



Passive Rainwater Harvesting

By Cado Daily, Water Resources Coordinator, Water Wise Program, University of Arizona

Passive rainwater harvesting uses earthworks to direct surface water flow and the soil as the storage container. A passive system requires planning and observation of the natural water movement on the land but requires no gutters or storage containers. The primary concept is to slow down the flow of water, allow it to soak into the ground, and keep as much of it on the property as possible. Once established, native landscapes using harvested rainwater require irrigation only during times of drought.

The easiest way to start is to direct extended roof runoff through simple techniques to move and control surface water flow with berms, swales, catchments and basins.

Swales



Swales are shallow ditches, usually perpendicular to the direction of water flow, that collect storm water and allow it to sink slowly and directly into soil. Their placement permits the redirection of water from its natural direction of flow to another desired location.

Basins



Basins are excavated shallow areas, often lined with rock or mulch that accept rainwater runoff and permit water to percolate into the soil. Basins connected by shallow, sloping (1/4 inch per 1 linear foot) swales allow water to flow from one basin to another.

Berms



Berms are low mounds of earth formed to help hold water in basins or swales. Often the soil used to create a berm was excavated by digging a basin or swale.

French Drains



A simple French Drain is a trench or hole filled with gravel that allows surface water to soak into the ground, alleviating standing water and providing more irrigation to nearby vegetation. A more sophisticated French Drain can use perforated pipes to direct water elsewhere and allow the water to slowly soak into the surrounding soil.

Rain Chains

Rain Chains are an elegant alternative to traditional gutter downspouts. Originally developed in Japan several hundred years ago, they offer an aesthetic, pleasing and functional method for directing the flow of water from a structure into the landscape.



Curb Cuts



A curb cut is literally a cut in a street curb that allows storm water to flow from the street into a mulched basin, swale, or French Drain. Many neighborhoods in Tucson use curb cuts to move rainwater to community landscaping areas.

The rain last weekend was heaven-sent. Rainfall in the Safford area ranged from 0.26 to 0.43 inches according to rainlog.org, a University of Arizona citizen-science website. If you were a rainwater collector and had 1000 square feet of collection area, you would have caught 161 to 267 gallons. If you didn't let any water run off your ¼ acre property, you would have caught 1700 to almost 3000 gallons. Wow. It is easy to collect rainwater, but you have to be ready for it.

Cado Daily, Water Resources Coordinator with the UA Cochise County Cooperative Extension Water Wise program, has been a rainwater collector and advocate for 14 years and wants to share her experiences with you, and hear about yours!

Safford's average annual rainfall is 11.32 inches at the airport and 9.67 inches at the Ag Center. Even though the past couple of years have been disappointing with little rain, it does rain. With some simple, low to no-cost techniques, a small rain can be concentrated to maximize its benefits. At her talk, Cado will show examples of various ways to capture rain and storm water so you can do it for yourself.

EDITOR'S NOTE: Cado Daily will be making a presentation at the March 12 meeting of the Gila Watershed Partnership.

Current Project Updates

FOR MORE INFO, SEE WWW.GILAWATERSHEDPARTNERSHIP.COM

ONGOING GRANTS:

Apache Grove Project

...funded by the Arizona Water Protection Fund (AWPF) and the U.S. Fish and Wildlife Service (USFW)

- removed levies in order to restore optimal river flow, control erosion, and manage invasive species, while preserving agricultural land
- the new pipeline to a deeper well is complete
- in continuous monitoring, need to replace regrowing invasives

Clifton Restroom Project

...funded by the Arizona Department of Environmental Quality (ADEQ)

- will install restroom facilities in a recreational area along the San Francisco River

Eagle Creek Riparian Restoration at Filleman Crossing Project

...funded by the Arizona Water Protection Fund (AWPF) and the U.S. Fish and the USFW Partners program

- will construct a river crossing to stop frequent wash-outs, benefiting both residents and wildlife

Upper Gila Watershed Riparian Restoration Project

...funded by The Walton Family Foundation (WFF)

