

FALL 2019



A Watershed Moment

A NEWSLETTER OF WATERSHED MANAGEMENT GROUP

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RIVERS REBORN

Local Water Supplies Shape the Future

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DESERT RIVERS REBORN

Local Water Supplies Shape the Future

The good news keeps coming for our rivers this year. In June, we celebrated the launch of the Santa Cruz Heritage Project, releasing recycled water into the river to support perennial flow through downtown Tucson. Now we learn another stretch of the Santa Cruz River is also flowing regularly, thanks to restored groundwater levels.

The Tohono O’odham fought to gain water rights in the 1970s that allowed them to recharge Central Arizona Project (CAP) water on their lands and replenish groundwater that had been pumped in excess by the non-indigenous population. Rising groundwater levels have allowed the river to resurface, with a half-mile stretch flowing now for more than one year!

I had the privilege of walking along this reborn river stretch on a field trip with the San Xavier District as part of the Santa Cruz Watershed Collaborative in October. Hundreds of young cottonwoods had sprouted along the riverbed, promising a new era of life and hope.

It’s not just the Santa Cruz that is being reborn; I have good news to share from other parts of our watershed. WMG has been monitoring creek flow across the Tucson basin since 2017. Our community scientists have observed perennial stretches along both Sabino Creek and Tanque Verde Creek, including three years of continuous flow along one stretch of Lower Sabino Creek as well as rising groundwater levels nearby.

This winter, community scientists recorded 50 consecutive days of flow along the lower Tanque Verde Creek and upper Rillito River. While this year’s flow was fed by above-average rainfall and snow accumulation, historically this stretch of the river had groundwater supported flow for most or all of the year, up until the early1900s.

Ciénega Creek, a tributary of the Santa Cruz River, has two reaches with year-round flow. The creek’s flow is substantial enough that it is being considered as a location to reintroduce beavers in 2020 (see page 4).

Imported water from the CAP has allowed Tucson

and surrounding communities to stop overpumping groundwater and to restore groundwater levels in locations across the Tucson basin. I’m pleased to see some of this recharge occur near our rivers, and I encourage our watershed planners to strategically recharge more CAP and recycled water in or alongside our rivers to support flow.

Looking forward, our community should embrace the potential of local water supplies to meet our water needs and restore our region’s heritage of flowing creeks and rivers (see page 8). Our local water resources include rainwater, greywater, and stormwater, in addition to recycled water. Rainwater harvesting systems can typically supply all residential and commercial landscape water demands and can meet indoor residential water needs as well.

Water harvesting has quickly grown in popularity with Tucson households, and these solutions can be scaled up to reduce our municipal water demands in the face of climate change and dwindling CAP water supplies.

The City of Tucson took a big step forward in utilizing local water supplies with the recent approval of the Green Stormwater Infrastructure Fund. Tucson’s Mayor and Council directed Tucson Water to move forward with implementing the \$3-\$5 million annual fund dedicated to installing and maintaining public green infrastructure. The fund will substantially scale up our ability to collect and infiltrate stormwater in urban areas, supporting an urban forest as well as recharging more groundwater.

Our rivers are being reborn after a century of decline. This is a defining moment for all the communities that live in our Santa Cruz watershed. We should rejoice alongside the Tohono O’Odham Nation and work beside them to restore flow to our rivers and quicken our pace towards a more resilient future. Each of us has a part to play, as we reduce our dependence on imported CAP water, cultivate our local water supply, and scale up conservation efforts.

Sincerely,

Lisa Shipek
Executive Director

Three years of continuous
flow has been observed
along this stretch of
Sabino Creek.





We're thrilled with the amount of support our Summer Release the Beavers Campaign received!

Your dedication is more important than ever. We had a panel of experts in attendance at our Beavers, Brews, and Santa Cruz event and we learned so much valuable information regarding our furry friends.

We learned that the wide-scale hunting and trapping of beavers began as non-indigenous populations arrived in North America and continued through the late 1800s, which led to the near disappearance of beavers in the American West. As a result of the loss of this keystone species, our riparian areas, rivers, and remnant wetlands underwent a massive transformation—the extent of which we can't even imagine.

Beavers are capable of moving across dry land to enter other watersheds, so the reintroduction of them to any wetland in the Southwest could have incredible effects on our landscape: they are nature's engineers, after all! During hydrological studies along the San Pedro River, the USGS discovered that beavers do indeed make a dramatic difference in recharge and groundwater elevation, which is vitally important for us here in the desert¹.

