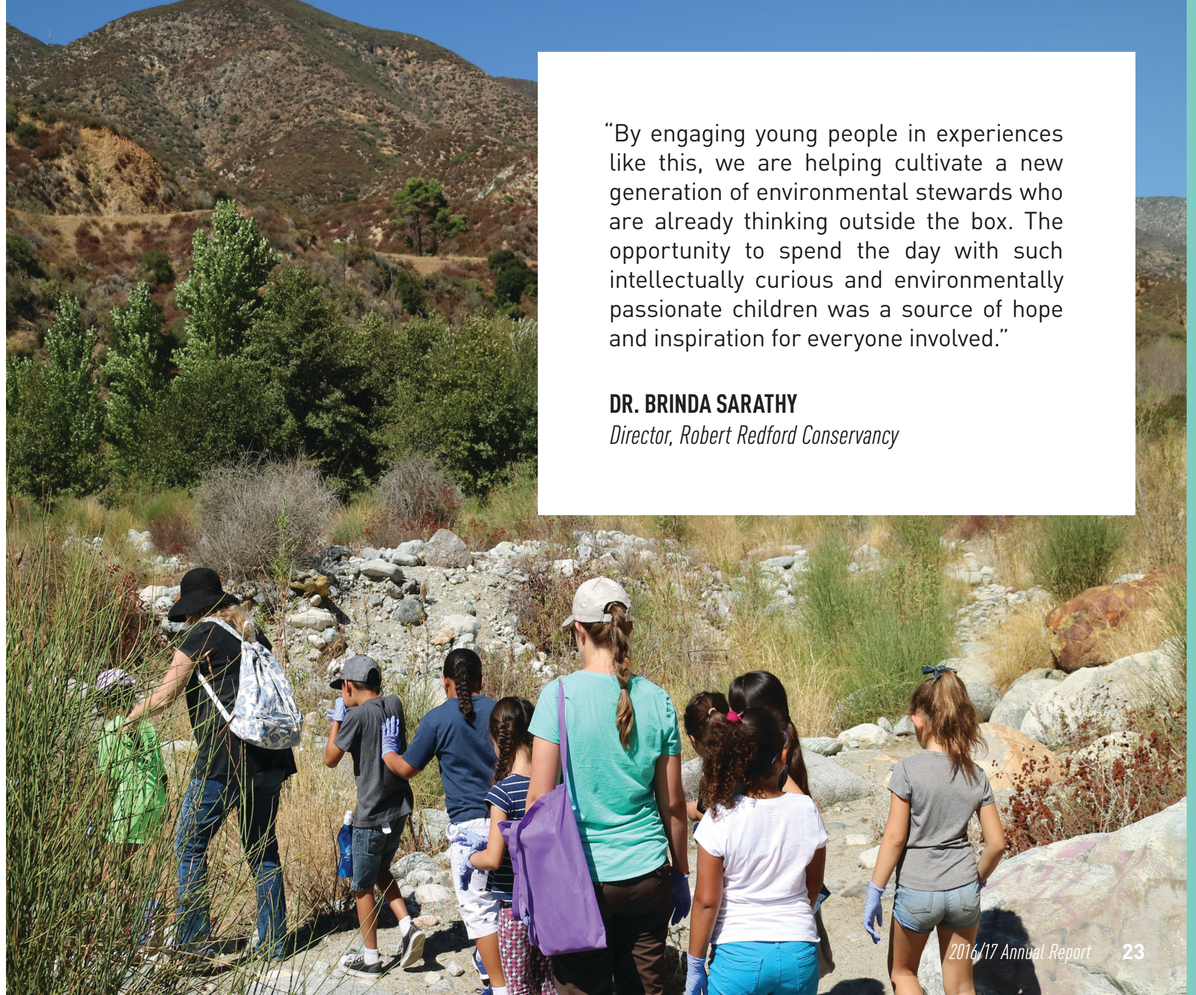
"My girls had a wonderful experience. They and I learned about water conservation and will be back!"

**GIRLS WHO SOLVE PARTICIPANT FEEDBACK**

# ALL AROUND THE WATERSHED

Water travels many miles before it gets to our kitchen taps, and last October, over 60 third graders from Arroyo Elementary School in Ontario took that same journey to discover the source of their drinking water. The students' trip to Lower San Antonio Canyon in the San Gabriel Mountains was the result of a unique new partnership between the Chino Basin Water Conservation District (CBWCD), the Robert Redford Conservancy for Southern California Sustainability (RRC), children's author Joel Harper, and the United States Forest Service (USFS) Station 25 to encourage water and land stewardship.

