

SUMMER 2018

# A WATERSHED MOMENT

A Newsletter of Watershed Management Group



watershedmg.org

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## 50-Year Vision

Tanque Verde Creek at Isabella Lee Natural Preserve

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# We're Crafting a 50-Year Roadmap to Restore Tucson's Rivers!

How do you achieve an audacious 50-year vision? This summer, WMG staff is tackling that question by crafting our 50-year internal strategic plan for the River Run Network. The typical three-year strategic plan won't cut it; so we're defining goals, strategies and metrics for 5, 10, 25, and 50-year timelines. Intermediary goals and measurable metrics will ensure we reach our long-term goal of restoring Tucson's heritage of flowing rivers.

This Watershed Moment unveils our vision in greater depth, and we invite you to envision this future with us to inspire a collective river revival.

## 50-Year Vision

In 2065, the Santa Cruz River, the Rillito, and their tributaries are a cooling ribbon of green that's central to the city's economy, culture, and livability. The mesquite forest lining the banks of our creeks and rivers is as large as it's ever been with functional floodplains that make up an expansive green infrastructure network harvesting stormwater and floodwaters. The rivers are once again places for the community to play, wade and swim, and refresh under the shade of cottonwood and ashtrees.

Stretches of Sabino, Ciénega, and Tanque Verde Creeks and the Rillito and Santa Cruz River flow year-round supported by a healthy groundwater aquifer. The waterways are connected with stream sections that flow seasonally, linking populations of Gila topminnow, longfin dace, and other native fish and wildlife. Tucson's rivers are revered by the community, led by the children who grew up with this vision and became public servants, biologists, artists, and elected officials who ensure we properly manage, conserve, and protect our water to revive flowing rivers.

## 50-Year Vision Confluence of Tanque Verde Creek and Pantano River at Craycroft Rd bridge



In our 50-year vision, the lower Tanque Verde Creek will have year-round, meandering flow that feeds a ciénega (wetland) with tall stands of riparian grasses, alive with the sounds of native frog and toads. Regular flow invites native fish populations of the Gila topminnow and Gila chub to return as well as the illustrious American beaver. The reintroduced beavers will enhance the flow, through low mud-packed leaf dams that help slow the flow of water and provide for rich and diverse riparian habitat. Seasonal flows of the Pantano River will help connect populations of native fish from Ciénega Creek to Tanque Verde Creek. The extensive floodplain will be a natural sponge to absorb large flood events and increase recharge supporting an extensive mesquite bosque (forest). The mesquites, interspersed with cottonwoods and ash trees, will create a shady oasis home to an abundance of wildlife and endless recreation opportunities for families.

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## From Widespread Loss to River Revival!

Rivers in the Tucson Basin started drying up in the late 1800s due to the negative impact of Western settlers' land management practices related to agriculture, grazing, and logging. The decline amplified with the introduction of the turbine pump in the 1920s, allowing well users to pump deeper water at greater rates, drawing down our aquifers.

In 1910, UA engineer and geologist George E.P. Smith described what he thought the Tanque Verde and Pantano Creeks' confluence area was like in the early 1800s.

*"The entire valley was at that time an unbroken forest, principally of mesquite, with a good growth of grama and other grasses between the trees. The river course was indefinite – a continuous grove of tall cottonwood, ash, willow, and walnut trees with underbrush and sacaton and galleta grass, and it was further obstructed by beaver dams. The vegetative covering on the mountain slopes, on foothills and plains held the rainfall, causing a large proportion of it to be absorbed*

*in the soil. Such portion as found its way to the river channel was retarded and controlled its flow, and perhaps not oftener than a century did a master flood erode and sweep the river channel."*

After 1875 – with the establishment of Fort Lowell – the riparian wetland and forest began to disappear due to horse and cattle grazing, fuelwood cutting, and ditch digging for irrigation. <sup>1</sup>

The confluence of the Tanque Verde and Pantano Creeks – which becomes the Rillito River – is still hanging on to its former glory with some springs, natural river banks, and remaining cottonwood stands. However, this area is in critical condition. The groundwater levels continue to drop annually, threatening complete cottonwood die-off. If we take action now to halt groundwater decline, we can preserve what remains.

As a community, we're capable of so much more than just preserving the river's current status! With your

participation in the River Run Network, we can restore the confluence to be an area with almost year-round flow that supports cottonwoods and an extensive mesquite forest. It's not a matter of how much water we have, it's what we do with our water that matters. The solutions are here – rainwater harvesting, water efficiencies, neighborhood green infrastructure, and floodplain protection. Together we can create widespread adoption of these practices and the political will to make it happen!

