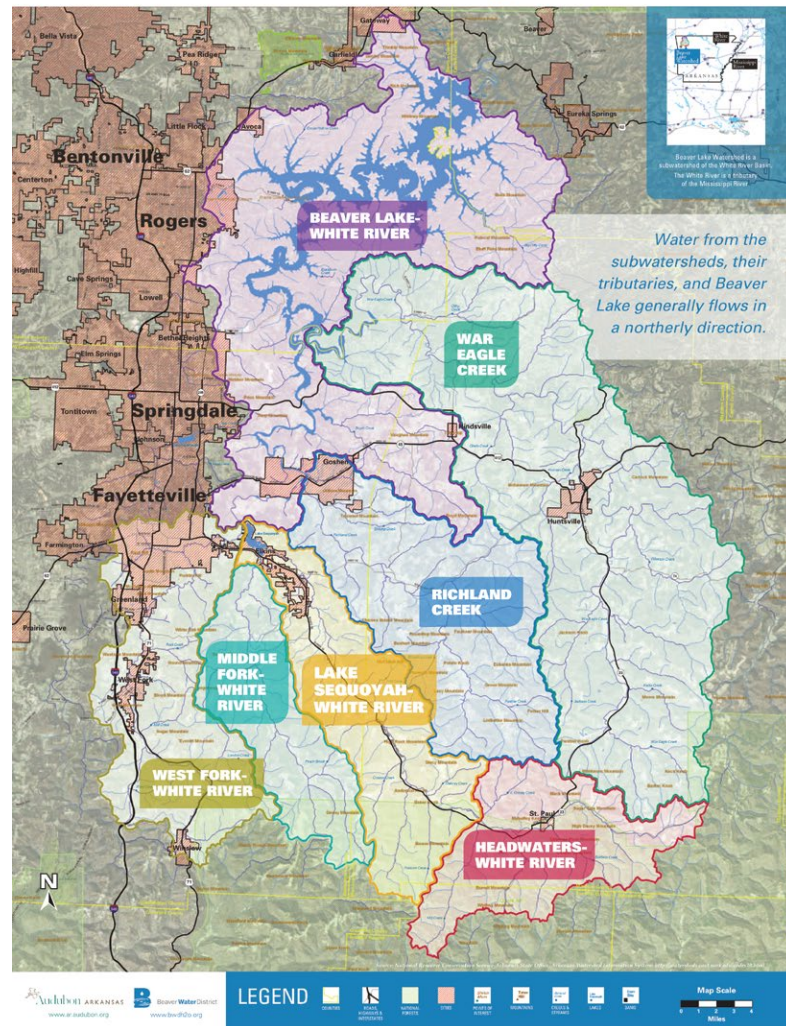


# WATERSHEDS

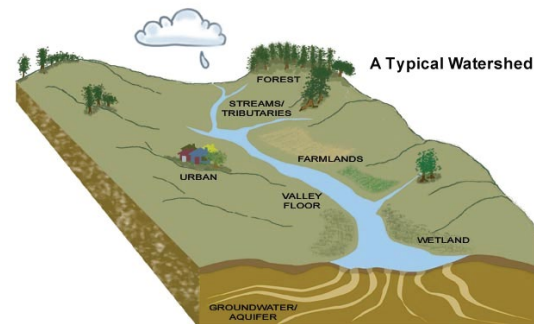
## Northwest Arkansas' Beaver Lake Watershed

Beaver Lake Watershed is a subwatershed of the White River basin, which is a subwatershed of the Mississippi River basin.

Beaver Lake is the drinking water source for one in seven Arkansans.



The Beaver Lake watershed covers 1,192 square miles and is nestled in the Ozark Highlands of NWA. It covers portions of Benton, Carroll, Crawford, Franklin, Madison and Washington Counties.



A watershed is an area of land that receives rainfall which drains to a river, lake or wetland. You are in a watershed right now!

Land use activities can impact watershed water quality by altering the hydrologic cycle (how water moves through the landscape).

Reducing sediment, nutrients and runoff will help to protect and preserve the Beaver Lake Watershed. Contact Beaver Watershed Alliance to learn how you can have a positive impact and protect the watershed.

## BEAVER WATERSHED ALLIANCE

Beaver Watershed Alliance is formed of a diverse stakeholder group representing agricultural, recreation, conservation, water utility, business, and private landowner perspectives who all work together for the benefit of Beaver Lake and its watershed.