Beginning in the Inland Valley at CBWCD's Water Conservation Campus, students learned what a watershed is through a modeling and mapping activity. Afterward, they watched "All the Way to the Ocean," a short film by Joel Harper that shows two friends' journey to clean up pollution in their watershed. Next, the students took a ride into the mountains to the San Antonio Canyon, where they helped the USFS clean up the creek that runs down into the urban valley. Finally, students hiked up to a lookout point where they could view their entire watershed - both their city below and the mountains above that create our watershed boundary. Each student received a signed copy of Joel Harper's book "All the Way to the Ocean." The event was partially funded by a memorial fund established by the late Pitzer College Professor, John "Jack" Sullivan.



"By engaging young people in experiences like this, we are helping cultivate a new generation of environmental stewards who are already thinking outside the box. The opportunity to spend the day with such intellectually curious and environmentally passionate children was a source of hope and inspiration for everyone involved."

**DR. BRINDA SARATHY**
*Director, Robert Redford Conservancy*

# COMMUNITY-SOURCED CONSERVATION RESEARCH

Community Science, also know as Citizen Science, is the public involvement in inquiry and discovery of new scientific knowledge. Achieving our mission of protecting groundwater for our community depends on the participation of our community. The District partners with community members to understand, monitor and protect our groundwater and our watershed.

## SANTA ANA WATERSHED COMMUNITY SCIENCE NETWORK

In partnership with regional Resource Conservation Districts and non-profits, we are mobilizing a Santa Ana Watershed Community Science Network with conservation practitioners and educators across the region. The Network fosters communication, coordination, and collaboration to encourage wider participation in citizen science and fill data gaps necessary to protect and restore the health of the Santa Ana Watershed. This Network is a collaborative, multi-jurisdictional and community-based effort to organize, train, and inspire community scientists of all ages to participate in the protection of the Santa Ana Watershed (SAW) and its ecosystems through scientific inquiry and civic engagement. Engaging communities and citizens may lead to a greater ethic of stewardship and conservation among the communities that live, work and play in the basin.


## MONITORING URBAN RESILIENCY

Using established citizen science programs through the Earthwatch Institute and UC Riverside's Urban Resiliency Program, and community-based organizations, our objectives are to engage students and families in monitoring the impacts of sustainable landscapes throughout the watershed. This year, we piloted a NASA-funded citizen science program to monitor the impacts of urban landscapes on regional air temperature and quality. Through the program, over 50 residents in our sphere of influence are now participating in this program by mapping their yards, hosting air temperature sensors, and/or hosting ozone sensors.

"I love the fact the the Chino Basin Water Conservation District promotes and encourages community participation in Citizen Science activities. They help to educate locals the importance of protecting our watershed."

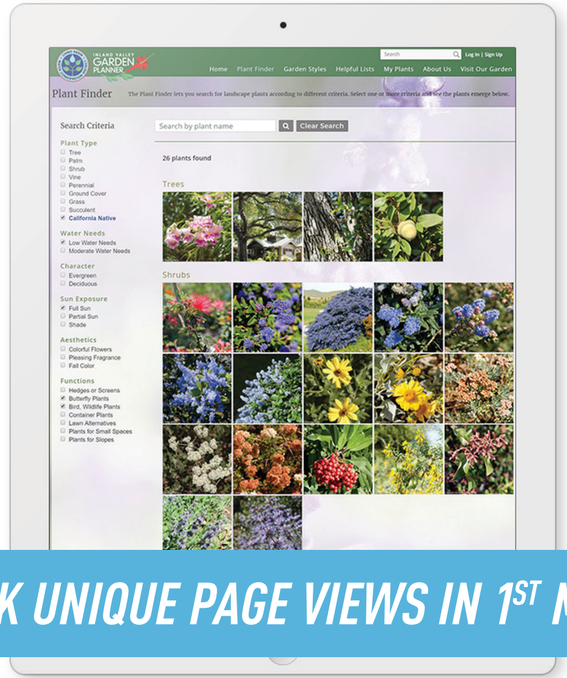
**JAQUELINE SULLIVAN**
*Wife of the late John "Jack" Sullivan*

# A VISIONING TOOL FOR BEAUTIFUL LANDSCAPES

On May 11, CBWCD launched a new web-resource, the Inland Valley Garden Planner. The new garden planning website helps Inland Empire gardeners select and learn about the best plants for the region to create a "have-it-all" garden that uses less water while making no compromises.