Some heartbreaking news emerged from the panel—there has been little evidence of beavers or beaver dam construction on the San Pedro in the last three years. The beavers were reintroduced to the San Pedro twenty years ago and at their peak had a population of around 150 animals. Now the population seems to be around 20 animals. It is unclear why their populations have drastically diminished, but it is likely the beavers

RELEASE THE BEAVERS CAMPAIGN UPDATE

Historical Status, San Pedro Beaver Crisis, Future Introductions

have dispersed—moved by floods or walking overland to find wetter areas upstream in Mexico or in other watersheds like the Santa Cruz and Gila.

Beavers are under threat; they are sometimes perceived as a nuisance and are killed by locals as well as by poachers. Panel members have seen evidence of this activity on both sides of the border. Through WMG's campaign, we plan to expand our educational efforts to increase the public's understanding of beavers and their role in the watershed, so that existing populations are protected.

The Bureau of Land Management (BLM) and Arizona Game and Fish Department (AZGFD) told us a little more about the process to reintroduce these animals. First, the BLM needs to complete an Environmental Assessment to adhere to the National Environmental Protection Act and determine whether the reintroduction of beavers would have any unexpected or negative side-effects, like attracting invasive, non-native species—such as the American bullfrog. Next, a manager at the BLM will decide whether or not to move forward. Then the AZFGD will conduct its own Environmental Assessment Checklist Process. Both of these processes will include opportunities for public comment, and hopefully, these first two steps will be accomplished by early spring. We will keep our River Run Network members informed when opportunities arise for public input.

While the consensus is that the reintroduction of beavers is incredibly positive for our watersheds, riparian areas, and ecological resilience in the

face of climate change, we need to be sure that everything is done correctly and all the players are prepared for the management of both beavers and beaver habitat. We'd like to see the BLM and AZGFD renew monitoring of the San Pedro beaver populations and take proactive actions to help stabilize their populations. With beaver populations in both the San Pedro and Santa Cruz watersheds in the U.S. and Mexico, we encourage more coordination and collaboration to ensure these populations can thrive.

WMG will continue our community education and watershed restoration efforts to increase groundwater levels, support surface flow, and expand riparian habitat in hopes that beavers will be reintroduced to the Las Ciénegas National Conservation Area. We'll be relying a lot on our River Run Network members to help restore our watershed one project at a time.

If you're not yet involved, sign up for the River Run Network at watershedmg.org/RRN, and help us restore vital habitats to support beavers in Southern Arizona!

“Some heartbreaking news emerged from the panel—there has been little evidence of beavers or beaver dam construction on the San Pedro in the last three years.”

¹ Gungle, Bruce, Callegary, J.B., Paretti, N.V., Kennedy, J.R., Eastoe, C.J., Turner, D.S., Dickinson, J.E., Levick, L.R., and Sugg, Z.P., 2016, Hydrological conditions and evaluation of sustainable groundwater use in the Sierra Vista Subwatershed, Upper San Pedro Basin, southeastern Arizona (ver. 1.3, April 2019): U.S. Geological Survey Scientific Investigations Report 2016–5114, 90 p., <https://doi.org/10.3133/sir20165114>



BEAVER EXPERTS SHARE INSIGHTS

at WMG’s Beavers Brews, and Santa Cruz Event

At WMG’s Beavers, Brews, and Santa Cruz event in September, we hosted a panel of experts who answered some important questions surrounding beavers in Southern Arizona and the possible reintroduction of beavers into Las Ciénegas National Conservation Area. Below are highlights from the panel. You can see the full transcript at [Watershedmg.org/Beavers](https://watershedmg.org/Beavers).

What was the historical range of beavers in this region?

Doug: We’ve done a lot of digging into the records for beavers in the Santa Cruz. They have certainly occurred here in the past, and I will say right now I believe they deserve to be back also, as a tool we’ll discuss.

Jeff: The Gila was well populated and the San Pedro next door was called Beaver River by the trappers because there were so many. If you look at the Gila River system as a whole, any place that had water probably had beaver.

Antonio: Once beavers are established they move around; we know there is another area in the Rio Bravo, Chihuahua, so the range is very wide. We are proposing to restore the riparian corridor, so when beavers appear they are cutting the trees, so [people] think they are a threat for the riparian corridor. When beavers appear, they kill them in some areas. We need to educate people to teach that beavers are important to the corridor.

What were the lessons learned from the reintroduction of beavers into the San Pedro River?

