

# Verde Watershed Currents

Summer 2016

Have more time, money,  
and water after xeriscaping.

[Read More - Page 1](#)

Beavers help create healthy  
ecosystems.

[Read More - Page 3](#)

Spring brought some water;  
summer should too.

[Read More - Page 3](#)

## Xeriscaping: Less Is More

Xeriscaping is a landscaping and gardening method that reduces or eliminates the need for watering to supplement rain or snow by using native plants and arid-adapted plants. Care is taken to avoid losing water through run-off and evaporation. Nearly any landscaping style is possible with xeriscaping. Switching to xeriscaping gives homeowners and business owners back some resources of great value: time, money, and water.

Outdoor residential water use varies throughout Arizona, but the Arizona Department of Water Resources states that in general, up to 70% of total residential water use in the summertime is outdoors, and of that, about 90% is used for landscape, thus a resident can significantly reduce water use by converting a water-thirsty landscape to a low-water one.

Using a drip irrigation system will help residents reduce water use even further by delivering a controlled amount of water at low pressure directly where it is needed. Drip systems use 30 to 70 percent less water, depending on the landscape's features and the system's installation, than conventional sprinkler systems and manual-watering methods. Automatic timers, by design, save homeowners time. Incorporating passive rainwater-harvesting techniques, such as swales and berms, to control rainwater flow will further save water or can eliminate the need for watering altogether.

How else does xeriscaping save time and money? Low-water plants are well adapted to hot, dry environments. Frequently, they are smaller and grow more slowly requiring little or no pruning, fertilizer, pesticides, and other maintenance that water-loving plants require. Xeriscaping reduces the cost of maintenance equipment and supplies, such as lawn mowers, leaf blowers, etc., compared to more traditional landscaping.



Xeriscaping can be very colorful, but a more subdued look can be achieved if preferred.

### Inside This Issue

Xeriscaping	1-2
The State of the Watershed	3
Beavers	3-4
Conservation by Planning	3
About Us	4
Get Involved	4



Mediterranean style is one of many that can be achieved through xeriscaping.

## Xeriscaping (continued from page 1)

Xeriscaping often enhances the value of homes. A variety of colorful, unique plants combined with rock walls, decorative rock, and other hardscape features create visual appeal. The low maintenance costs and water savings attract potential buyers. The term “drought tolerant” indicates to buyers that their investment is safe.

A value that is hard to price is xeriscaping’s potential to create wildlife habitat. Native vegetation and arid-adapted plants provide food and shelter for local wildlife, such as birds, bees, butterflies, and mammals. Their habitat is enhanced by the lack of pollution caused by gasoline-powered devices and the reduction or absence of herbicides, pesticides, and fertilizer.

### Plants for Xeriscaping

There are several plant groups that have evolved with survival strategies to thrive in arid, high-temperature environments: succulents, drought tolerators, and drought avoiders.

Succulents include cacti, agave, yucca, ocotillo, aloe, and euphorbias, which have fleshy tissue that expand to soak up and store water for dry periods. Some species have spines instead of leaves and have green photosynthesizing stems, which reduces overall surface area, and thus decreases water loss via transpiration. Extensive, shallow root systems absorb water quickly during infrequent rainstorms and a thick waxy skin retards water loss in the intense desert sun. Their stomata can open at night to access and store carbon

dioxide when it is cooler, which allows photosynthesis to occur during the day without opening the stomata and losing precious water.

Drought tolerators, which can withstand a low-water, high-temperature environment, include desert shrubs such as mesquite, acacia, four-wing saltbush, Mormon tea, creosote, red barberry, and more. Survival characteristics include small, shiny or waxy leaves that retard water loss. Some have small hairs on their leaves to protect from sunlight and desiccating wind. Others shed leaves during droughts or position leaves at an angle to the sun to minimize water loss. A few desert shrubs, such as creosote, produce a chemical that prevents other plants from growing near them, eliminating competition for scarce water.

Drought avoiders complete their entire life cycles or active growth periods before the dry portions of the year occur. These include many perennials and grasses, which actively grow during wetter seasons, and annual herbaceous species with very short life spans during spring or summer. They fit their entire life cycle, including seed production, into wet periods, then go dormant or die. These types of plants are mainly responsible for stunning displays of spring flowers.

With all of its benefits and an array of plant options, xeriscaping is an excellent landscaping choice. One can feel great about supporting the food web, contributing to ecological health, and saving time, money, and our most precious resource, water.

Article by Chris Jensen, with contributions from Marianne Davis

*“Water links us to our neighbor in a way more profound and complex than any other.”  
~ John Thorson*





## Beavers

North American beavers (*Castor canadensis*), often simply called beavers, were once found almost everywhere in Arizona where there was permanent water. In the mid-1820s, Anglo-American fur trappers began trapping beaver in Arizona. The fur-trapping heyday lasted only a few decades, but resulted in population declines, especially in the accessible San Pedro and Santa Cruz rivers. Beaver populations continued to drop due to settlement, drying up of streams and rivers, habitat loss, trapping, and removal. Today, Arizona beavers may not be hunted, only trapped, and the average number trapped annually has greatly declined since 1991.