Through stunning photos and an easy-to-navigate site, the Inland Valley Garden Planner offers free and detailed, regionally-specific information for gardeners in the Inland Empire area. Users can create their own profiles, save project lists, and easily save and print information on their selected or custom plant palettes, choosing from a curated list of over 350 plants that thrive in the Inland Empire. The site also provides cohesive pre-designed plant palettes and helpful lists for common conditions including slopes and small spaces.

INLAND VALLEY GARDEN PLANNER




**1.7K UNIQUE USERS & 9.4K UNIQUE PAGE VIEWS IN 1ST MONTH**

"The Inland Empire's Mediterranean climate gives us so many incredible options for our gardens. We truly can have it all in our outdoor spaces, with color, comfort, wonderful scents, and habitat for birds and pollinators, year-round, and without needing to water much, if we choose the right plants and put them in the right places."

**SCOTT KLEINROCK**
*Conservation Programs Manager*

# BUILDING REGIONAL CONSERVATION CAPACITY THROUGH WORKFORCE DEVELOPMENT

We are committed to providing educational opportunities for regional landscape professionals and those interested in entering the profession. Through curriculum covering best practices in water management, irrigation systems, and the watershed approach to landscaping, we maximize impact by training those who have their hands on large amounts of property and oversee many irrigation systems in the Chino Basin.

## QUALIFIED WATER EFFICIENT LANDSCAPER CERTIFICATION PROGRAM

The Qualified Water Efficient Landscaper professional certification provides participants with 20 hours of education on irrigation and water management best practices including irrigation systems, soils, plant water demands, water budgets, irrigation system auditing, and more. Participants obtain certification after completing the class and passing a test. QWEL is a nationally recognized EPA Water Sense certification. In FY 2016/2017, CBWCD trained 42 new QWEL certified landscapers, with 102 total certificates earned with CBWCD since we began teaching the curriculum in 2015.

CBWCD and Valley View High School formed a partnership to offer QWEL training and testing to student's in the continuation school's horticulture program. In the 2016/2017 school year, 28 students received QWEL certification, allowing them to list a professional certification on their resumes and giving a distinct advantage to those interested in pursuing a career or further education in the landscape industry. Valley View High School is part of the Chaffey Joint Union High School District and serves the eight comprehensive high schools in the district.

"The QWEL Certification offers CJUHSD students the opportunity to earn a national, industry-recognized certification that will likely connect students to advantages when they seek employment. It also expands their awareness of environmental issues and sustainability."

**DR. VIRGINIA KELSEN**
*Executive Director, Career Readiness,*
*Chaffey Joint Union High School District*

"I am sending this letter to thank the CBWCD for the QWEL program. It has been invaluable to my career in the horticulture/green industry... Not only did your program provide pertinent water-wise plant, hardscape, and irrigation information, but it also provided a certificate that was a useful addition to my resume."

**CAROL HAMRE**
*QWEL Graduate*

"The course had a great overall arc of understanding not just irrigation but soil health and plant health, which are the foundations we need to begin with before we can truly consider bringing irrigation into the picture."

**GRADUATE PARTICIPANT**
*Watershed Wise Landscape Professional*

"This class helps in understanding how to prepare water budgets, irrigation programming, and the importance of training employees working in the field. Also, it helped me to communicate with my clients and show them how improving their landscape can save them money and possible lawsuits. I started using the information Toni presented, and I can say it really works."

**RICARDO VARGAS**
*Mission Landscape Maintenance, Irrigation Training Program Graduate*

## WATERSHED WISE LANDSCAPE PROFESSIONAL PROGRAM

In n December, CBWCD worked with the Green Gardens Group to hold a Water Wise Landscape Professional Certification training course. This two-day curriculum hosted 54 participants who were training in water efficiency beyond irrigation, including the multiple benefits of building healthy living soil, managing rainwater to reduce irrigation, turf removal, rain garden design, and the watershed approach to landscaping.

## BTI IRRIGATION TRAINING PROGRAM

Providing a more in-depth, comprehensive training opportunity in irrigation systems troubleshooting and water management, CBWCD offered the "Irrigation Training Program" to local landscape professionals this spring. Irrigation consultant and educator Toni Monzon taught the nine-session curriculum to a diverse class of employees from local municipalities, large and small contracting companies, and horticulture students headed into the field. 16 participants received certificates of completion for attending all sessions, and one participant, Danny Akers, ended up becoming CBWCD's newest employee!