You can be part of this widespread adoption by joining the River Run Network and by attending some of our upcoming classes or workshops to transform your own home (see pg 14-15). The Tanque Verde needs you!

<sup>1</sup> O'Mack, Scott, et al. *Little River: an Overview of Cultural Resources for the Rio Antiguo Feasibility Study*, Pima County, Arizona. Statistical Research, 2004.

# We've Got the A-Team to Restore Our Rivers!



## Lisa Shipek

Executive Director

**Specialty:** Connecting people to their local environment – from their backyard to urban rivers – through community events, play, art, and coalition building.

**Background:** Started as a UA master's student studying community-based watershed management along U.S.-Mexico border communities in the Santa Cruz River watershed. 12 years of experience as WMG's Executive Director, developing community-building programs for Tucsonans focused on water harvesting, soil stewardship, neighborhood green infrastructure, and river restoration.

### **Favorite river experience:**

Summers in New Hampshire as a kid, jumping off boulders and riding water shoots in the Swift River along the Kangamangus Scenic Byway.

### **What fuels your passion?**

Every time I experience the creeks and rivers flowing in Tucson it feeds my soul – from a day spent at Hutch's pools in June, to a plunge in Sabino Creek during the monsoons, to walking along the meandering Rillito River after winter rains.



## Catlow Shipek

Policy and Technical Director

**Specialty:** Field practitioner that's just as comfortable building a check dam as planning water policy with elected officials. Geeks out on developing water resource budgets to determine groundwater recharge and conservation goals to restore surface flows.

**Background:** 15 years of field experience ranging from erosion control and arroyo restoration with ranchers, to water harvesting design and project implementation in urban watersheds, to community-scale water resource planning, policy, and conservation incentives.

**Favorite river experience:** Playing in the creeks near my home in Southeastern Arizona's Huachuca Mountains during the summers of my youth.

**What fuels your passion?** Experiencing the Tucson community mood shift when the Rillito or Santa Cruz rivers flow, as well as running along restored urban rivers and creeks.



## Joaquin Murrieta-Saldivar

Cultural Ecologist

**Specialty:** Thinks like a watershed and connects people like a flowing river.

**Background:** Worked with local communities to develop watershed management strategies for several rivers of the Sonoran Desert such as the Santa Cruz River, Rio Sonora, and the Colorado River.



## Trevor Hare

River Restoration Biologist

**Specialty:** Walking the rivers and reading the landscape, sitting under cottonwood trees and dreaming up innovative solutions to restore our creeks and wetlands.

**Background:** Over 25 years of experience walking the region's desert rivers, designing riparian and upland restoration projects, collaborating with landowners and managers, and sharing the joy and mystery of water in the desert with the public.

**Favorite river experience:** The restoration of Cloverdale Cienega, the largest remaining cienega in Arizona and New Mexico, spending years dreaming and designing, then months carefully moving earth and rocks to restore one of the most beautiful spots in the region!

**What fuels your passion?** To walk under the towering cottonwoods, swimming in the secret holes, seeing the Mexican garter snake hunt the Chiricahua leopard frog, hearing the gray hawk warn me away from her nest, finding the fresh bear print, and knowing there are jaguars out there.



## Kieran Sikdar

Stormwater Solutions Director

**Specialty:** Utilizing stormwater to restore historic river floodplains.

**Background:** Civil and environmental engineering with a focus on ecological and natural systems infrastructure. I specialize in helping engineers feel okay about soil, plants, bacteria and all the fungi that help us!

**Favorite river experience:** Hiking to a quiet desert swimming hole in the middle of summer, diving in and emerging a new person!

**What fuels your passion?** Connecting humans with the outdoors and our true nature through stormwater harvesting and restoration.

**Favorite river experience:** Submerging my feet in the Rio Sonora while talking with my mom and experiencing the "happiness" of rivers flowing towards the ocean. My mother used to say: *Ya escuchaste al río mijito... lo oyes que va feliz hacia el océano?*

**What fuels your passion?** To bring the happiness of flowing rivers.



## Lincoln Perino

Water Harvesting Project Manager and Designer

**Specialty:** Implementing landscape projects to manage water from roofs, through the neighborhoods and into our streams.

**Background:** Ten years of experience implementing rainwater harvesting in the urban environment and seven years restoring active streams and wetlands throughout the Southwest.

**Favorite river experience:** Walking along a stretch of creek in the Valle Vidal, New Mexico after a two week project. I saw trout keeping cool in an undercut that I had just created for them.