Jeff: In 2000 there were about 15 beaver that were reintroduced by the AZGFD. At their height, there were over 100, maybe 160, in the San Pedro Riparian National Conservation area. Since then, they have been on the decline and we haven’t seen a beaver or beaver dam in three years on the San Pedro.

Trevor: They make giant ponds that can be very attractive to our non-native species in the area. The difference between the San Pedro and Las Ciénegas is that Las Ciénegas is pretty clean. In case beavers do make it into the Tucson

basin, we need high-quality riparian habitat that is free of those non-native species so we can welcome beavers with open arms and there are none of those issues other areas have experienced.

What issues are there over the potential reintroduction into Ciénega Creek?

Jeff: First of all, we have to deal with NEPA, the National Environmental Policy Act. USFWS looks at the impact to endangered species in critical habitat. We make a well-informed decision based on fact, science, and best management judgment. Ultimately the AZGFD gets to decide what’s next. I’m hoping we get through those first two stages by early spring but things can get delayed when we get in the public eye.

John: We hold the wildlife in trust with the public, so it’s a publicly owned resource managed by the Game and Fish Department, and the department answers to the Arizona Game and Fish Commission which is a 5-member citizen board. I think there may be a little too much enthusiasm for how quickly this thing will proceed, because there is a need for all the aspects to be looked at. This is by no means a done deal, there’s a lot of work to do, there’s a lot of science to get through, and there’s a lot of opportunities for the public to provide input.

Trevor: So I think WMG’s role and your role in all of this—and we will keep you informed as we go forward—is that the general consensus is this a good thing, but we have to look at all the aspects. We’re going to be asking our River Run Network and community of folks in the Tucson basin to comment.

What can we do to help restore these critical habitat areas? How do we play a role in that?

Trevor: We have two grants, one from the Bureau of Reclamation and one from

the Arizona Department of Environmental Quality, to work in the Ciénega Creek watershed to start healing erosion, slow the flow of the water down, spread it out and sink it in. If we can slow the stormwater flows down before they reach the creek, then they are going through the system, but they’re going much slower and supporting the growth of those trees that the beavers need to survive.

Doug: Fish and other aquatic species need water and the prognosis for water in this part of the continent with climate change and the continuing drought is not good. Whatever we can do to maintain water in our streams we are fully supportive of.

Jeff: The buzzword is resilience in our agency right now. How do we increase the resilience of some of our ecosystems? The San Pedro River and Cienega Creek really are endangered ecosystems given what’s coming, so how do we build that resilience? We fix watersheds, which you folks are doing, and we add things like beaver that assist in the recharge of shallow aquifers.

Historic Flow Status - late 1800s to 1910s

1800s to 1910s

WMG defined historic flow status based on historic accounts from photos, researched publications, groundwater depth trends, and current status. Perennial is defined as flows continuously most years. Intermittent is defined as flowing only at certain times of the year.

TUCSON'S HERITAGE OF FLOWING CREEKS AND RIVERS

Tucson's rivers have changed dramatically in the last 100 years. These maps show where rivers are flowing year-round, seasonally, and only after rainstorms. Comparing the two maps, it is evident we have lost many of our year-round and seasonal flow reaches. As part of our watershed planning and river restoration

