



REBELS FOR RAIN

2018 IMPACT REPORT



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Rebels for Rain, Let's Reclaim our Rivers!

When WMG started the Green Living Co-op a decade ago, Tucson was thirsty for rainwater harvesting know-how and we brought it! For the last 10 years, the Co-op has helped push water harvesting from the environmental fringe into the mainstream. During that time, WMG instructors taught 366 water harvesting workshops to thousands of people, creating a groundswell of rebels for rain.

The Co-op work is a fundamental building block to our grander, 50-year vision of restoring Tucson's heritage of flowing creeks and rivers. Now we're challenging all of you, our rebels for rain, to think bigger – to think like a watershed – and channel your energy and passion into the River Run Network movement.

WMG is doing the same – we are focusing more time, energy, and resources as an organization to further our 50-year vision. We have tightened up our programs to do what we do best – as teachers, transformative leaders, and changemakers. In 2018, we decided to phase out our Design Build program to devote more energy into the Co-op and River Run Network. Our Design Build program furthered the water harvesting and native landscaping industry, and now we're helping other local businesses flourish by sending referrals and continuing to offer green job training.

WMG's river restoration vision stands strong because our water future is in all of our hands. You're an essential part of the movement to reclaim our rivers and that's why I'm proud to share with you some highlights from 2018, as well as a taste of what's to come if we stay the course together.

Sincerely,

Lisa Shipek
Executive Director

WMG staff visit Lower Sabino Creek - one of the priority areas where we are working with landowners to conserve water, restore riparian habitat, and enhance recharge to ensure perennial flowing rivers in Tucson.

CAPTURING WATER AND SAVING MONEY WITH WMG'S RAINWATER HARVESTING GRANT & LOAN PROGRAM



In the spring of 2018, **Marina Kurtzberg** got hooked on water harvesting after attending WMG's *clase de cosecha de agua de lluvia*, a class offered in Spanish by WMG's Cultural Ecologist Joaquin Murrieta.

"I didn't know how important it was for Arizona," Marina shares, "until I took the class. Avoiding water waste in the desert is an important contribution to preserving the environment. Taking the rainwater harvesting class taught me how doable it is. I started volunteering with WMG and very quickly I became aware of WMG's mastery and community work!"

Later that year, the classical hatha yoga instructor was able to utilize WMG's Rainwater Harvesting Grant & Loan Program to get a system set up on her property – which includes a 1,000 gallon rain tank to

water her mature pomegranate and lemon trees.

Marina is also planning to set up greywater harvesting, along with installing a composting toilet. She says she enjoys showcasing her water harvesting systems to people who visit.

"I have invited about a dozen people to see my system and at least one of them is ready to install her own system. Another one in a couple of months. Whoever looks at my system is very impressed with its design and functionality!"

"Without WMG's program, I could not have installed a rainwater harvesting system. My plants are doing well and my water bill is much lower. Thank you for the opportunity!"

WMG can also help you take care of your plants and lower your water bill through our Co-op and our Rainwater Harvesting Grant & Loan program. This program is available to all households because we believe everyone should be able to harvest the rain! There are specific income brackets to qualify for the grant program and to receive discounted design services. Through our partnership with Tucson Old Pueblo Credit Union, those who don't qualify for grants can apply for low-interest green loans. You can find more program details at Watershedmg.org/RainMoney or call 520-369-3266 x3.



CO-OP VOLUNTEER OF THE YEAR:

Bernadette Eichelberger

Bernadette Eichelberger first got involved with WMG in early 2018, and jumped in with both feet! She was one of WMG's Green Living Co-op top hour earners – volunteering 53 hours of her time at 11 different Co-ops in 2018. She says she enjoys the workshops because she appreciates "the people, their friendliness and commitment to the environment."

Bernadette's connection to WMG began with her interest in implementing rain and greywater harvesting systems on the 2.3 acre property her parents purchased over 40 years ago. "My siblings and I are responsible for providing stewardship of this valuable resource. It's a challenge we are embracing," she shares.

They currently have greywater plumbing hook-ups from the washing machine and in the three bathrooms, and are working toward setting up gutters and rain tanks in 2019 – along with creating passive systems on the property through earthworks.

"My interest in water harvesting lies in its ability to help mitigate the effects of climate change. I am very grateful that WMG exists, and for WMG's vision for Co-ops and other water projects that are vital to ensuring Tucson's future."

CAÑADA DEL ORO FLOODPLAIN RECLAIMED!

2018 was a good year for river restoration, with WMG's boots on the ground at four major sites including along Ciénega Creek, Tanque Verde Creek, Cañada del Oro River, and Santa Cruz River. Thanks to a dynamic partnership with the Pima County Regional Flood Control District, WMG's river restoration team is planning and implementing restoration features to reclaim floodplains, re-establish native habitats, and recharge more water into the aquifer to support flowing rivers.

