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
Arkansas, Oklahoma
Cherokee Nation
20+ cities, 7 Counties
500,000 + Stakeholders

1.1 million acres
1,700 square miles
Project Deliverables:

- Implement 15 green infrastructure projects in public/quasi-public 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 Green Infrastructure?
Green infrastructure is an approach to watershed management that uses vegetation, soils, and natural processes to manage rainwater where it falls. Green infrastructure can be used at a wide range of landscape scales to protect wetlands, 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.

What is a Watershed?
A watershed is an area of land that drains into a waterway, such as a ditch or a stream or a river.

The Illinois River watershed is a large one, including 1.5 million acres of land in Arkansas and Oklahoma, that drains into the Illinois River. The Illinois River flows north from the Illinois Wars into Oklahoma, where it eventually reaches the Mississippi. It then flows into the Arkansas River, then to the mighty Mississippi and down to the Gulf of Mexico.

Illinois River Watershed Partnership
www.irwp.org

You can do many things to help protect and improve water quality! Reducing litter and pesticides on your property, planting trees and plants along streambanks, restoring or creating a green space 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 your region need less water and are easier to maintain.

Here are a few examples of native plants!

- Butterfly Milkweed
- Downy Serviceberry
- Eastern Red Cedar
- Arkansas Wonder
- Indian Paintbrush
- Blanket Flower
- Sunflowers

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15 Demonstration Projects:

- Porous Pavers/Pathways
- Bioswales
- Rain Gardens
- Water Harvesting
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June 2017

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

Learn how we can collectively improve and manage water where it falls using Green Infrastructure.

Apply for a grant with Illinois River Watershed Partnership to install these tools at your location.

The Illinois River Watershed Partnership is a non-profit group who seeks to improve the integrity of the Illinois River and its tributaries. Funding for green infrastructure provided by US EPA 319 funds and Arkansas Natural Resources Commission Non-point Source Program.
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
FUPC 8 months after planting

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JBU 8 months after planting
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George Jr. High September 2017
Green Infrastructure in the Illinois River Watershed
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Butterfield Trail Elementary
September 2017
Projects approved/in-progress:

Don Tyson School of Innovation, Springdale
Siloam Springs Parks Dept., Siloam Springs
Har-ber High School + Hellstern, Springdale
JO Kelly, Springdale
Botanical Garden of the Ozarks, Fayetteville
Benton County Extension, Bentonville
Heritage High School, Rogers
City of Lowell, Lowell
Gregory Park, Fayetteville
Botanical Garden of the Ozarks
Almost finished!

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## Cost Breakdown:

<table>
<thead>
<tr>
<th>Project</th>
<th>Cost</th>
<th>Pervious Area (sqft)</th>
<th>Pervious Cost per sqft</th>
<th>Impervious Area (sqft)</th>
<th>Impervious Cost per sqft</th>
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<td>First United Pres. Church</td>
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<td><strong>Averages:</strong></td>
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<td><strong>$7.71</strong></td>
<td><strong>6743</strong></td>
<td><strong>$1.24</strong></td>
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</table>
Lessons Learned:

• Form a long term maintenance plan

• Work with someone experienced for design creation

• Get work bids **EARLY**, 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!

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