# WATER CONSERVATION AT HOME

All residents within the cities of Ontario, Chino, Montclair, Upland, Rancho Cucamonga, Chino Hills, and Fontana are eligible for no-cost landscape and irrigation efficiency evaluations and recommendations from the landscape experts at CBWCD. Formally called the Landscape Efficiency and Audit Program (LEAP), CBWCD staff comes to a property, meets with the resident or property manager to discuss landscape and water issues, checks irrigation controller settings, runs the system, calculates precipitation rates, and documents any issues preventing the system from performing optimally. After taking all gathered data back to the office for analysis, a report is issued documenting a clear path to optimal water use for both landscape performance and conservation goals. Reports also provide information about other resources available through CBWCD and any rebates available through local water providers to help fund further improvements in irrigation efficiency.

"Understanding the ins and outs of an outdoor landscape can seem overwhelming. Empowering property owners with the knowledge needed to confidently take charge of their landscape is what our Landscape Evaluation and Audit Program is designed for."

**BRANDON BURGESS**
*Conservation Technician II*

EDUCATE

# ONE FAMILY'S LEAP INTO WATER SAVINGS

Pricey water bills come with the territory when you've got a houseful of four adults, and three teens ranging from ages 14 to 19. But Cyndi Watson and her wife Jane Kennelly look forward to lower water bills soon, thanks to CBWCD's LEAP Program. The sprawling east Chino house the women share with Jane's daughter Kate, son-in-law Sy and three grandchildren has a small grass lawn in the front, a fruit tree orchard, basketball court and swimming pool in the back.

The family knew that they'd already done everything they could to lower indoor water use. Now, they wanted to reduce outdoor water use. The problem? "We didn't know where to start," Jane said.

Then Cyndi heard about CBWCD's program offering a free evaluation of outdoor water use. She called immediately. Within days, Jane and Cyndi had scheduled an appointment with CBWCD Conservation Technician Brandon Burgess to come out to evaluate the property. The appointment included an inspection and measurement of how well the sprinklers worked together, as well as an examination of the soil and existing plants.

A few days later, Cyndi and Jane received an email with the report. "We were really surprised how in-depth the report was," Cyndi said. Photos documented problem areas such as broken or buried sprinkler heads, and indoor and outdoor water use annually was calculated using historical data, weather factors and on-site evaluations.

Even more surprising was the potential for water savings that Brandon had uncovered. "CBWCD estimated that we could save some 105,000 gallons a year if we fixed the problems with our irrigation system and removed the turf in the front lawn," Jane said. "That comes to about $366 a year."