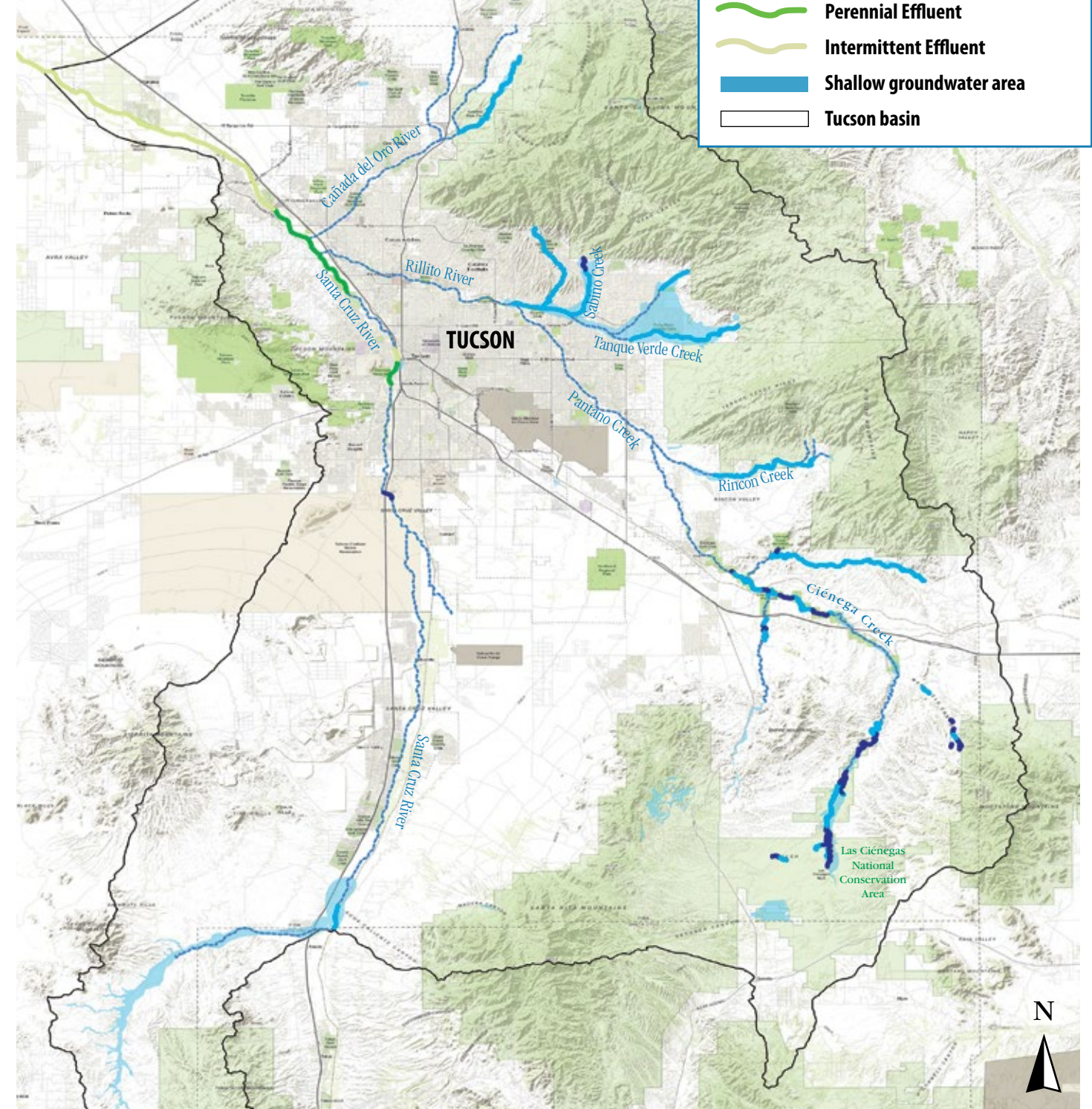


Present Day Flow Status - 2019

The map is based on perennial and intermittent streams defined by Pima County. WMG updated the map based on our Flow365 community science observations of flow states from the last two years.

- **Perennial** (flows continuously most years)
- - - **Intermittent** (seasonal flow)
- . . . **Ephemeral** (flow after rain events)
- **Perennial Effluent**
- - - **Intermittent Effluent**
- **Shallow groundwater area**
- Tucson basin**

work, it is critical for us to understand historic conditions as we make decisions about where we want to focus our efforts and what we are ultimately trying to restore. While we will never recreate historic conditions, we can define a new future where flowing rivers are an essential part of our desert cities.



THE SANTA CRUZ RIVER AND GREAT MESQUITE FOREST

WMG has been compiling historic photos of Tucson’s rivers and has been carefully reviewing repeat photo points provided by the U.S. Geological Survey. The photos tell a story of the drastic change with river flow and river habitat. The Great Mesquite Forest, once seven square miles along the Santa Cruz River, virtually disappeared between the mid and late 1900s. With year-round flow now established downtown and on the San Xavier District lands, it’s possible the Great Mesquite Forest could start to be restored.



The Santa Cruz River in 1919 from the side of Sentinel Peak (A Mountain). The river is flowing with partial vegetation cover on one bank and agricultural farming on the other. Photo credit: U.S. Geological Survey.



The Santa Cruz River in 2003 from the side of Sentinel Peak (A Mountain); the road in the foreground is Starr Pass Blvd. The agricultural farming is gone as well as much of the floodplain and riparian vegetation. Photo credit: U.S. Geological Survey.



The Santa Cruz River in 1942, facing south toward the Santa Rita Mountains. Pictured is a vast mesquite bosque (forest), a highly productive riparian habitat found in the desert. Photo credit: U.S. Geological Survey.



The Santa Cruz River in 1989, facing south toward the Santa Rita Mountains. In place of the mesquite bosque from 1942, there is a dry river bed with little to no vegetation. Photo credit: U.S. Geological Survey.



