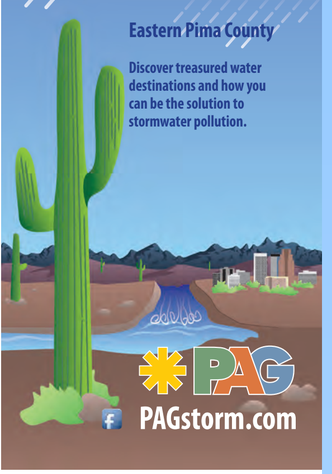
Watershed Map

Free!



Thank you for keeping our washes clean!

If you encounter illegal dumping, persistent pet waste or other wash concerns within Tucson, call (520) 791-5843. Outside of city limits, call (520) 724-7400.

Household hazardous waste (HHW) items such as leftover oil and chemicals can be properly disposed of and recycled at multiple locations and events or scheduled for pickup. Call HHW at (520) 888-6947.

Additional resources, such as Regionwide Adopt-a-Site contacts, are available at PAGstorm.com.

This pocket guide is brought to you by Pima Association of Governments, the region's council of governments, metropolitan planning organization, and designated planning agency for areawide water quality planning, with a goal to enhance our region's livability by improving our regional mobility and sustainability.

PAG
Pima Association of Governments

Enjoy your watershed!

Get to know, protect and restore our region's water treasures.

This map highlights destinations with flowing water, southwestern wildlife habitat and urban stormwater harvesting features that green our streets.

The neighborhood diagram illustrates tips for reducing pollution and shows how to better use stormwater in our yards.

The map is intended for educational purposes. Please use more detailed navigational map resources when visiting sites. Tread lightly and safely as you visit the region's treasured water sites. Pima Association of Governments is in no way responsible for personal injury, damage to property, or violation of the law in connection with the use of this guide.

A Day in the Life of a Rain Drop

1. Once a raindrop hits the ground, it becomes stormwater. As stormwater flows, it picks up pollutants left on yards, sidewalks and driveways.
2. Stormwater pollutants include motor oil, brake and tire residue, pet waste, yard chemicals, litter, paint, and chemicals washed from cars, including soap.
3. Our streets transport stormwater and additional pollutants through our neighborhoods.
4. Stormwater flows from streets to stormdrains, which lead to underground pipes that empty directly into our desert waterways.
5. A common misconception is that stormwater gets cleaned at a treatment plant. This is not true in Pima County.
6. As the water flows away or evaporates, pollutants and trash collected from across the watershed accumulate in our fragile desert washes.
7. Plants and animals depend on clean water as much as people do. Even when washes are dry, critters rely on healthy washes for food, shelter and passage.

Solutions to Pollution

- Don't forget to scoop the poop. Clean up after your pet.
- Welcome the desert rains into your landscape. When stormwater is harvested it breaks down pollutants and is purified within the soil, thus protecting our washes with the help of plants.
- Fix leaky vehicles. Use a drip pan and clean up spills with absorbent materials. Recycle used fluids at auto shops.
- Instead of driving your car, help prevent pollution by riding the bus, bike, carpool or walk.
- Use commercial car washes, where water is recycled. Or at home, use biodegradable soap and wash your car where the water can soak into the ground.
- Don't be a litterbug. Kudos to those who adopt a wash to help clean up.
- Properly dispose of chemicals at a Household Hazardous Waste facility. Never dump them onto the ground or into stormdrains.
- If you must use toxic products, such as herbicides, pesticides or fertilizers, store them safely and don't apply them outside if a storm is expected within three days.

Green our Streets

A. Enhance your habitat by digging a sunken rain garden filled with mulch and native vegetation to help capture stormwater.

B. Add raised earthen berms to help slow yard runoff and to keep yard chemical choices on site.

C. Install cisterns or rain barrels on your property to collect water from your roof.

D. Use gutter downspouts to direct water to your plants.

E. Use porous materials that allow water to sink in, or direct runoff from hard surfaces to benefit your yard.

F. Use curb cuts with sediment traps to pull stormwater off the street and filter it in small basins.

G. Street bump-outs and roundabouts can direct stormwater to landscaped areas while also calming neighborhood traffic for biking, walking and children at play.

H. Vegetation thrives with this additional water resource. This green stormwater infrastructure additionally enhances our community livability because it shades pathways, cleans the air, saves potable water and improves soils!

Clean water starts with me!

Healthy water matters

Pet waste can affect the health of our water. In fact, pet waste is a primary pollutant in stormwater.

IT ALL ADDS UP The 230,000 dogs in Pima County can produce 63 million pounds of feces each year. Just 1 gram of pet waste can contain 23 million fecal coliform bacteria.

THE EVIDENCE IS HERE Locally, fecal contamination levels in stormwater have been found to be unsafe for swimming.

THE CONCERN IS REAL Bacteria, viruses and parasites in pet waste can cause intestinal illness and serious kidney disorders in people and animals.

THE IMPACT IS LASTING Pet waste does not decompose easily into safe fertilizer. Certain parasites can survive in the soil for years.