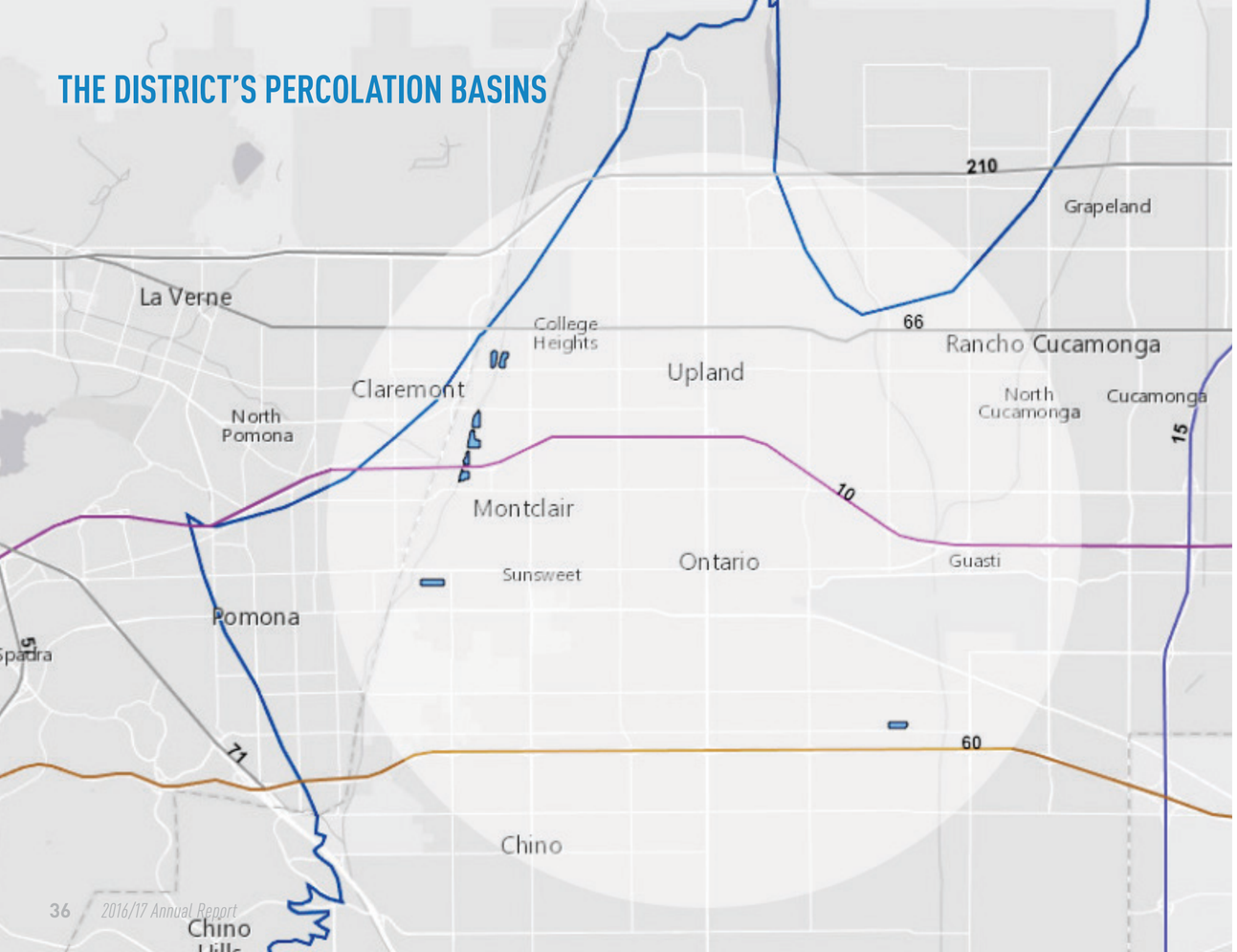
Cyndi and Jane plan on tearing out their turf and replacing the irrigation system this fall when the weather cools. Not only did the landscape audit shed light on their water use, the report and recommendations also created a clear path to change. It also showed them how improvements could be paid for over time through savings on their water bill.

"It's so important to contribute to the environment," Jane said. "It was nice to see that some of our neighbors have changed out to drought-tolerant landscapes. Maybe we'll inspire some others to do the same."

"It's so important to contribute to the environment. It was nice to see that some of our neighbors have changed out to drought-tolerant landscapes. Maybe we will inspire some others to do the same."

**JANE KENNELLY**
*LEAP Program Participant*

## THE DISTRICT'S PERCOLATION BASINS



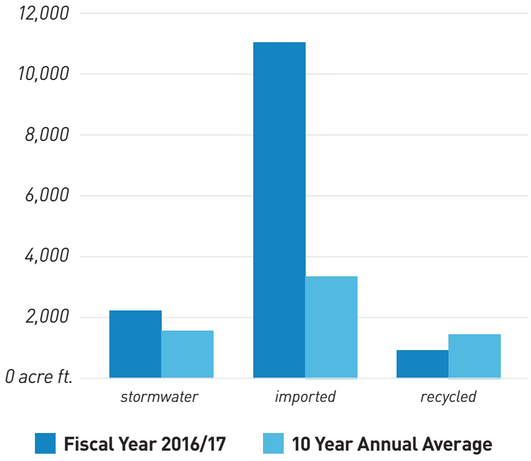

# RECHARGING THE CHINO GROUNDWATER BASIN

In times of both drought and flood, stormwater capture is becoming an increasingly critical component of our region's water future. The District's percolation basins help maximize stormwater capture and recharge to sustain a resilient water supply for our service area.

CBWCD owns, operates and maintains eight water conservation recharge basins that capture storm water, nuisance water, recycled water and imported water. Five of the basins are in Montclair, two in Upland and one in Ontario. Throughout this wet winter, CBWCD's basins have recharged over 2,249 acre-feet of stormwater. In lieu of traveling through storm drains to the ocean, the captured stormwater is enough to provide water to over 4,200 local households for a year of typical water use.

On an annual basis, CBWCD's basins capture and recharge an average of 6,882 acre-feet of water – making them an extremely valuable asset that CBWCD holds in the public trust.