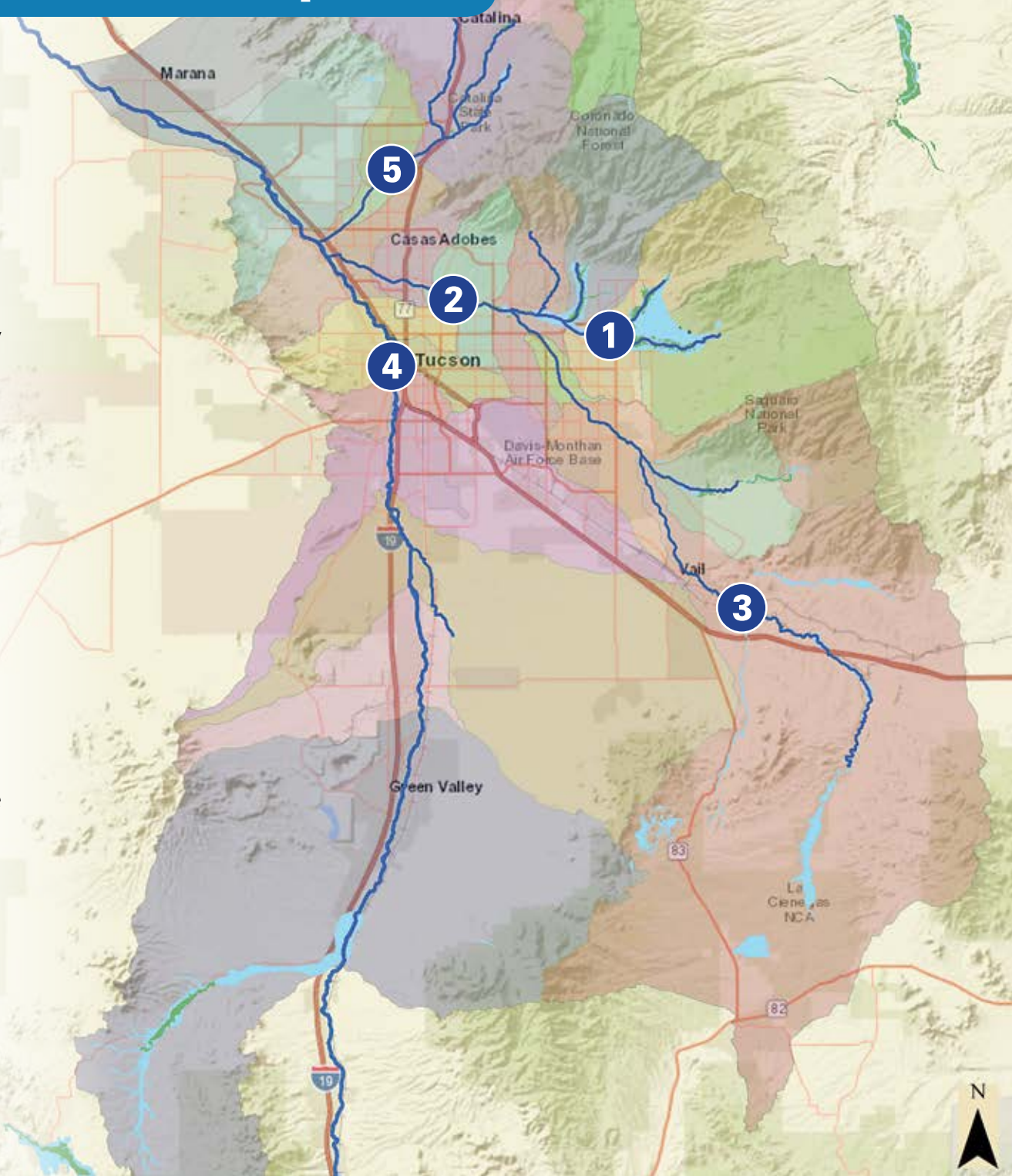
**What fuels your passion?** Growing up and hiking around the Southwest, I found that my favorite spots had one thing in common – water. I want future generations to have those same experiences.



## Five Creek Walks, Five Places to Inspire You

Get to know hidden gems across the Tucson Basin at one of Watershed Management Group's River Run Network Creek Walks. Not yet a River Run Network (RRN) member? You can join today by signing up for one of these featured events at [Watershedmg.org/RRN](http://Watershedmg.org/RRN).