GOOD NEWS Pet waste contamination in washes is preventable.

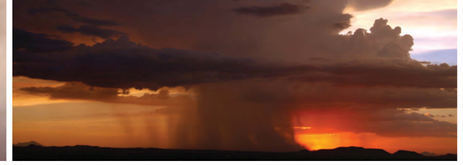
SCOOP IT. BAG IT. TRASH IT. Learn how stormwater harvesting helps to break down pollutants and prevent accumulation in our washes.

Green streets help manage stormwater

Cienega Creek with perennial flow. Limited visitation permitted

Cottonwood trees rely on shallow groundwater

Vermilion Flycatchers thrive in riparian corridors



Storm clouds rolling over the Tucson Basin at sunset during monsoon season

Biking along river parks

Coati dwell in woodlands along streams

Reparian areas support watchable wildlife

Agua Caliente Springs

Watershed Map

Eastern Pima County, Arizona

LEGEND AND DEFINITIONS

- **Water Courses** Line thickness represents water volume capacity.
- **Perennial Water** Channel segments that reliably flow year-round, creating rich aquatic and riparian habitat.
- **Intermittent Water** Channel segments that flow for a season, but provide unique habitat year-round.
- **Washes** Arroyos that collect and carry ephemeral flow and team with life after a storm.
- **Shallow Groundwater** Areas where groundwater is less than 50 feet below the ground surface.
- **Springs and Seeps** Delicate sites where groundwater reaches the surface, providing refugia for desert wildlife. Please do not disturb.
- **Example Wildlife Linkages** Wildlife often follows water corridors to find critical passage between Sky Island mountains.
- **Trails** Trails along washes or trails that lead to water destinations.
- **The Loop** A multi-use path along major river parks, providing enjoyable routes for non-motorized travel. Dashes denote paths to be completed.
- **Green Streets** Stormwater is harvested along the streets to grow the tree canopy and enhance biking and walkability.

Sensational treasures

This watershed map gives you a birds-eye view of how water flows northwesterly into the Santa Cruz River. Imagine glancing down on the watershed to see the shape of the basin, surrounded by four mountain ranges. As you explore the desert waterways, you'll experience rare and important habitat near these riparian areas that supports most wildlife in the desert. As you visit these water treasures, take a moment to use your senses and notice the sound of cicadas and spadefoot toads that becomes livelier each monsoon season. See where water runs after a storm in mesquite-lined arroyos. Look for water-dependent tree stands, such as cottonwood, that hint at the presence of shallow groundwater even when the riverbed appears dry. Listen for the spirited singing of our signature riparian birds, such as the vermilion flycatcher. Or, simply follow street runoff from your neighborhood to where it flows into larger riverbeds. The more you foster your curiosity, the more keenly aware you become of the importance of maintaining a healthy watershed and how anyone can become a steward of the desert.

Sustaining our watershed heritage

Our region has the longest history in North America of continuous cultivation of the land. This is possible due to our heritage of precious desert waters that also support renowned wildlife diversity.

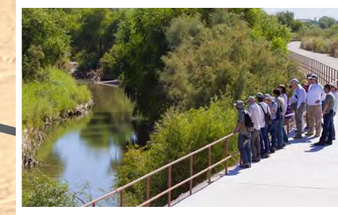
As our communities grew, however, groundwater pumping and drought lowered the level of our groundwater table that had sustained creeks and sensitive riparian areas. Urban development also influenced the watershed by causing more runoff, erosion and heat. Stormwater runoff can carry pollutants from urban areas to desert washes, where contaminants accumulate in important wildlife habitat. Fortunately, the story doesn't end there.

Regional restoration and conservation efforts have made a positive impact on the watershed, placing our communities on the map as leaders in sustainability. Year-round flows, habitat and fish have returned to the Santa Cruz River in new areas through beneficial use of treated effluent. Streets designed with green infrastructure help to mimic natural washes by capturing stormwater to sustain vegetation. This process breaks down pollutants in soils, saves water, improves infiltration, provides cool tree shade, calms traffic and makes neighborhoods more vibrant. Visit restoration demonstration sites and our desert waterways to discover their sustaining role in our communities.

Santa Cruz River - then and now

1954, Arizona Daily Star

Flows restored with high quality effluent



Flowing rivers attract ecotourists and birders

Pima Association of Governments

Watchable Riparian Wildlife

1. **Santa Cruz bat and bird viewing area** Ina Rd. Bridge, East of Silverbell, *Perennial flow*
2. **Tucson Audubon Society Mason Center** 3835 W. Hardy Rd.
3. **Sweetwater Wetlands** 2551 W. Sweetwater Dr.
4. **Swan Wetlands** North end of Columbus Blvd. at Rillito River
5. **Sabino Canyon Recreation Area** 5700 N. Sabino Canyon Rd., *Perennial flow*
6. **Atturbury-Lyman Bird and Animal Sanctuary** 8280 E. Escalante Rd.
7. **Tanque Verde Creek** North of Speedway on Wentworth
8. **Agua Caliente Park** Roger Rd. / Soldier Trail
9. **Sahuarita Water Reclamation Facility** Rancho Sahuarita Blvd., S. of Pima Mine Rd.
10. **Green Valley Wastewater Treatment Facility** 2201 S. Old Nogales Hwy., N. of Quail Crossing Blvd.
11. **Madera Canyon,** Madera Canyon Rd.
12. **Cienega Creek Natural Preserve** Gabe Zimmerman Trailhead Permit required, *Perennial flow*