### WATER CAPTURE & RECHARGE FOR CBWCD'S 8 BASINS



**Montclair Basin #1**
Storage capacity: 134 acre feet
Infilration rate: 1.4'/day

**Montclair Basin #2**
Storage capacity: 423 acre feet
Indfiltration rate: 1.2'/day

**College Heights West Basin**
Storage capacity: 126 acre feet
Indfiltration rate: 3.17'/day

**College Heights East Basin**
Storage capacity: 145 acre feet
Indfiltration rate: 3.17'/day

**Montclair Basin #3**
Siotrage capacity: 49 acre feet
Infiltration rate: 1.35'/day

**Montclair Basin #4**
Storage capaccity 97 acre feet
Infiltration rate: 0.74'/day

**Ely Basin**
Storage capacity 49 acre feet
Infiltration rate: 1.35'/day

**Brooks Basin**
Storage capacity: 503 acre feet
Infiltration rate: 1.04'/day

# THE FACES BEHIND CONSERVATION

The District is truly defined by its dedicated, knowledgeable, and creative staff. The past year has been a story of capacity building, with over half of the team filled with new staff bringing a set of diverse experiences and skills.

**Eunice Ulloa**
Executive Director

**Vivian Castro**
Acting Executive Director

**Scott Kleinrock**
Conservation Programs Manager

**Frankie Sotomayor**
Landscape & Facilities Manager

**Becky Rittenburg**
Community Programs Manager

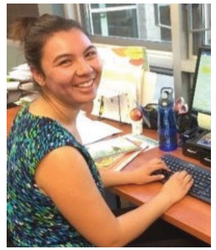
**David Schroeder**
Conservation Specialist II

**Danny Akers**
Conservation Tech I

**Brandon Burgess**
Conservation Tech II

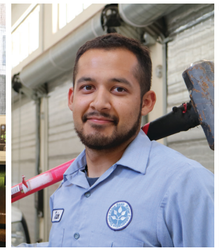

**Omone' Abu**
Community Programs Coordinator

**Lindsey McConnell**
Community Programs Specialist



**Jenna Hoover**
Community Programs Assistant

**James Salcido**
Landscape/Maintenance Worker I



**Juan Vasquez**
Landscape/Maintenance Worker I

**Robert Sotomayor**
Landscape/Maintenance Worker II

**Victoria Kramer**
Landscape/Maintenance Worker II

**Judy Taylor**
Office Assistant

**Natalie Gonzaga**
Administrative Assistantt

**Mary Gandara**
Part-time Accountant

**Sam**
The Tortoise

# THE EMERGING PROFESSIONALS

Student interns from nearby colleges and universities work with staff on water conservation resources and education programs, building real-world work experience in the field of water conservation. The students have brought fresh perspectives, diverse skill sets, and have greatly enriched our programs and resources. We look forward to watching these students grow as leaders in the conservation field!

## STUDENT INTERNS

**Rachel De Loza**
*California State University San Bernardino*
USDA Internship Program

**Gabby Cantu**
*Brown University*
Link Scholar & Education Grant Recipient

**Natalie Slater**
*Pomona College*
Pomona College Internship Program

**Kenlyn Mirbach**
*Claremont McKenna College*
Energize Colleges Internship Program

**William Masters**
*Harvey Mudd College*
Energize Colleges Internship Program

**Ellen Zhang**
*Harvey Mudd College*
Energize Colleges Internship Program

**Stephanie Nava-Angeles**
*University of California, Riverside*
Conservation Education Internship Program

**Ana Boyd**
*Scripps College*
Conservation Education Internship Program

## EDUCATION GRANT RECIPIENTS

**Andrew Chambers**
*Mount San Antonio College*

**Ruben Valdez**
*California State University San Bernardino*

**Jocelyn Vennant**
*Cal Poly Pomona*

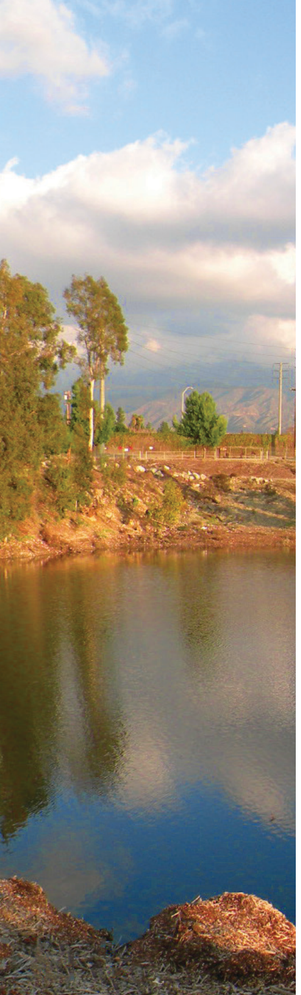
**Eileen Williams**
*University of California Berkeley*

## VOLUNTEERS

Volunteers are critical to building successful conservation programs and events. More than 115 individual volunteers have contributed over 400 hours to support community programs and events.