River Restoration Biologist Trevor Hare led a team to restore 20 acres

of floodplain habitat along the Cañada del Oro River floodplain on the Northwest side of Tucson. The first step was to excavate a series of large-scale basins that could harvest and infiltrate large amounts of stormwater and rainwater. Days after the basins were created, the site was hit by a major monsoon storm, and ended up capturing over 500,000 gallons of water! Right away we knew the basins worked well to slow, spread, and sink stormwater – a huge resource to support the riparian area.

Trevor worked with WMG's field staff, volunteers, and the Arizona Conservation Corps to shape the earthworks, create spillways, and plant native riparian trees. This approach highlights our unique niche in river restoration work – engaging the community through volunteer workshops and



Days after the basins were created, the site was hit by a major monsoon storm, and ended up capturing over 500,000 gallons of water!

mentoring young professionals in the Conservation Corps.

River Run Network members can get involved in all aspects of river restoration – from helping with on-the-ground projects, river cleanups, and monitoring flow, to attending educational events. Not yet a River Run Network member? Sign up at Watershedmg.org/RRN.

Pima County Regional Flood Control District staff were instrumental in helping WMG permit and install the first stormwater harvesting curb cut retrofits in collaboration with Pima County's transportation department.





PIMA COUNTY'S REGIONAL FLOOD CONTROL DISTRICT PARTNERS WITH WMG TO RESTORE FLOWS AND FLOODPLAINS

WMG's river restoration work would not be possible without our partnership with Pima County Regional Flood Control District! The District owns and manages a considerable portion of the lands along our major streams and rivers, such as along the Rillito and Santa Cruz Rivers.

While the District is charged with minimizing the risk of damage due to flooding and erosion and keeping the public safe, they are a forward-thinking agency interested in restoring Pima County's rivers and floodplain habitat.

Staff from the District, including Eric Shepp, Evan Canfield and Greg Saxe, are participants in the new Santa Cruz Watershed Collaborative, where their invaluable hydrological expertise

and perspective will help develop a plan to restore the watershed. Through a holistic watershed framework, the District is working with WMG and many other partners to restore Tucson's heritage of flowing rivers.

While we are collaborating on larger-scale planning, we are also busy partnering on a variety of on-the-ground restoration projects. Flood Control District Deputy Director Eric Shepp explains that the District enlists WMG to assist with "land restoration projects that use water harvesting. WMG's ability to provide water-harvesting project design and installation, partnered with their strong community outreach and education

component, helps the District revegetate floodplain corridors, and promote neighborhood scale, low-impact development strategies to the public."

The District is utilizing WMG to implement stormwater harvesting on the county's urban properties to restore the land, create multi-use areas, and provide flood control benefits. For example, the Shannon Gardens project – along Shannon Road north of Curtis – will include a pocket-park. Other water harvesting partnership projects include the Neffson site on the Cañada del Oro River, Midvale Park on the Santa Cruz River, the Shamrock Site on the Rillito and a water recharge project at the Isabella Lee Preserve on Tanque Verde Creek. Each project site has

unique ecology and constraints, and WMG collaborates with the District's landscape and restoration specialists Sandy Bolduc and Jen Becker – who provide valuable guidance during design and installation. The District provides plants from Pima County's Native Plant Nursery and other additional construction support as needed. The District is also looking to WMG's volunteer base to "develop recurrent clean-ups in the regional watercourses such as Santa Cruz River and Rillito."

Thanks to Pima County Flood Control, we are also able to host special events on the District's properties, including our annual Tanque Verde Flow & Feast at Isabella Lee Nature Preserve and creek walks at various County properties across the Tucson basin. We appreciate this great public-private partnership!



WMG'S RIVER RESTORATION VISION FOR THE SANTA CRUZ RIVER THROUGH DOWNTOWN

In the future, the Santa Cruz River flows year-round at the base of Sentinel Peak – supported by a healthy groundwater aquifer. The flowing river is a cultural and ecological gem of our desert community that is essential to our city's economy and livability. A river walk meanders near the Santa Cruz under a mesquite bosque for people to enjoy the

riverbank up close, where they can picnic and recreate. Restaurants and parks dot the outskirts of the floodplain and are popular places for fiestas and festivals – once again becoming the center of cultural affairs. The riparian forest is a haven for dozens of bird species, and native wildlife is abundant.



“It was WMG’s 50-year vision and plan that got me to join the Flow program. WMG’s plan is no ‘pie in the sky’ ideology. It is science-based, it’s achievable, and it’s a huge step towards creating a water future that will enable both our city and our larger region to thrive in the changing environment of the 21st century.”

**Katherine Waser
WMG Docent & Flow Member***

*Flow members make a monthly gift to sustain WMG’s community conservation and river restoration work. If you’d like to join this group of visionary supporters and invest in long-term, high impact programs, visit Watershedmg.org/Flow.