The Santa Cruz collaborative convenes over 50 partners at biannual forums.

SANTA CRUZ WATERSHED COLLABORATIVE

Aligns with WMG’s Vision and Initiates Watershed Restoration Plan

As a promoter of our local watershed health since our formation in 2003, WMG is an active participant in the Santa Cruz Watershed Collaborative, working to restore the hydrological and ecological function of the watershed through smart management and policy decisions. The group is comprised of member organizations from the nonprofit sector, government agencies, private businesses, utility companies, and even just some concerned citizens with a stake in watershed health.

The Collaborative is charting a new era of strategic partnerships led by this vision: “People working together to ensure a healthy urban watershed with flowing rivers and streams,” which closely aligns with WMG’s 50-year vision to restore Tucson’s heritage of flowing creeks and rivers.

With such a range of expertise, one of the most exciting factors of the Collaborative has been the efforts to build a cohesive, detailed, and action-oriented Watershed Restoration Plan. The plan isn’t meant to take anything away from anyone or dictate their actions, but to determine how we can work better together. WMG’s Policy and Technical Director, Catlow Shipek, is heading up the development of this plan on behalf of the collaborative, with support from a two-year grant from the Bureau of Reclamation.

Through prior forums and conversations, we’ve settled on three major goals. First, we need

to create a secure and equitable water future by promoting surface water, groundwater, rainwater, stormwater, and recycled water as One Water. The Green Stormwater Infrastructure policy recently approved by Mayor and Council is an example of One Water strategies and integrated thinking.

Second, we’re working to restore perennial and intermittent flow, native riparian habitat and associated ecosystem services of rivers and streams by promoting holistic watershed management. WMG and the UA’s Water Resources Research Center are co-leading a working group that meets monthly to tackle this goal.

Finally, we want to improve community connections to the watershed by aligning and strengthening environmental education, recreation, and green job strategies among our collaborative partners. This means you! Your efforts can help us achieve these goals more quickly as part of our River Run Network and Co-op programs.

If you’re interested in learning more or getting involved, check out the Collaborative’s website at SantaCruzWatershedCollaborative.net.

MONTHLY DONORS INVEST IN WMG

Andrea Martin, a retired satellite engineer, first got involved with WMG over a decade ago. Andrea has donated to WMG for the last ten years, and became a monthly Flow donor back in 2010. She’s served on the board of directors, and supports the organization for our shared values.

“I support reasonable, responsible use of the Earth’s resources. WMG has always promoted things I believe in: conservation, education, and good use of resources,” Martin shares.

Martin has also been a big contributor to the Green Living Co-op, and currently has close to 90 hours banked from the workshops she has contributed to. Doing Co-op workshops fit into her retirement plan. She says, “When I retired I dedicated myself to working on the mountain and in the desert. I’m all about the desert and mountain ecology.”

Andrea supports WMG’s work because she appreciates that WMG is a nonprofit and “believes that what WMG is doing is a good thing to do. We need to be more responsible in how we use our resources, and I like that WMG teaches that.”

Another monthly Flow donor, Bee Ottinger, started with WMG in 2017, when she took WMG’s seven-day Water Harvesting Design Certification course. She was hooked and started installing passive rainwater collection to support native trees at her own home. Shortly thereafter she joined WMG as a Stewardship Circle and Legacy Donor as well as joining WMG’s Board of Directors.

Bee is a big believer in WMG’s long-term goals. “I want to keep Tucson healthy and sustainable. I believe in the vision of the River Run Network to get the rivers running again. I think it will make a huge difference in the livability of our city.”

When asked what she would share with a friend about becoming a WMG donor, Bee says: “I literally see it as saving our city. We are going to be hotter and drier and it is urgent that we prepare for that,” which she feels WMG is able to do by putting the tools in the hands of the people. Bee affirms, “Every person can do it themselves!”



Monthly donor Andrea Martin

Donating, Volunteering, & Serving the Community



Monthly donor Bee Ottinger

RESTORING COMMUNITY PRIDE AND RIVER CONNECTION

Putting the Flow Back in Flowing Wells Neighborhood



Above: Shannon Road is a blank slate.
Below: recently installed basins soak up rain for hundreds of new plants

The Flowing Wells neighborhood and its namesakes were once connected to the Rillito River's rich floodplain and seasonal flows. Today the wells are still operating, but the flows, disconnected and disturbed, now run everywhere but the river—along streets and into the yards and homes of residents in socially vulnerable neighborhoods.