The beaver is Arizona's largest rodent, weighing between 30-60 pounds and exceeding two feet in length. They are easily recognized with their flattened oar-like tails, webbed hind feet, dense fur, and eyes positioned high on their heads. Arizona beavers are typically a light cinnamon color in contrast to the browner animals found in other states.

Introductions and natural re-colonization have enabled the beaver to recover much of its former distribution, if not its

>> *continued on page 4* >>

Article by Kathy Davis  
Photo by stevehdc/Flickr, CC BY-SA 2.0

# The State of the Watershed

The first half of 2016 has been remarkably similar to last year; both were El Niño years that had lack-luster winters, but the spring rains provided significant precipitation totals. However for this year, the spring rains came too late, resulting in no real impacts on the hydrology of the Verde River Watershed. For the spring period (April through June), the Verde River Watershed accumulated an average of 2.11 inches of precipitation, which is 150 percent of average. In addition, the late June rains marked an early start to the monsoon by nearly 2 weeks.

As mentioned, the spring rains were a bit too late, thus streamflow volumes for the Verde River measured at 56% of median for the runoff season (January through June). This amounts to a total of 184,000 acre-feet of water. In addition, the Verde River saw a steady decline in flows throughout the spring with thunderstorm rains in late June producing only minor increase on the tributaries of the Verde River.

So, what can we expect this summer? Unfortunately, there are no reliably good climate indicators for summer rains in Arizona. However, monsoon rains are far more consistent than winter precipitation. Since the monsoon season is off to an early start, one could feel fairly confident that the Verde River Watershed should see at least normal precipitation this summer.

Article by James Walter, Salt River Project



## Conservation by Planning

Many communities and utilities use codes, ordinances, and/or incentives to significantly save water. What is the difference between them and how do they work?

Codes are rules and regulations created and enforced by a government. Ordinances are laws found within codes. Incentives are enticements that motivate change. Here are some examples of these tools: code - voluntary and mandatory water restrictions; ordinance - required use of low-water-use plants in landscaping; and incentive - getting paid to remove high-water-use lawns and convert to native plant landscaping.

Water-conservation ordinances are generally incorporated into building sections of a community's adopted code, with the intention of meeting water-management objectives of the code. Some communities have made substantial water savings with simple changes. For example, Tucson requires rainwater harvesting in new commercial construction, which has reaped a 50% savings in landscape water demand, at a low cost per acre-foot. Sierra Vista, Bisbee, Tombstone, and an area of Cochise County within the Sierra Vista Sub-Watershed require new residential construction to use EPA WaterSense new-home specifications, which has resulted in 20% water savings compared to typical new home use.

# The Verde River Basin Partnership

## ◆ Informing the community about our water ◆

The Verde River Basin Partnership is a non-profit organization comprised of both individual members and entity partner members (public and private organizations) who share a common goal. This goal is to support and preserve the long-term health of the Verde River and its watershed.

### Our mission:

The Partnership is a scientific and educational resource raising awareness among citizens and community leaders about the workings and limitations of Verde River Basin's interconnected groundwater and surface water systems, and the life they support.

### Our vision:

The Partnership aims to secure the long-term health of Verde River Basin's groundwater and surface waters by assisting citizens and community leaders in exploring strategies and management practices that will sustain the Verde River system for all future generations.

## Learn more about us and get involved:

- Visit our website [www.vrbp.org](http://www.vrbp.org)
- Find us on Facebook
- Read our Guiding Principles
- Become a volunteer
- Make a donation
- Email us at [info@vrbp.org](mailto:info@vrbp.org)

*Among our free educational resources, we provide an online Learning Center at [www.vrbp.org](http://www.vrbp.org), where you can choose how to learn - by watching, reading, or interacting.*

## Beavers (continued from page 3)

numbers. In suitable habitat, beavers build dams of sticks and brush along permanent streams, larger river stretches, shallow lakes, backwaters, and even dirt-lined canals. Where water flows too quickly, they will dig dens in the banks of streams, rivers, or canals. Dens are located above the waterline, lined with cattails and grasses, and provide a nursery for two to four kits, which are born in the spring.

Their diet is almost exclusively plant material with the bark of cottonwoods, aspen, and willow trees being especially important. Other foods include tamarisk, mesquite, and the roots of tuberous aquatic plants such as cattail and bulrush. Chiseled and felled trees are eye-catching signs of beavers.

The Verde River and its tributaries benefit from their beaver inhabitants. Beaver dams raise the water table alongside a stream, create wetlands, and recharge groundwater. They restore riparian habitat by aiding the growth of trees and plants that stabilize the banks



Beaver, photo by Chuck Szmurlo

and prevent erosion. By felling trees, beavers create openings for new shrub and tree growth. They improve fish and wildlife habitat, and help create rich soil. Innumerable species of insects, birds, and mammals rely partly or entirely on habitat essentials provided by beaver ponds.

Verde River Basin Partnership  
PO Box 1831  
Cottonwood, AZ 86326

[info@vrbp.org](mailto:info@vrbp.org)  
[www.vrbp.org](http://www.vrbp.org)

Produced by the  
Communications Committee of  
the Partnership

Committee Chair: Kathy Davis  
Editor: Marianne Davis