PIONEERING & PROVING GREEN STREETS IN THE VALLEY

“We hope to create a smart and connected network of monitored Low Impact Development projects across the Valley to build our knowledge of how these work in our urban desert conditions.”

— Dr. Paul J. Coseo,
Assistant Professor of
Landscape Architecture,
ASU

Phoenix is hot, dry, and sprawling - this is the story we often hear about America's fifth largest city, and why it has been dubbed the world's "least sustainable city." Phoenix is also growing, innovating, and living up to its namesake as it strides to reinvent itself in the face of prolonged drought and record population growth. Part of this reinvention is focused on how to make the Valley more "livable" and to create complete streets that improve walkability and mitigate the urban heat island effect in our urban areas. One important piece of the puzzle is utilizing green infrastructure.

In 2018, the City of Phoenix released a report titled "Triple Bottom Line Cost Benefit Analysis of Green Infrastructure/ Low Impact Development (GI/ LID) in Phoenix, AZ." The report highlights the economic, societal, and environmental value (triple bottom line) of green infrastructure by examining three recent installations in the city. Two of those, Primera Iglesia and Glendale Community Center, were designed and implemented by WMG and our volunteers. In short, the results showed a positive triple bottom line value for our green infrastructure projects. The social benefits highlighted include higher property value, larger tree canopy coverage, lower flood risk, and reduced urban heat island effect. Environmental benefits highlighted include improved water quality, avoided carbon emissions from concrete, improved air quality from vegetation, and avoided energy use due to natural shading. The numbers are impressive - you can check out the report at Phoenix.gov/oep.

As part of a larger Valley-wide effort to support innovation and widespread use of Low Impact

Development (LID) strategies, WMG collaborated with the Flood Control District of Maricopa County and Arizona State University's (ASU) Hydro-GI Lab in 2018 to implement experimental water-harvesting basins.

"These types of projects allow us to fine tune our LID strategies to our Valley's soil composition, heating and cooling cycles, and hydrological conditions," shares Dr. Paul J. Coseo, Assistant Professor of Landscape Architecture at The Design School and Senior Sustainability Scientist at the Global Institute of Sustainability at ASU. "We hope to create a smart and connected network of monitored LID projects across the Valley to build our knowledge of how these work in our urban desert conditions. This is not only to design more effective LID strategies, but also to show proof of concept for their usefulness in cultivating biodiversity in our compact urban spaces."

Students and community volunteers helped create the nine experimental basins at a WMG workshop by finishing the fine grading and filling the basins with different materials to be monitored.

Volunteers also planted native shrubs and grasses that require only low amounts of water to survive in our desert climate. The goal of this project is to understand how current practices of flood control (detention basins) and water-harvesting basins perform in terms of their water holding capacity and how plants play a role in the hydrological and urban climate processes. The results will inform practitioners and policymakers for integrating the scientific understanding of green infrastructure into practice for better managing stormwater and floods.



WMG led the installation of experimental water-harvesting basins that will be monitored by ASU and the Flood Control District of Maricopa County. The data collected will help improve green infrastructure design in the Phoenix Valley.

FUNDING, SPONSORS AND PARTNERS

Grant and Foundation Funding

Agnese Haury Foundation
 American Rivers
 Arizona Department of Environmental Quality
 Arizona State Forestry Division
 Central Arizona Project
 Cienega Watershed Partnership
 City of Tucson
 Gulf Coast Community Foundation
 Jeff & Connie Woodman Foundation
 National Oceanic and Atmospheric Administration
 Pima County Community Development River Network
 Salt River Project
 Sonoran Institute
 Tucson Water
 United States Bureau of Reclamation
 U.S. Fish and Wildlife Service
 Walton Family Foundation

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 TerraSophia LLC
 Time Market
 Treeland Nurseries Inc
 Tucson Craft Beer Crawl
 Tucson Electric Power
 Tucson Hop Shop
 Tucson Yoga
 Westgate Garden Design
 Zocalo Magazine

Tucson Region Partners

2030 District
 American Rivers
 AMP Insights
 Arizona Master Naturalist Association
 Arizona Project Wet Basis Tucson North
 Billy Lane Lauffer Middle School
 Booth-Fickett Math-Science K-8 Magnet School
 Canyon del Oro High School
 Changemaker High School
 Cienega Watershed Partnership
 City of Tucson Mayor's Office
 City of Tucson Parks and Recreation
 City of Tucson, Ward 1 Council Office
 City of Tucson, Ward 2 Council Office
 City of Tucson, Ward 3 Council Office
 City of Tucson, Ward 6 Council Office
 Drachman Montessori
 Esperero Canyon Middle School
 Flowing Wells Neighborhood Association
 Freeport-McMoRan Inc.
 La Cebidilla Neighborhood Association
 Local First Arizona
 Mission Garden
 National Park Service
 National Phenology Network
 New Hope Church
 Paulo Freire Freedom School - University
 Pima County
 Pima County Community Development
 Pima County Regional Flood Control District
 Run Tucson
 Santa Rita High School
 Sierra 2-8 School
 Sky Island Alliance