Working together, the Flowing Wells Neighborhood Association, WMG, and Pima County's Community Development and Neighborhood Conservation Department began imagining a way to use those bountiful flows

to bring beauty and character to the neighborhood's neglected infrastructure. WMG helped bring this vision to life by leading the design and installation of green infrastructure along six blocks of Shannon Road. The installation was completed through three Saturday workshops with the caring effort of volunteers and neighbors.

Once a long stretch of hot and barren gravel, Shannon Road is now home to hundreds of native plants and 50 newly planted shade trees. Dubbed the Shannon Gardens, this rain-fed oasis harvests water from the street to provide a shady connection from a local school and church down to a community park at the edge of the Rillito River.

Local residents like Keith Clark are already excited about the long-term benefits. **"I love this. When the trees come in, it will make my house a whole lot cooler."**

The Shannon Road raingardens support the neighborhood's vision to reclaim crime-prone spaces, increase shade and walkability along streets, and reconnect neighbors and families together. The project is restoring the environment—a key component of the project's larger goal of helping restore community pride.

As Shannon Road resident Pat Rickert, shared, **"I like it here, but we have so many issues. Can you imagine? If we could get more raingardens everywhere around here. It'd be a better place for me to live—if we can plant more raingardens—I'll stay."**

To learn more and get involved visit: [Watershedmg.org/FlowingWells](https://watershedmg.org/FlowingWells).

RESTAURANDO EL ORGULLO COMUNITARIO Y LA CONECTIVIDAD CON EL RÍO

Reintegrando el Flujo al Vecindario de Flowing Wells

El vecindario de Flowing Wells y sus alrededores alguna vez estuvieron conectados con la rica planicie aluvial y los flujos estacionales del Rillito. Hoy en día, los pozos siguen funcionando, pero los flujos, desconectados y perturbados, ahora corren por todas partes menos en el río, a lo largo de las calles y en los patios y hogares de los residentes en vecindarios socialmente vulnerables.

Trabajando juntos, la Asociación de Vecinos de Flowing Wells, WMG y el Departamento de Desarrollo Comunitario y Conservación de Vecindarios del Condado Pima comenzaron a imaginar una forma de usar esos abundantes flujos para traer belleza y carácter a la infraestructura descuidada del vecindario. WMG ayudó a realizar esta visión liderando el diseño e instalación de infraestructura verde a lo largo de seis cuadras de Shannon Road. La instalación se realizó a través de tres talleres sabatinos con el esfuerzo solidario de voluntarios y vecinos.

En el pasado reciente, esto era un largo tramo de grava caliente y árida, ahora Shannon Road alberga cientos de plantas nativas y 50 árboles de sombra recién plantados. Denominado los Jardines de Lluvia Shannon, este oasis de cosecha de agua de tormenta desvía agua de la calle para proporcionar una conexión

de sombra desde una escuela local y una iglesia hasta un parque comunitario al borde del Rillito.

Residentes locales como Keith Clark se encuentran entusiasmados con los beneficios a largo plazo. **"Me encanta esto. Cuando estos árboles estén grandes, hará que mi casa esté mucho más fresca".**

Los jardines de lluvia en Shannon Road respaldan la visión del vecindario de recuperar espacios expuestos a la delincuencia, aumentar las áreas sombreadas y la movilidad a lo largo de las calles reconectando a vecinos y familias. El proyecto está restaurando el medio ambiente, un componente clave del objetivo más amplio de trabajar con la gente para restaurar el orgullo de la comunidad.

Pat Rickert, residente de Shannon Road, nos dice: **"Me gusta aquí, pero tenemos muchos problemas. ¿Te imaginas! Si pudiéramos tener más jardines de lluvia en todas partes por aquí. Sería un mejor lugar para vivir, si sembramos más jardines de lluvia, de seguro que me quedo aquí".**

Para más información y participar, visite: [Watershedmg.org/FlowingWells](https://watershedmg.org/FlowingWells).





WMG Directors building a cohesive team. From left to right: Harold Thomas, Associate Director; Lisa Shipek, Executive Director; Catlow Shipek, Policy and Technical Director

WMG STAFF UPDATES

Associate Director Leads Co-op and Phoenix Programs

Harold Thomas has been settling in and hitting his stride after joining WMG as Associate Director in February. Harold is part of WMG’s leadership team, working on strategic development, fundraising, and community engagement. He is responsible for directing our Green Living Co-op and the Monsoon Squad programs, which provide hands-on education and community workshops in water harvesting and native landscaping. He is also overseeing development of WMG’s work in the Phoenix area and making connections with new funders and partners. Harold has graduate degrees in Urban and Environmental Planning and in Sustainable Development. He has worked in international development, planning and policy since 2005, supporting community-led projects in the U.S., Mexico, Ecuador and Thailand.