- 1 Explore La Cebadilla**  
A natural spring feeding a wetland and lake in the Upper Tanque Verde streamshed. **Aug 30, 6-8 p.m.**, led by River Restoration Biologist Trevor Hare and Policy and Technical Director Catlow Shipek.
- 2 Discover Christmas Wash**  
A hidden, tree-lined urban arroyo in the Rillito Bend neighborhood that feeds the Rillito River. **Sept 28, 5:30 to 7:30 p.m.**, with Catlow and Lisa Shipek, WMG's Executive Director.
- 3 Go wild at Cienega Creek**  
A lush riparian area with year-round flows that provides 40% of Tucson's groundwater recharge. **Oct 13, 9 a.m. -noon**, led by Trevor Hare and Lisa Shipek.
- 4 Go big at Paseo de las Iglesias**  
A large-scale river restoration site along the Santa Cruz River. **Nov 10, 10 a.m. – noon**, with Cultural Ecologist Joaquin Murrieta.
- 5 Get to know Cañada del Oro**  
A river fed by the north side of the Santa Catalina mountains with new restoration work along the floodplain. **Dec 1, 10am - 12pm.**, led by River Restoration Biologist Trevor Hare and Stormwater Solutions Director Kieran Sikdar.



Director Tahnee Robertson (left) and Senior Program Associate Colleen Whitaker (right), with Southwest Decision Resources



## WMG Partner Spotlight Southwest Decision Resources

Southwest Decision Resources (SDR) is a Tucson-based organization specializing in collaborative design and facilitation of natural resource management and community-based efforts. SDR has been the lead facilitator of the Santa Cruz River (SCR) Watershed forums which is now developing into a Santa Cruz River Watershed Collaborative for the Tucson basin. Director Tahnee Robertson and Senior Program Associate Colleen Whitaker share their perspective on our partnership.

### Describe your role as the facilitator for the Santa Cruz River Watershed forums.

SDR has worked with the Santa Cruz River Watershed co-conveners to design the collaborative process, conduct an assessment of partners working in the region, and develop and facilitate the first two partner forums.

### What experience do you have working with watershed groups in Arizona?

SDR has supported the development and ongoing work of numerous watershed collaboratives and planning efforts over the last 10 years, including the Santa Cruz, Lower San Pedro, Upper San Pedro, Upper Gila, Lower Gila, Las Cienegas, Altar Valley, Upper Agua Fria, Verde and the Rio de Flag.

### In your opinion, what exciting results came out of the first two forums?

Diverse stakeholders, each with rich experiences and knowledge of the history of the Santa Cruz Watershed, participated in the first two forums. It was wonderful to see such a high level of engagement and enthusiasm, and exciting that all identified a need for greater collaboration and a clear way for groups to join forces. It feels that the timing is right for this effort to succeed.

### As one of the co-conveners, what role is WMG playing in the development of the SCR Watershed Collaborative?

WMG is passionate, dedicated, outcome-oriented and has a deep knowledge of water issues and the watershed. They offer insight and commitment in the development of a watershed-wide collaborative, with complementary skills to the other co-conveners and partners. The SCR watershed collaborative allows WMG to scale up and enhance the impact of their impressive work across the entire watershed.

### Final Thoughts?

We are excited for the opportunity to work in the Santa Cruz and contribute in our own community. We are pleased to be able to share lessons and insights from our work with other watershed collaboratives. This also allows us to build on the extensive community engagement work of the Imagine Greater Tucson regional visioning effort, which we helped to develop with many partners in the region.

# Your Legacy Awaits

## Give Now and Commit Long-term to Support Flowing Rivers in the Desert

Restoring Tucson's heritage of flowing rivers is a substantial undertaking that calls for consistent financial investment. WMG's goal is to raise \$250,000 annually from people like you to fund River Run Network programs, which includes: on-the-ground restoration projects, community education, citizen science monitoring programs, watershed planning and policy work. You can invest in WMG's team to get the work done!

Help us reach our goal by sending in a donation with the attached remit or by donating online at [Watershedmg.org/Donate](http://Watershedmg.org/Donate). Want to make a consistent investment? Set up a recurring gift through our monthly donor program, Flow, at [Watershedmg.org/Flow](http://Watershedmg.org/Flow). WMG is also able to accept planned gifts, stocks, charitable donations from your IRAs, and more through a new partnership with the Community Foundation of Southern Arizona. Please contact WMG's Executive Director, Lisa Shipek, at 520-396-3266 x2, to set up your gift.



### *50-Year Vision* **The Rillito at Mountain Ave Bike/Pedestrian Bridge**

Through the River Run Network, we will restore seasonal flows to the Rillito River, supported by a healthy groundwater aquifer that is recharged with green infrastructure throughout the surrounding neighborhoods. Parking lots and impervious areas will be replaced with rain garden parks full of native habitat. The Rillito will be a lush riparian area supporting important aquatic species with great wildlife viewing and recreation opportunities, tying into cultural amenities like the racetrack, restaurants, and the bike loop.

