

# Improving Water Quality Through Green Infrastructure in the Illinois River Watershed

**Grant #15-800 Project Period:** Oct. 1, 2015 – June 30, 2018

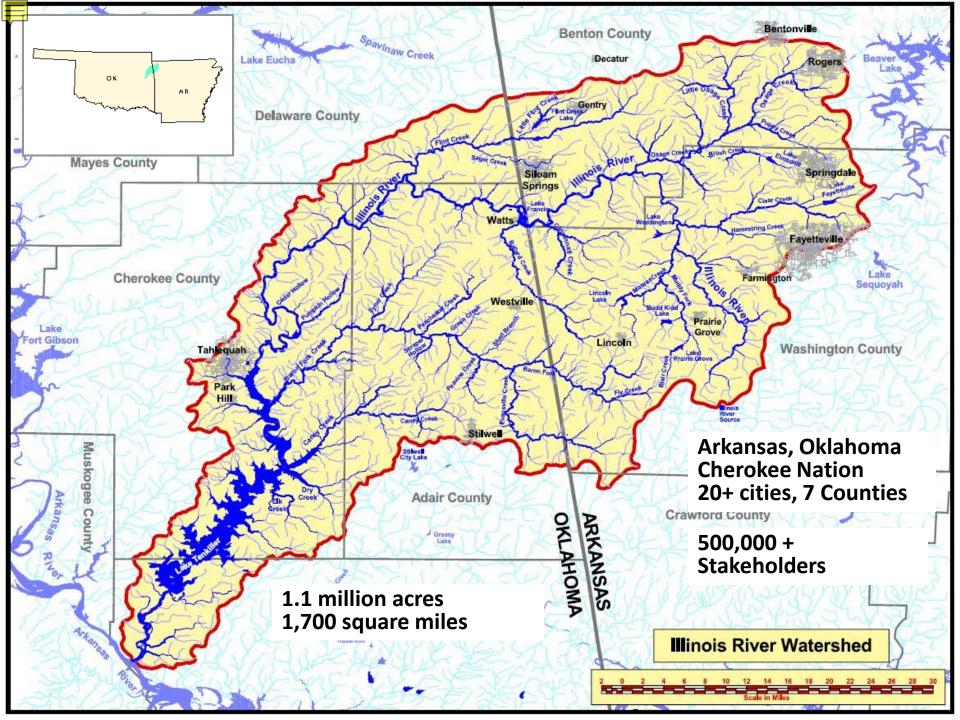
2017 Nonpoint Source Pollution Stakeholder & Project Review Meeting











## **Project Deliverables:**

- Implement 15 green infrastructure projects in public/quasipublic locations within the Illinois River Watershed
- Host 3 annual Green Infrastructure Academies
- Grantees provide a 25% match, may be in-kind hours



## Green Infrastructure for Water Quality



### **PROTECTING OUR WATERWAYS**

#### Capture the Rain through Green Infrastructure





#### What is a Watershed?

A watershed is an area of land that drains to a waterway, much like a bathtub drains to one point.

The Illinois River watershed is a large one, including 1.1 million acres of land in Arbansan and Oktahoms, that drains to the Illinois River River Illinois Anderson and travels north, and then went into Oktahoms, where it eventually reachers Labe Rivellier. It then flows into the Arbansas River, then to the mightly Missinsippi and down to the Golf of Mexicol

Illinois River Watershed Partnership

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#### What is Green Infrastructure?

Green Infrastructure is an approach to watershed management that uses vegetation, soils, and natural processes to manage rain water where it falls. Green infrastructure can be used at a wide range of landscape scales in place of, or in addition to, more traditional runoff control elements to support the principles of low impact Development (LID).

#### What are the Benefits of Green Infrastructure?

Green Infrastructure can:

- · Reduce non-point source pollution to improve water quality.
- · Slow down runoff into nearby waterways.
- · Help downstream property and prevent streambank erosion
- Control flooding and help recharge groundwater.
- Attract wildlife and enhance biodiversity.

Green Infrastructure also addresses the negative impacts of higher water temperatures from streets, roof tops and parking lots, which are harmful to the health and reproduction of aquatic life in streams.

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You can do many things to help protect and improve water quality! Reducing fertilizers and pesticides on your property, planting trees and plants atong streambanks, Volunteering or leading a creek clean-up in your community, are some examples. You can also help in your landscapes by planting native plants!

Native plants help to soak in water into their deep root systems and are beneficial to wildlife and pollinators. Native plants that are adapted to our region need less water and are easier to maintain.