Executive Director Takes Sabbatical to Recharge

Lisa Shipek is taking a well-earned sabbatical in January and February 2020, handing over the reins to Harold Thomas in her absence. Lisa’s sabbatical is unstructured personal time to explore new places, recharge, and refuel her creative energy. She will be spending one month in Austin, Texas and one month in New Zealand equipped with her folding bike and backpacking gear. Lisa has served as the Executive Director since 2006 and is excited to continue to grow with the organization and lead WMG as we continue to implement our 50-year strategic plan for river restoration in the Tucson basin.

WMG Expertise Utilized in Complete Streets Council

Catlow Shipek was one of 17 members appointed to the Complete Streets Coordinating Council in October 2019. This new council was formed from over 100 applicants as part of the Complete Streets policy passed by Mayor and Council in February 2019. The new council will be working closely with Tucson Department of Transportation staff to create the city’s Master Mobility Plan and will be advising on the prioritization of Complete Streets projects, design, and implementation. Catlow will be advocating for green infrastructure to be a prominent part of Complete Streets design, bringing more than a decade of

experience in green infrastructure design, implementation, and policy development. He will also advocate from his personal experience as an avid bike commuter and bus rider.

WMG Welcomes New Staff

WaterWRLD, now in its fifth year, is a competitive, year-long internship program that provides University of Arizona students the opportunity to work directly with WMG staff on community conservation and river restoration programs. Two interns from our previous cohort recently joined the WMG staff team: Nichole Casebeer and Lauren Monheim. Nichole joined WMG as a Project Designer in January while still finishing her master’s degree in Landscape Architecture. After graduating in May, she transitioned to a full-time position and is tackling designs for people’s homes as part of the Co-op as well as neighborhood-scale green infrastructure designs. She is mentoring under Trevor Hare and Catlow Shipek to expand her role into project management.

Lauren Monheim joined WMG as the River Run Network Program Coordinator after completing the WaterWRLD internship program with WMG and graduating with a degree in Watershed Hydrology and Management. She works closely with the River Run Network team to recruit new members into the program, organize creek walks, and support educational initiatives. She now coordinates Flow365, our community science creek-monitoring program. Lauren has proved that she can hang with our well-seasoned River Run Network team and coordinate program logistics while the team is juggling watershed planning, restoration, and policy work.

Charlie Alcorn joined the team this summer to coordinate the Green Living Co-op program, as well as assist with Living Lab programs and community outreach. Charlie has the essential role of connecting people to our services for consultations and Co-op workshops. He has been helping train WMG’s newest ambassadors by organizing the fall intern and docent training programs. He is passionate about environmental education and ensures all the behind-the-scenes logistics are running smoothly, with a friendly face.



Nichole Casebeer, Project Designer



Lauren Monheim, River Run Network Program Coordinator



Charlie Alcorn, Program Coordinator

SPRING 2020



Field Studies Class: Composting Toilets
Don't poop in potable water! Join the humanure revolution and stop flushing drinking water. Learn how on Thu, Jan 23 or Thu, April 16. \$30.

Field Studies Class: Water Harvesting Irrigation Systems Learn how to plan and install irrigation systems compatible with rain tanks as well as your city water supply. Make the most of your precious water resources on Feb 20. \$30.



Field Studies Class: Rain Garden Care
Explore the nuances of rain garden care and how to keep your landscape happy, healthy, and long lasting on March 19. \$30.

Field Studies Class: Soils
Discover the fundamentals of building healthy desert soils for your yard and plants on May 14. \$30.

LIVING LAB & LEARNING CENTER EVENT CALENDAR

Offerings are FREE unless denoted by an asterisk (*). See the website for costs. Register for events at [Watershedmg.org/event/tucson](https://watershedmg.org/event/tucson) or call 520-396-3266 X22.
**TucsonCSA.org

JANUARY	Rainwater Harvesting Class (Tucson Water Rebate)	Thu, Jan 9, 4:30-7:30pm
	Living Lab & Learning Center Tour	Sat, Jan 11, 10-11:30am
	Greywater Harvesting Class (Tucson Water Rebate)	Thu, Jan 16, 5-7pm
	Rainwater Harvesting Class (Tucson Water Rebate)	Sat, Jan 18, 9am-12pm
	Living Lab & Learning Center Tour	Wed, Jan 22, 10-11:30am
	*Field Studies Class: Composting Toilets	Thu, Jan 23, 5-7:30pm
	**Tucson Community Supported Agriculture Pickup	Wednesdays @ 4-7pm