Green Infrastructure Demonstration

1. **Arizona-Sonora Desert Museum**
2. **Naranja Rd. right-of-way harvesting** North side of Naranja Rd. between La Cholla Blvd & La Cañada Rd.
3. **Villa Balboa subdivision** Linda Vista Blvd. & Valle Del Oro Rd.
4. **Wildlife Crossing** Oracle Road Overpass, RTA project
5. **Wildlife Crossing** Big Wash Underpass, RTA project
6. **Tohono Chul Park**
7. **Super Target,** 4400 N. Oracle Rd. Tucson Commercial Rainwater Harvesting Ordinance site
8. **Manzo Elementary**
9. **Dunbar–Spring** GREEN STREETS University Blvd. / 9th Ave.
10. **Scott Avenue** GREEN STREETS Broadway to 14th St. LID Case Study and Return on Investment Study site.
11. **UA Visitor Center** N.W. corner Univeristy Blvd. & Euclid Ave.
12. **4th Ave. & Elm St.** GREEN STREETS
13. **Vine Ave.** GREEN STREETS Between Grant Rd. & Speedway Blvd.
14. **The Nature Conservancy of Arizona** 1510 E. Fort Lowell Rd.
15. **Treat Ave.** GREEN STREETS Grant Rd. to Speedway Blvd.
16. **Rincon Heights** GREEN STREETS 9th & 10th Streets/ Tucson Blvd.
17. **Reid Park Zoo**
18. **Watershed Management Group**
19. **Tucson Botanical Gardens**
20. **Highland Vista Park** Water harvesting basins
21. **Kino Environmental Restoration Project** Kino Sports Complex, 2500 E. Ajo Way
22. **Nuestra Tierra Learning Garden** Community Food Bank
23. **Midvale Park Neighborhood Water Harvesting Area;** Vestel Dr. near the Santa Cruz River

★ **Tucson Ward Offices 1, 2, 3 & 6**

Waterways

1. **Wild Burro Trail** North End of Dove Mountain Blvd.
2. **Silverbell Lake Christopher Columbus Park** 4600 N. Silverbell Rd.
3. **Arroyo Chico Wash Greenway** 3100 - 3400 E. Arroyo Chico
4. **Julian Wash Greenway** South of Valencia Rd. on Kolb Rd.
5. **Atterbury Wash, Lakeside Park** Golf Links Rd. / Sarnoff Drive Conserve2Enhance site
6. **Romero Pools at Catalina State Park** Southeast of Montrose Pools
7. **Marshall Gulch Trailhead** End of Mt Lemmon Hwy.
8. **Seven Falls on Bear Canyon Trail** Sabino Canyon Recreation Area or Bear Canyon Rd. Trail, N. of Snyder Rd.
9. **Chiva Falls** Off Reddington Rd.
10. **Tanque Verde Falls** S. of Redington Rd., *Perennial flow*
11. **Douglas Spring-Bridal Wreath Falls** End of E. Speedway Blvd., Overnight permit required in Saguaro National Park
12. **Rincon Creek** Arizona Trail passage #8 via Hope Camp Trail
13. **Posta Quemada Wash Trail, Colosal Cave Mountain Park**
14. **Las Cienegas National Conservation Area** Hwy 83 & Empire Ranch Rd.

Natural & Cultural Water Heritage

1. **Serpentine Walls on Desert Discovery Trail;** Saguaro National Park West, 1930's CCC check dams, near Sus Picnic Area
2. **Marana Heritage River Park** 12375 N. Heritage Park Drive
3. **De Anza National Historic Trail** Spanish expedition followed the river in 1775, Trailhead at El Rio Preserve
4. **Tumamoc Hill Desert Laboratory** Historic cistern renovation and prehistoric water-harvesting trincheras
5. **El Ojito Historic Spring** by La Palita Museum 420 S. Main St.
6. **Mission Garden** Restoration of 18th century garden and 4,000-year-old flood plain agriculture site
7. **Paseo de las Iglesias** Ajo Way to Silverlake Road Bank protection, ecosystem restoration and river park. Prehistoric pit houses. Site of mid-1800s Silver Lake. Dam supported a flour mill, swimming, bath houses, hotel and fishing.

Fishing at Sahuarita Lake

Sonoran Mud Turtle, a native stream-dweller

Looking southwest at the Tucson region's Santa Cruz River Basin

Scott Ave. provides resilient tree shade

Lowland Leopard Frogs, a protected species

Keep our waterways clean. Always scoop poop along The Loop!

Tanque Verde Falls

El Rio Perserve in Marana

Gila Topminnow, an endangerred resident of perennial desert waters