## Valley Docents Amplify WMG's Impact in Metro Phoenix

This spring we kicked off our inaugural Valley Docent program, providing an opportunity for passionate water-lovers to contribute their skills and help WMG fulfill our mission in the Phoenix metro area. We are thrilled to have eight amazing ambassadors of WMG who come from practically every corner of the Valley of the Sun and bring with them diverse backgrounds and a shared passion for revitalizing our urban watershed. Valley Docents are assisting with community engagement through outreach events, caring for our green infrastructure public demonstration sites, and organizing educational events. To learn more or apply for our 2019 Valley Docent program, visit [Watershedmg.org/ValleyDocents](http://Watershedmg.org/ValleyDocents).



**Aaron Levy**



**Hope Manross**



**Jeanne Santillán**



**Michael Gettens**



**Michele Smith**



**Patty Cockrill**



**Wayne Pudney**



**Willie Sommers**

### Why are you a WMG Valley Docent?

"The mission of WMG is important to water and our future. Green infrastructure has a place in Phoenix and surrounding cities!"  
**Willie Sommers**

"I understand the dire need for raising water awareness in the desert. WMG has a great platform for education and focused action."  
**Michael Gettens**

"I was interested in rainwater harvesting, and after my first co-op workshop I was convinced it was as important to promote sustainable water as it is to promote growing sustainable food."  
**Jeanne Santillán**

### What role does WMG play in the Valley watershed?

"Helping to revitalize the watershed and letting people know how much fun it can be to capture rainwater on your property."  
**Hope Manross**

"To help educate communities with new skills and an understanding that there is more than one option to water conservation and sustainability."  
**Patty Cockrill**

"WMG offers education, tools, and raises awareness of our particular desert watershed for today's water needs, and our sustainable path to future generations and environmental water needs."  
**Jeanne Santillán**

### What is the most fulfilling aspect of being a WMG Docent?

"Sharing knowledge and information with others and encouraging them to conserve water and use it wisely."  
**Willie Sommers**

"I enjoy talking to people and sharing ideas on how to build community through projects based on water conservation."  
**Michele Smith**

"The abundant education and all the amazing people I have met. I look forward to building new relationships through the docent program, co-op workshops and classes."  
**Patty Cockrill**



Masonry chamber composting toilet



Garden urine diversion



Sawdust cover material



Indoor urine diversion



Barrel composting toilet



Sun-Mar composting toilet

## Composting Toilets Aren't Just for Tiny Homes!

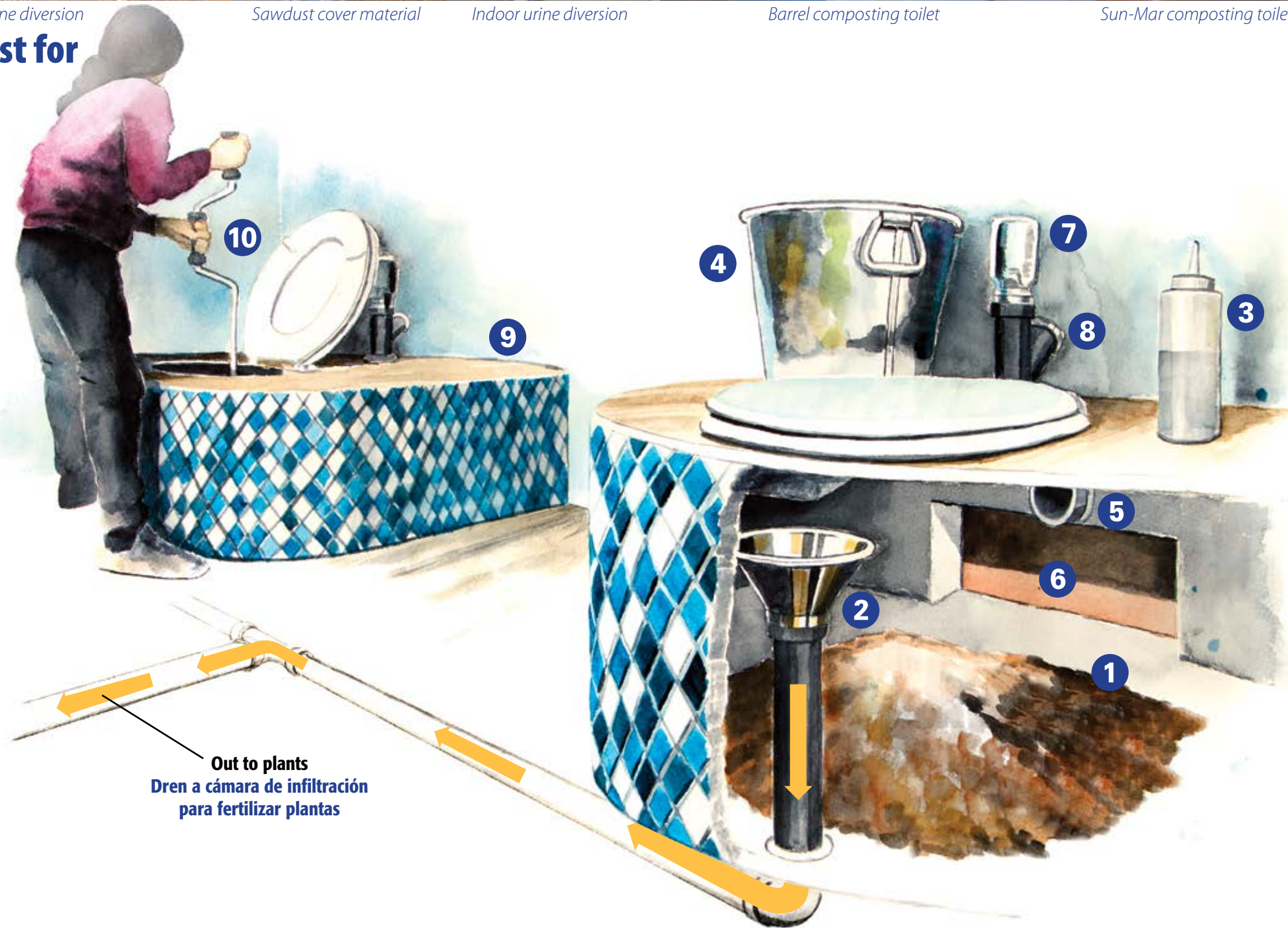
Composting toilets are getting good face time these days – thanks to the tiny house movement and Airbnb. No sewer hookup? No problem! Five gallon bucket systems fit in the tiniest of spaces, and can be installed with the slimmest of budgets. Or you can go pro and get a commercial composting toilet that fits in conventional bathroom spaces.