**Maggie O'Neal**
Volunteer of the Year

**Sebastian Vazquez**
Volunteer of the Year



# PARTNERSHIPS

Water conservation takes a community of collaborators. The District is fortunate to work closely with water agencies, environmental educators, landscape professionals, school districts, and sustainability-driven local organizations to build bridges across sectors. The past year of partnership projects have resulted in regionally-specific landscaping resources, events that bring together non-traditional audiences, workforce development initiatives, and new community programs.

## RESOURCES

CBWCD supported the creation of a collaborative landscape transformation guide for the Santa Ana River Watershed area. Coordinated by the Santa Ana Watershed Project Authority and partially funded by CBWCD, it features a chapter on Sustainable Landscapes co-written by former Conservation Programs Manager Drew Ready. Scott Kleinrock contributed to review and editing of the manual. The District distributes the guide to interested homeowners and students at no cost.

## ENVIRONMENTAL EDUCATION INITIATIVES

In partnership with California Regional Environmental Education Community (CREEC), the San Bernardino County Superintendent of Schools, the Incredible Edible Community Gardens, and other active educational agencies in the region, we are led a Schoolyard Forest Workshop for TK-12 Educators. The workshop supported educators in integrating climate-appropriate trees, shades, water conservation, and standards-aligned curriculum in their school sites.

## WORLD WATER DAY SYMPOSIUM

Green building and water efficient landscapes can go hand in hand. The District works closely with the local US Green Building Council chapter and serves on the steering committee, to facilitate the critical dialogue between architects, municipalities, landscape architect, and developers regarding sustainable development. Through the USGBC-LA, the District hosted a World Water Day symposium to discuss the newest net zero water technologies and designs in the market, highlight the use of net zero water design in the region, and discuss opportunities to expand net zero water features in new development in the Inland Empire.

## DWR WATER EDUCATION WORKSHOPS

CBWCD hosted over 40 water education coordinators from across the state at the Water Conservation Center and at the NASA Jet Propulsion Laboratory for the Dept. of Water Resources Water Education Committee meeting to explore new teaching materials and the Water Conservation Center, to learn more about NASA's groundwater and soil moisture mapping satellites, and to share information on education best practices.

# MASTER GARDENERS

In partnership with the University of California Cooperative Extension, the District hosts the San Bernardino County Master Gardeners for training programs which integrate stormwater capture, rainwater harvesting, and water conservation practices demonstrated at the Water Conservation Campus.

Over 40 students were trained this year. Each trained Master Gardener commits to over 50 hours of public education service in our community in the next year. This train-the-trainer model allows the conservation information to echo through community gardens, libraries, schools, and farmers markets across the region as the Master Gardeners fulfill their hours each year. Over the past year, three exciting new projects and programs have emerged from the Master Gardener partnership.

## LIVING LANDSCAPE TRAINING SERIES

Living Landscape Training Series is a new series of quarterly advanced training and CEU courses for the San Bernardino County Master Gardeners and landscape professionals. The classes cover cutting-edge curriculum and are developed and presented by CBWCD and University of California Cooperative Extension staff with special guests. All Master Gardeners are involved with projects in the community, so they are perfectly poised to be effective messengers of the conservation vision.

## SEED LIBRARY

The Master Gardeners have also developed a collaborative seed library project. Housed in the Landscape Design Studio and coordinated by the Master Gardeners, the seed library is a free community resource that provides access to local seeds and information to local gardeners. Local residents can 'check out' seeds to plant in personal gardens. The library offers seeds from a wide array of plants, including flowers, trees, and vegetables. All seeds are locally adapted and well-suited for growth in the Inland Valley Region. Participants are also encouraged to 'check in' seeds by harvesting extra seeds and returning them to the library. Through this cycle, the library hopes to establish a permanent community resource which encourages biodiversity, promotes regional seeds, and helps residents save money.