- will replace invasive tamarisk with native species to restore natural habitats
- Alex Dragotakes, our Plant Propagation Manager, is cutting cottonwood poles to root out in the greenhouse in a hydroponic solution to ready them for planting in the coppice fields in a few weeks
- we are currently identifying potential restoration sites

Youth Pathway Project

...from the National Fish and Wildlife Foundation (NFWF) Great American Outdoors Grant, and USFW Partners program

- to encourage careers in conservation and land management on public lands, through on-the-

ground activities for school age kids high school through college

- the local youth crews have started and are cutting cottonwoods and wills for planting at the native plant nursery
- a youth summit has been planned for April 22nd at Discovery Park

Water Conservation Project

... funded by Freeport McMoRan Copper & Gold, Inc.

- this project is performing home and business water evaluations to help us all save water and money

Upper Gila Water Appraisal Study

... funded by the US Bureau of Reclamation

- this project will help us to better understand the water supplies and demands in the watershed

Greenlee County Watershed Steward Program

... funded by Freeport McMoRan Copper & Gold, Inc.

- Workshops area being conducted at two local ranches

Developing Greenlee County as a Bird Watching Destination

... funded by Freeport McMoRan Copper & Gold, Inc.

- A coordinator for the project will be hired soon

WRRC Water Needs Assessment and Planning Project

... funded by the BOR Landscape Conservation Cooperative

- a project to assess baseline water needs and potential impacts of future change and develop scenarios to address impacts identified by stakeholders

NEW GRANT APPLICATIONS RECENTLY AWARDED BY ADEQ:

Menges Ranch Water System Maintenance

... funded by the Arizona Department of

Environmental Quality (ADEQ) a project that will replace diesel pumps with solar pumps and add a telemetry system that will send a message to the landowner when the water system has a problem.

San Francisco River Restroom Project
... funded by the Arizona Department of Environmental Quality (ADEQ)

- a project that will install a second restroom for recreation on the San Francisco River Greenlee County to reduce the E.coli levels on the river.



♪♪♪ Sun is shinin' in the sky, there ain't a cloud in sight, it's stopped rainin' everybody's in a play and don't you know, it's a beautiful new day ♪♪♪ - Electric Light Orchestra - Mr Blue Sky

Calendar of Events

Wednesday, March 12, 7 p.m. – The Gila Watershed Partnership’s regular monthly meeting will be all about Rainwater Harvesting, with a talk by Cado Daily, Water Wise Coordinator from Arizona Cooperative Extension.

Wednesday, April 9, 7 p.m. – Susan & Doug Syfert will present on the completed Wildlife Watering Hole, and local cub scouts will join us with their original posters. Tim Goodman, Wildlife Biologist for the Safford BLM will tell us about natural resources and endangered species.

Wednesday, May 14, 7 p.m. Alex Dragotakes, GWP Plant Propagation Manager, will present on native seed collection



Our partners include:

Arizona Department of Agriculture	Graham County
Arizona Department of Environmental Quality	Graham County Chamber of Commerce
Arizona Department of Transportation	Greenlee County
Arizona Game and Fish Department	Natural Resource Conservation Service
Arizona Geological Survey	Town of Clifton
Arizona State Land Department	Town of Duncan
Bureau of Land Management	Town of Pima
City of Safford	Town of Thatcher
Eastern Arizona College	U.S. Bureau of Reclamation
Farm Bureau	U.S. Fish and Wildlife Service
Freeport McMoRan Copper and Gold Inc.	U.S. Forest Service – Apache-Sitgreaves and Coronado Forests
Gila Valley Irrigation District	University of Arizona Cooperative Extension
Gila Valley NRCD	University of Arizona NEMO Project
	And many community members

Get involved in your watershed

For more information, contact Jan Holder at the Gila Watershed Partnership, 711 S. 14th Avenue, 85546, or email gilawatershed@gmail.com Join us on Facebook “Facebook.com/gilawatershedpartnership”

www.gilawatershedpartnership.com