Even if you're not building a tiny house or starting an Airbnb rental, we want to sell you on composting toilets. Why? There's some serious water savings at the tip of your finger. Almost 30% of indoor residential water is used to flush away pee and poo!

Think about it: Why poop in our drinking water, only to pipe it many miles to an expensive treatment facility that then removes the poop from our water to ensure it's clean enough to put back into our rivers and groundwater?

Come to the Living Lab and choose your own toilet adventure. We're demonstrating three different composting toilets and three different urine diversions at our Living Lab and Learning Center. Without a flush toilet option, all visitors get to contribute their personal resources back to the Living Lab's food production! Urine is diverted directly into the soil as liquid fertilizer and poop is composted into humanure to support nine fruit trees on campus.

To learn more, visit [Watershedmg.org/learn/](http://Watershedmg.org/learn/) resource-library to see composting toilet designs, videos, and even our very own children's book – "Poo to Peaches." Attend one of our composting toilet classes ([Watershedmg.org/FieldStudies](http://Watershedmg.org/FieldStudies), next class is 10/11/18), or order a composting toilet barrel kit for your own home ([Watershedmg.org/CTKit](http://Watershedmg.org/CTKit)).



Bringing the no-flow toilet back into style. Únete a la Revolución del Estiércol-Humano Regresando al baño-seco con gran estilo.

- 1 **Chamber** – 30 cubic feet capacity sealed masonry structure  
*Cámara* — de cemento con 30pies<sup>3</sup> de capacidad
- 2 **Urine diversion cup** to direct nitrogen-rich urine to fertilize plants and keep humanure at the proper moisture and carbon:nitrogen balance  
*Cono de división de orina* para dirigir orina rica en nitrógeno para fertilizar plantas y mantener el "estiércol-humano" con el balance apropiado de humedad y de carbono:nitrógeno
- 3 **Squirt bottle** to wet down toilet paper for speedier breakdown  
*Botella de espray* para mojar el papel sanitario y acelerar su descompostura
- 4 **Wood shavings or sawdust** to provide carbon and to cover feces  
*Aserrín* para proveer de carbono y cubrir las excretas
- 5 **Vent** to ensure adequate airflow  
*Ventilación* para asegurar circulación de aire
- 6 **Access** to remove compost  
*Accesos* para remover la composta
- 7 **Flytrap**  
*Trampa de moscas*
- 8 **Intake vent with screen** to keep insects out  
*Ventilación de entrada* con malla para evitar que entren insectos
- 9 **2nd chamber** – to be used when other chamber is "aging"  
*Segunda cámara* – para usarse cuando la otra cámara esta "añejándose"
- 10 **Compost crank** to mix and add oxygen to humanure  
*Sin-fin* para mezclar y agregar oxígeno al estiércol-humano



**Living Lab and Learning Center**  
Visit the Living Lab for a tour or class and learn firsthand in our outdoor classroom from WMG staff and docents.