## FUN WITH FLORA WORKSHOPS

With the Master Gardeners, we have hosted a series of Fun with Flora Workshops this fall to engage families and the community in water wise lifestyles. The objective of the series is to introduce attendees to plant material and to design floral arrangements such as terrariums, fall centerpieces, and holiday wreaths. The workshops act as a point of entry to the LEAP audits, landscape design consultations, and homeowner landscaping workshops.

# LOOKING AHEAD – JOIN US!

With many exciting projects and programs planned for FY 2017/18, we invite you to participate as one of our valued community partners. Join us as a participant in a workshop, symposium, or program; a user of our conservation resources; or a collaborative partner in community-based conservation. Here are just a few projects we are looking forward to next year:

- California Native Plants for Institutional, Municipal, and Commercial Landscapes Demonstration Garden and Project, showing proper plant selection, design, and maintenance techniques for large-scale plantings
- Inland Valley Garden Planner Plant Maintenance Guide, providing a detailed online resource for how to successfully care for the Inland Empire's new and emerging plant palettes
- Educator professional development opportunities to promote water conservation, environmental literacy, and outdoor learning through the Next Generation Science Standards framework
- Santa Ana Watershed Field Study programs to build water literacy among high school students and to link the importance of conservation in the Chino Basin to the larger watershed system
- Projects that connect the water conservation potential of urban landscapes with the additional benefit of stormwater infiltration and pollution reduction through green infrastructure
- Workforce development programs to further build capacity in the landscape conservation and education professions in our region

# APPENDIX

## 2016 STRATEGIC PLAN

Envisioning and creating a future in which water conservation is a way of life is at the core of the new Strategic Plan adopted by the Board in July 2016.

We envision a future where all of our water needs are met and where all in our region are water stewards who:

COMPREHEND the value of water;

CONSERVE water and use it wisely; and

CAPTURE, INFILTRATE, and REUSE rainwater, stormwater and/or greywater.

We are working to make that VISION a REALITY through the many services, events, programs, projects, and partnerships highlighted in this annual report, which reflects the progress made in 2016/17 towards the following Strategic Plan goals set by CBWCD's Board of Directors:

INCREASING OUR REACH through enhanced public relations and communications and leveraged resources;

EXTENDING OUR PROGRAMS by developing new and expanded strategic partnerships with other agencies and non-traditional partners;

MAXIMIZING THE UTILITY OF OUR BASINS by increasing percolation and expanding the role and use of basins for education and research purposes; and

SCALING FOR GROWTH by continuing to professionalize the District's operations and staff capacity and leveraging resources through collaboration to provide efficiencies

## KEY DOCUMENTS

Visit cbwcd.org to view the documents referenced below.

**CHINO BASIN WATER CONSERVATION DISTRICT**

1949 – County Hearing on Chino Basin Water Conservation Petition

California Water Code, Division 21. Water Conservation Districts (Section 74000 et seq.)

**CHINO GROUNDWATER BASIN**

1989 – Chino Groundwater Basin Judgement

1999 – Optimum Basin Management Program, Phase I

2000 – Peace Agreement

2004 – First Amendment to Peace Agreement

2007 – Peace II Agreement

2001 – Recharge Master Plan, Phase II

2010 – Recharge Master Plan Update

2013 – Amendment to the 2010 Recharge Master Plan Update

2003 – Four Party Agreement

2013 – Chino Basin Groundwater Model Update and Recalculation of Safe Yield Pursuant to the Peace Agreement

**SANTA ANA WATERSHED**

2014 – SAWPA OWOW 2.0 Plan

## PLANT IMAGES

Cover – California Poppy, Escholzia californica

Page 2 – Spanish Lavender, Lavandula stoechas

Page 9 – Narrow Leaf Milkweed, Asclepias fascicularis

Page 10 – Sunrise Yellow Bells, Tecomaria, Tecomaria stans 'Sunrise'

Page 14 – Harmony Kangaroo Paw, Anigozanthos 'Harmony'

Page 43 – David Verity Aloe, Aloe 'David Verity'

Page 47 – Lilac Verbena, Verbena lilacina

Page 49 – Allen Chickering Sage, Salvia 'Allen Chickering'

Page 50 – Pink Chaparral Currant, Ribes malvaceum

*Chino Basin Water Conservation District, 4594 San Bernardino St., Montclair, CA 91763* *www.cbwcd.org*