FEBRUARY	Living Lab & Learning Center Tour	Sat, Feb 2, 10-11:30am
	Rainwater Harvesting Class (Tucson Water Rebate)	Sat, Feb 8, 9am-12pm
	Greywater Harvesting Class (Tucson Water Rebate)	Thu, Feb 13, 5-7pm
	*Field Studies Class: Water Harvesting Irrigation Systems	Thu, Feb 20, 5-7:30pm
	Living Lab & Learning Center Tour - Bilingual	Sat, Feb 22, 10-11:30am
	Rainwater Harvesting Class (Tucson Water Rebate) & Financing Info Session – Bilingual	Thu, Feb 27, 4:30-7:30pm
	**Tucson Community Supported Agriculture Pickup	Wednesdays @ 4-7pm

MARCH	Rainwater Harvesting Class (Tucson Water Rebate)	Thu, March 1, 9am-12pm
	Living Lab & Learning Center Tour	Sat, March 7, 9-10:30am
	Greywater Harvesting Class (Tucson Water Rebate)	Thu, March 12, 5-7pm
	Living Lab & Learning Center Tour	Wed, March 18, 5:30-7pm
	*Field Studies Class: Rain Garden Care	Thu, March 19, 5-7:30pm
	Rainwater Harvesting Class (Tucson Water Rebate) - Bilingual	Sat, March 21, 9am-12pm
	*Field Studies Class: Pruning Native Shade Trees	Sat, March 28, 9am-12pm
	**Tucson Community Supported Agriculture Pickup	Wednesdays @ 4-7pm

APRIL	Rainwater Harvesting Class (Tucson Water Rebate)	Thu, April 2, 4:30-7:30pm
	Living Lab & Learning Center Tour	Sat, April 4, 9-10:30am
	Greywater Harvesting Class (Tucson Water Rebate)	Thu, April 9, 5-7pm
	Rainwater Harvesting Class (Tucson Water Rebate) & Financing Info Session	Sat, April 11, 9am-12pm
	Living Lab & Learning Center Tour	Wed, April 15, 5:30-7pm
	*Field Studies Class: Composting Toilets	Thu, April 16, 5-7:30pm
	**Tucson Community Supported Agriculture Pickup	Wednesdays @ 4-7pm

MAY	Rainwater Harvesting Class (Tucson Water Rebate)	Sat, May 2, 9am-12pm
	Living Lab & Learning Center Tour - Bilingual	Sat, May 9, 8-9:30am
	*Field Studies Class: Soils	Sat, May 14, 5-7:30pm
	Living Lab & Learning Center Tour	Wed, May 20, 6-7:30pm
	Greywater Harvesting Class (Tucson Water Rebate)	Thu, May 21, 5-7pm
	Rainwater Harvesting Class: (Tucson Water Rebate)	Thu, May 28, 4:30-7:30pm
	**Tucson Community Supported Agriculture Pickup	Wednesdays @ 4-7pm

JUNE	Living Lab & Learning Center Tour	Sat, June 6, 8-9:30am
	Rainwater Harvesting Class (Tucson Water Rebate)	Thu, June 11, 4:30-7:30pm
	Living Lab & Learning Center Tour	Wed, June 17, 6-7:30pm
	Greywater Harvesting Class (Tucson Water Rebate)	Thu, June 18, 5-7pm
	Rainwater Harvesting Class (Tucson Water Rebate)	Thu, June 25, 4:30-7:30pm
	**Tucson Community Supported Agriculture Pickup	Wednesdays, 4-7pm



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A scenic photograph of a desert river flowing through a lush, green landscape. The river is surrounded by dense vegetation, including tall saguaro cacti and various shrubs. In the background, rugged mountains rise under a clear blue sky. The overall scene is vibrant and natural.

EXPLORE YOUR WATERSHED ON WMG'S CREEK WALKS & RIVER RIDES!

Special events planned for River Run Network members

Register at **Watershedmg.org/RRN**

- 1/25 Hermosa School to Agua Caliente Creek
- 2/22 Loop La Cañada del Oro
- 3/18 Tapping the Flows at Fort Lowell
- 4/4 Santa Cruz River, Midvale March Madness
- 4/18 Flow & Feast at Mission Garden
- 5/7 Cruise the Santa Cruz