## August

- Living Lab & Learning Center Tour..... Sat, Aug. 4, 8 a.m.-9:30 a.m.
- Rainwater Harvesting Class (Tucson Water Rebate).....Thu, Aug. 9, 4:30 p.m.-7:30 p.m.
- Living Lab & Learning Center Tour.....Wed, Aug. 15, 6 p.m.-7:30 p.m.
- \*Field Studies Class: Rain Garden Care.....Thu, Aug. 16, 5 p.m.-7:30 p.m.**
- Rainwater Harvesting Class (Tucson Water Rebate).....Sat, Aug. 18, 9 a.m.-noon



**Field Studies Class**  
Pruning Native Shade Trees Join us for a jam-packed session on proper tree care and pruning practices with our very own ISA Certified Arborist on Nov. 10. \$25-\$30.

## September

- Living Lab & Learning Center Tour (Bilingüe/Bilingual)..... Sat, Sept. 1, 8 a.m.-9:30 a.m.
- Living Lab & Learning Center Tour..... Wed, Sept 15, 5:30 p.m.-7 p.m.
- Rainwater Harvesting Class (Tucson Water Rebate).....Thu, Sept. 13, 4:30 p.m.-7:30 p.m.
- Rainwater Harvesting Class (Tucson Water Rebate)..... Sat, Sept. 15, 9 a.m.-noon
- \*Field Studies Class: Fruit Tree Care with Mission Garden.....Thur, Sept. 20, 5 p.m.-7:30 p.m.**
- Greywater Rebate Class (Tucson Water Rebate).....Thur, Sept. 27, 5 p.m.-7 p.m.



## Field Studies Class

Rain Garden Care Learn the nuances of rain garden care and how to keep your landscape happy, healthy, and long lasting on Aug 16. \$15/person, free to previous clients.

## October

- Tour del Laboratorio Viviente y Centro de Aprendizaje..... Sat, Oct. 6, 9 a.m.-10:30 a.m.
- \*Field Studies: Composting Toilets.....Thu, Oct. 11, 5 p.m.-7:30 p.m.**
- Rainwater Harvesting Class (Tucson Water Rebate)..... Sat, Oct. 13, 9 a.m.-noon
- Living Lab & Learning Center Tour.....Wed, Oct. 17, 10 a.m.-11:30 a.m.
- Rainwater Harvesting Class (Tucson Water Rebate)..... Thu, Oct. 18, 4:30 p.m.-7:30 p.m.

## Rainwater on Tap

### A #GivingTuesday Happy Hour

Join us for rainwater cocktails, munchies, and music on Nov. 27! Our 4th Annual Rainwater on Tap kicks off our year-end fundraising campaign. \$10/advance, \$15/door.



## November

- Greywater Rebate Class (Tucson Water Rebate).....Thu, Nov. 1, 5 p.m.-7p.m.
- Living Lab & Learning Center Tour..... Sat, Nov. 3, 9 a.m.-10:30 a.m.
- Rainwater Harvesting Class (Tucson Water Rebate)..... Thu, Nov. 8, 4:30 p.m.-7:30 p.m.
- \*Field Studies Class: Pruning Native Shade Trees..... Sat, Nov. 10, 9 a.m.-noon**
- Living Lab & Learning Center Tour.....Wed, Nov. 14, 10 a.m.-11:30 a.m.
- Rainwater Harvesting Class (Tucson Water Rebate)..... Sat, Nov. 17, 9 a.m.-noon
- \*Rainwater on Tap: A #GivingTuesday Happy Hour.....Tue, Nov. 27, 5:30 p.m.-8 p.m.**
- Clase de Cosecha de Agua de Lluvia (Reembolso de Tucson Water).....Thu, Nov. 29, 4:30 p.m.-7:30 p.m.