To learn more about BWA, best management practices for water quality, or how you can become involved in voluntary watershed protection go to [www.beaverwatershedalliance.org](http://www.beaverwatershedalliance.org) or contact BWA at 479-750-8007 or email [info@beaverwatershedalliance.org](mailto:info@beaverwatershedalliance.org).

## Natural Infrastructure Design RAIN GARDENS



[www.beaverwatershedalliance.org](http://www.beaverwatershedalliance.org)

## FACT SHEET

*Slow rain down, filter pollutants & soak it in!*

Rain gardens are a landscape feature that have a special purpose - to capture rain where it falls. They are one of the most cost-efficient and simple tools to improve water quality on your property! They have numerous benefits for your yard, neighborhood, streetscape and or parking lot, and they help to protect the Beaver Lake Watershed. Find out more about rain gardens!

### Key Facts:

Stormwater is a major contributor of nonpoint source pollution into our waterways.

Rain gardens capture, slow and spread stormwater, allowing it to soak into the ground to help reduce pollutants entering nearby creeks and streams.

Rain gardens help to remove phosphorous, nitrogen, heavy metals, salts, total suspended solids, hydrocarbons and bacteria.

**Sediment is the largest concern for the Beaver Lake watershed. Rain gardens can help reduce erosion and offset hydrologic modifications caused by land use change to reduce erosion and sediment entering local waterways.**



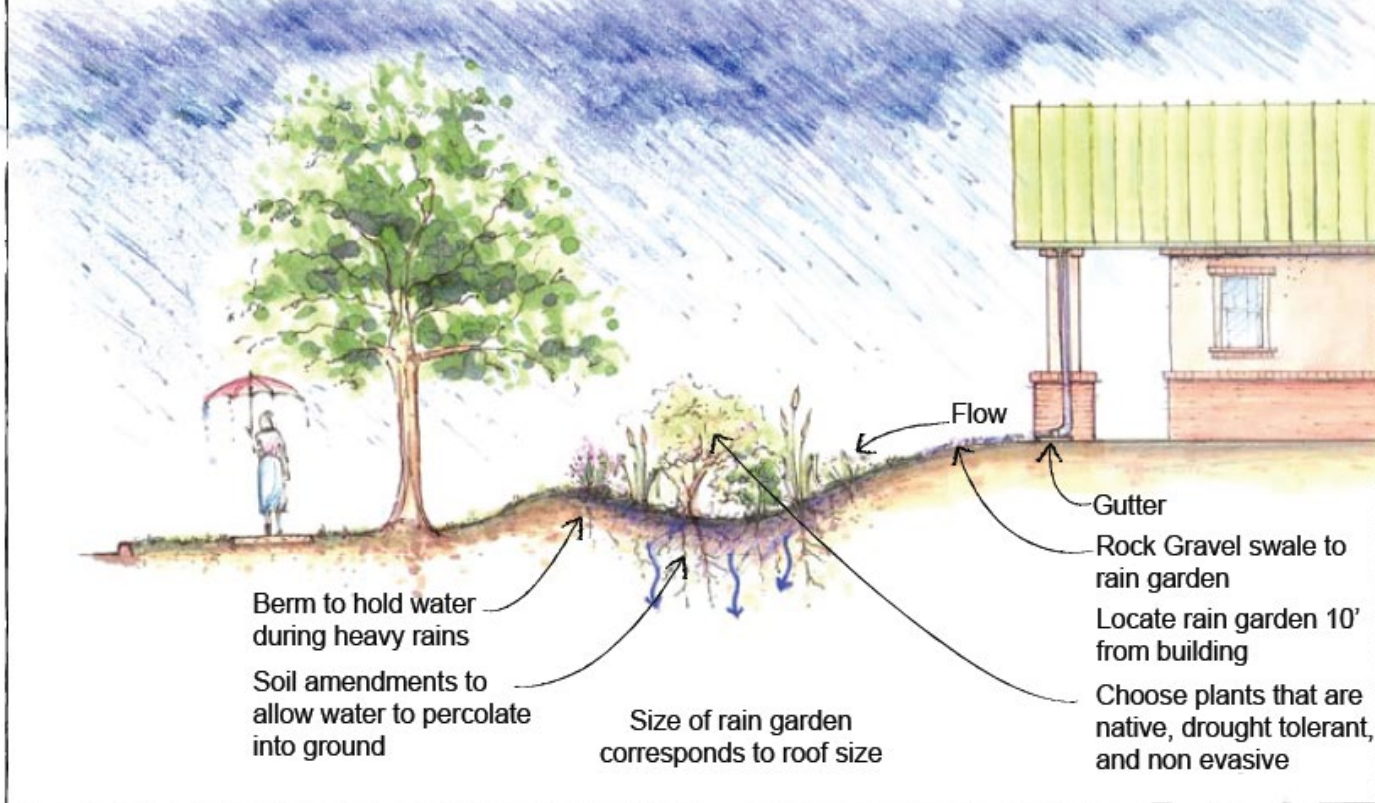
Rain Garden Project at Mitchuson Park, Huntsville, AR