The Nature Conservancy
 The Sonoran Institute
 Tierra y Libertad Organization
 Tucson Department of Transportation
 Tucson High Magnet School
 Tucson High School
 Tucson Water
 U.S. Fish and Wildlife Service
 United States Bureau of Reclamation
 University of Arizona Bureau of Applied Research in Anthropology
 University of Arizona Udall Center for Studies in Public Policy
 University of Arizona Water Resources Research Center
 University of Arizona, School of Natural Resources
 US Forest Service, CNF Catalina District

Phoenix Region Partners

Arizona State University
 Audubon Arizona
 City of Avondale
 City of Glendale
 City of Mesa
 City of Phoenix Neighborhood Services Department
 City of Phoenix Office of Environmental Programs
 City of Phoenix Parks and Recreation
 City of Phoenix Water Services Department
 City of Tempe
 Desert Botanical Garden
 Flood Control District of Maricopa County
 Mesa Urban Garden
 Primera Iglesia Metodista Unida
 Sustainable Cities Network Arizona
 State University Global Institute of Sustainability
 The Nature Conservancy - Phoenix
 Trees Matter
 Wilson School District No. 7

Other Partners

Bernallilo County, New Mexico
 City of Flagstaff
 EPA Region 6
 U.S. Forest Service International Programs

FINANCIAL REPORT

Revenue and Support

Grants	232,183
Donations	277,074
Program income	1,034,887
Total Income	\$1,544,143

Expenses

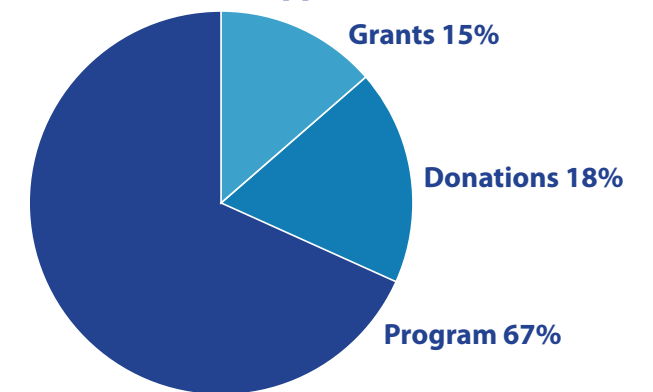
Program Services	
Living Lab & Learning Center	74,159
Phoenix Program (Co-op, Demonstration Sites, Hydrate, Outreach)	109,960
River Run Network	97,492
Tucson Green Living Co-op	194,424
Tucson Design Build	396,861
Watershed Education (Schoolyard, Monsoon Squad, Outreach)	193,946
Watershed Policy, Planning, and Training	207,043
Total Program Services	\$1,273,885
Supporting services	
Administrative	142,618
Development	66,318
Total Supporting Services	\$208,937
Total Expenses	\$1,482,822

FINANCIAL SUMMARY

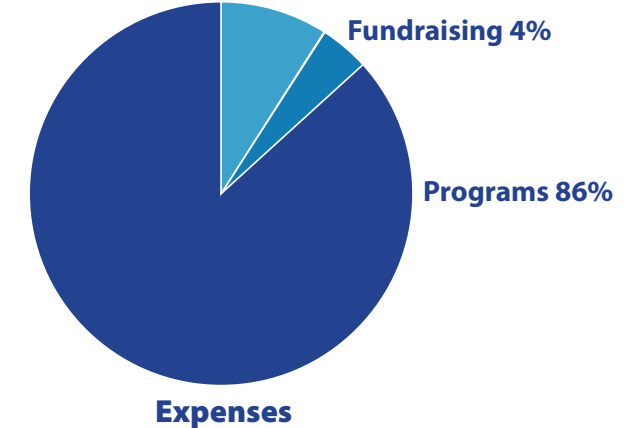
WMG maintained a healthy diversity of revenue from donations, grants, and fee-based services. Donor dollars were essential to support the continued development of the River Run Network as well as fund hundreds of free educational classes and community workshops. Grant funds supported experiential educational training with K-12 teachers and students and green infrastructure and water harvesting programs with limited income communities. WMG decided to phase out the Design Build program at the end of 2018 to focus organization resources on the River Run Network and our educational services. The Phoenix Green Living Co-op was also phased out at the end of 2018 due to lack of demand to host workshops. Phoenix programs in 2019 will focus on free educational classes and creating public demonstration sites.



Revenue & Support



Expenses





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