Here are a few examples of native plants















## 15 Demonstration Projects:

**Porous Pavers/Pathways** 

**Bioswales** 

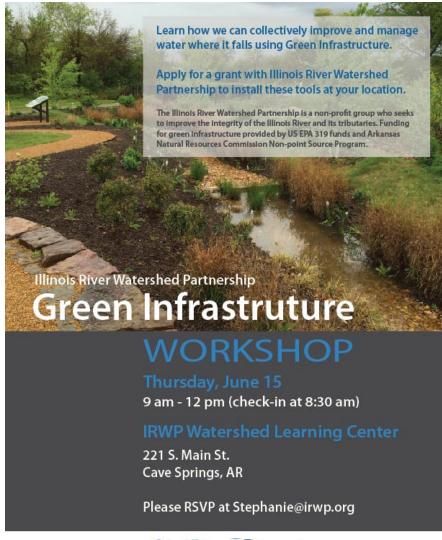
**Rain Gardens** 

**Water Harvesting** 











June 2017
15 Participants at GI Workshop
IRWP Watershed Learning Center
Cave Springs, AR







www.irwp.org 479-215-6623





## **Completed projects to-date:**

First United Presbyterian Church, Fayetteville

Northwest Arkansas Land Trust, Fayetteville

JBU Campus, Siloam Springs

Mathias Elementary, Rogers

George Junior High, Springdale

Butterfield Trail Elementary, Fayetteville







































### **Projects approved/in-progress:**

Don Tyson School of Innovation, Springdale Siloam Springs Parks Dept., Siloam Springs Har-ber High School + Hellstern, Springdale

Botanical Garden of the Ozarks, Fayetteville

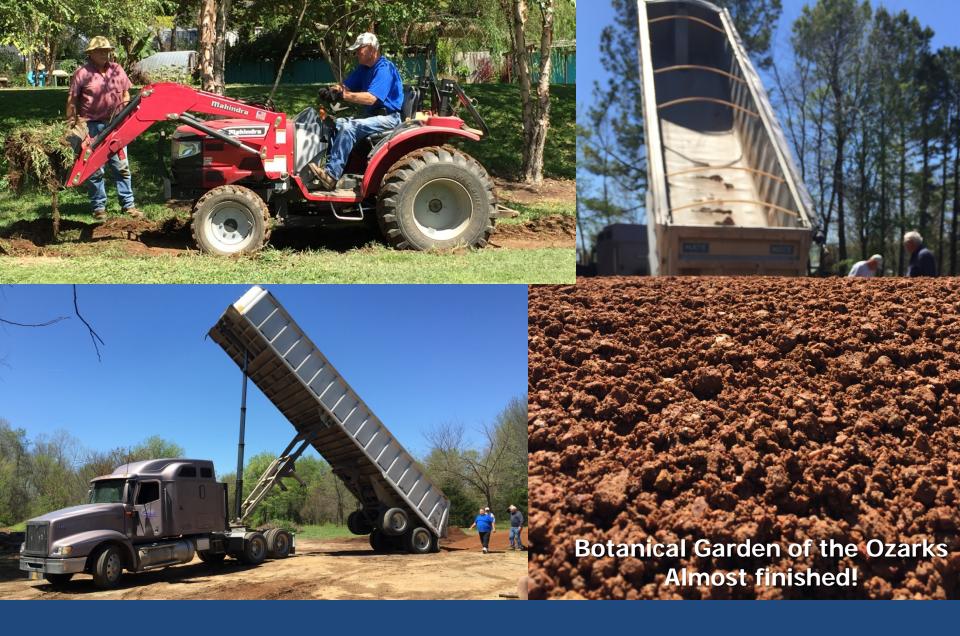
Benton County Extension, Bentonville

Heritage High School, Rogers

City of Lowell, Lowell

Gregory Park, Fayetteville







## **Cost Breakdown:**

	Project Cost	Pervious Area (sqft)	Pervious Cost per sqft	Impervious Area (sqft)	Impervious Cost per sqft
First United Pres. Church	\$4608.13	302	\$15.26	3217	\$1.43
NWA Land Trust	\$5619.86	670	\$8.39	13525	\$0.42
John Brown University	\$2035.13	1646	\$1.24	7959	\$0.26
Mathias Elementary	\$6477.66	1090	\$5.94	2271	\$2.85
Averages:	\$4685.20	927	\$7.71	6743	\$1.24



## **Lessons Learned:**

- Form a long term maintenance plan
- Work with someone experienced for design creation
- •Get work bids <u>EARLY</u>, and leave room in your budget for unexpected costs
- •Be clear with planting instructions before starting to plant
- Place plants where they need to be planted before volunteers arrive





## Thank you!

Stephanie Burchfield, IRWP stephanie@irwp.org 479.215.6623