### Why do we need more rain gardens?

As communities continue to develop, more and more land is converted from natural landscapes to impermeable surfaces, such as driveways, parking lots, homes, offices, schools, highways, and paved walkways. These impermeable areas can dramatically alter the stormwater quantity and quality from these areas. Water, which once soaked into the ground - or infiltrated - now runs off forming a "stormwater superhighway" that delivers the runoff and associated pollutants straight into nearby streams and lakes. Rain gardens (sometimes called bioretention cells) can slow down rain runoff, infiltrate up to 90% of the annual rainfall, and greatly improve the quality of stormwater runoff (Penn State 2009).



## How a Rain Garden Works



## HOW DO RAIN GARDENS WORK?

Rain gardens are designed to be “bowl-shaped” to hold rainfall and they can be strategically placed to capture rainfall from a roof, parking lot, along a street or can be used in multiple areas to provide the “treatment train” for stormwater.

When rain enters the rain garden, the water is stopped by a berm or other type of retainment structure. Water then starts to slowly soak in the ground, through the porous spaces between plant roots and particles in the soil.

Plants and soil break down and absorb nutrients and reuse them for energy and food through a process called *phytoremediation*.

Rain gardens are not intended to hold water, rather they should infiltrate rainfall within 24 hours, preventing mosquitoes and standing water.

### Rain gardens benefit the environment & provide ecosystem services by:

- *Providing localized flood control.*
- *Helping keep water clean by filtering stormwater.*
- *Recharging our ground water supply.*
- *Attracting wildlife and adding biodiversity.*

### Rain gardens benefit the community by:

- *Creating healthy, urban watershed environments.*
- *Offering educational experiences.*
- *Adding aesthetic improvements.*
- *Offering partnership opportunities.*
- *Promoting a sustainable community.*

### Rain gardens provide cost efficient solutions for watershed protection:

- *Less irrigation is needed after establishment, unlike the high maintenance landscape.*
- *No herbicides or fertilizers are needed.*
- *Minimal maintenance is needed.*
- *Alleviate the burden on public stormwater systems.*

## PLANTS

Native plants are adapted to our region and require less care and management than non-native plants. Native plants also attract beneficial bugs to feed wildlife, serve as host plants and food sources for pollinators, such as bees, birds and bats, and increase overall soil health. Many native plants are available at local nurseries and do well in rain gardens!



See our Ozark Native Plants for Low Impact Landscapes brochure to help find out more about which plants are native to the Ozarks and would be great plants for your rain garden!

### RAIN GARDEN MINI-GRANT PROGRAM

Financial assistance to build a rain garden or bioswale is available for residents and commercial entities within the Beaver Lake watershed.

Mini-grants can help you purchase materials such as soil amendments, plants and mulch and can help cover the expenses to install a rain garden on your property.

Contact BWA to learn more and to schedule a site visit!

## Rain Garden Tips

Rain gardens are typically sized at 1/3 of the impervious surface (such as a roof) or area draining to the garden, but can vary depending on your individual site.

Ex) 1,200 square foot roof = 35,904 gallons/year  
Building a 400 SF Rain Garden would capture 90% of the runoff or 32,313 gallons/year!  
(Based on annual rainfall for NWA)

### DO:

- Call 811 (AR One Call) to locate underground utilities before installing a rain garden.
- Plant in spring or fall for easy establishment.
- Water often during first 1-2 growing seasons.
- Maintain 3" mulch layer to retain moisture or establish groundcovers to prevent weeds.
- Observe rain garden and make adjustments if needed.

### DON'T:

- Place rain gardens in areas with standing water.
- Place rain gardens in ditches that have large pipes that convey large amounts of water.
- Install rain gardens closer than 10' from foundations, trees or underground utility lines.

## SOILS

Rapidly permeable soils such as sand and loam will infiltrate much quicker than clay soils. Soil amendments may not be needed at all for soils that drain quickly.

Slowly permeable soil, such as clay, cannot infiltrate rainfall quickly and may need to be amended with a mixture of compost, sand and loamy topsoil or an underdrain may be necessary. Have your soil tested before deciding if you need to add amendments, it will save you time and money.

**Your local extension office can test soils for free!**