## December

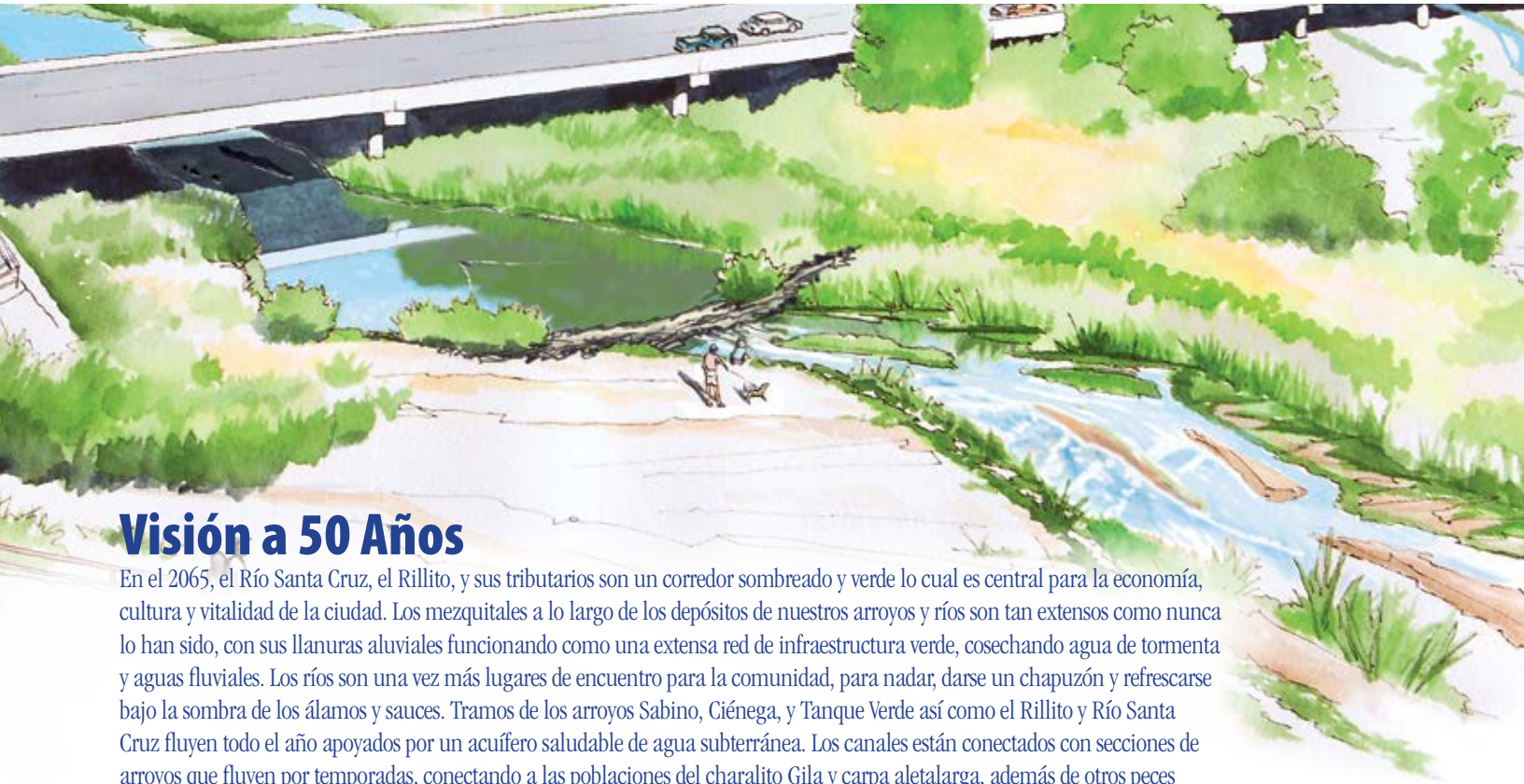
- Living Lab & Learning Center Tour (Bilingüe/Bilingual).....Sat, Dec. 1, 10 a.m.-11:30 a.m.
- Living Lab & Learning Center Tour.....Wed, Dec. 12, 10 a.m.-11:30 a.m.
- Rainwater Harvesting Class (Tucson Water Rebate).....Thu, Dec. 13, 4:30 p.m.-7:30 p.m.
- Rainwater Harvesting Class (Tucson Water Rebate)..... Sat, Dec. 15, 9 a.m.-noon





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## Visión a 50 Años

En el 2065, el Río Santa Cruz, el Rillito, y sus tributarios son un corredor sombreado y verde lo cual es central para la economía, cultura y vitalidad de la ciudad. Los mezquiales a lo largo de los depósitos de nuestros arroyos y ríos son tan extensos como nunca lo han sido, con sus llanuras aluviales funcionando como una extensa red de infraestructura verde, cosechando agua de tormenta y aguas fluviales. Los ríos son una vez más lugares de encuentro para la comunidad, para nadar, darse un chapuzón y refrescarse bajo la sombra de los álamos y sauces. Tramos de los arroyos Sabino, Ciénega, y Tanque Verde así como el Rillito y Río Santa Cruz fluyen todo el año apoyados por un acuífero saludable de agua subterránea. Los canales están conectados con secciones de arroyos que fluyen por temporadas, conectando a las poblaciones del charalito Gila y carpa aletalarga, además de otros peces nativos y vida-silvestre. Los ríos de Tucson son valorados por su comunidad, dirigido por los niños que crecieron con esta visión y se convirtieron en servidores públicos, biólogos, artistas y funcionarios electos que aseguran que hagamos una apropiada gestión, conservación y protección del agua para revivir el flujo de nuestros ríos.