NPS Projects:

Water Quality Demonstration and Educational Program for the Illinois River Watershed – Green Infrastructure &

Low Impact Development Demonstration and Education Project for the Illinois River Watershed

2015 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

Illinois River Watershed
Green Infrastructure Grant 13-300
Project Goals:

**Design and build** at least five green infrastructure projects to improve water quality.

**Educate and encourage** communities to implement such practices on their property and change behaviors that contribute to water pollution and improvement of water quality.
Mercy Trailhead, Rogers, AR
Mercy Trailhead, Rogers, AR
Mercy Trailhead, Rogers, AR
Volunteer Tree Plantings at Mercy
Award: Small projects winner and Grand Conception Award in the Water Resources category, selected by American Council of Engineering Companies of Arkansas
Mercy Trailhead, Rogers, AR
AREA OF EXCAVATION FOR RAN GARDEN SLOPE SOUTH TO NORTH WITH 3:1 SLOPE TO A DEPTH OF 12" AT THE NORTH END. MAINTAIN 12" DEPTH TO THE BOTTOM OF RETAINING WALL WITH 3:1 SLOPE TO EXISTING GRADE FOR TOP OF WALL.

3' WIDE X 3' THICK CRUSHED ROCK PATH

EXISTING WATER LINE EASEMENT

Change to Redbud?

sub Little Joe Pye Weed

bergamot?
Johnson Trailhead, Johnson AR
Amazeum, Bentonville, AR
Lake Springdale Trailhead, Springdale, AR
Lake Springdale Trailhead, AR
Gordon Long Park, Fayetteville, AR
Low Impact Development Demonstration and Education Project for the Illinois River Watershed
Grant 13-3300
Project Goals:

**Design and Build Low Impact Development Demonstration Projects on Site:** Determine design for rain garden, green roof pavilion, and raised bed agricultural demonstration, porous pavers for parking spaces, phosphorous removal structure, and vegetated wall.

**Educate and motivate** stakeholders to implement similar LID practices on their property and change behaviors that contribute to water pollution and improvement of water quality.
Low-Impact Development at the Learning Center
Grant 13-1300
Serviceberry Tree
Amalanchier

“supports 119 different species of moths and butterflies native to the United States as either a larval host or source of nectar”
-Doug Tallamy

Low-Impact Development at the Learning Center
Grant 13-1300
Purple Coneflower

_Echinacea purpurea_

Nectar source for butterflies and hummingbirds, songbirds feed on seed heads

Low-Impact Development at the Learning Center
Grant 13-1300
Blue Vervain
*Verbena hostata*

Insects and bees, particularly bumblebees, collect nectar and pollen, and many birds, such as sparrows and cardinals, eat the seed.

Low-Impact Development at the Learning Center
Grant 13-1300
Rush

*Juncus*

clump forming wetland plant, attracts wildlife and provides nesting material and shelter

Low-Impact Development at the Learning Center
Grant 13-1300
Little Bluestem
*Schizachyrium scoparium*

Important food source for tiny butterflies - grass skippers and wood nymphs, and their abundant seed stems along road sides and in wild areas provide forage for many songbirds through winter.

Low-Impact Development at the Learning Center
Grant 13-1300
Pollutant Removal Rates:

- Copper: 50-89%
- Zinc: 62-88%
- TSS: 60-90%
- Total Phosphorus: 65%

Volume Reduction
Reduce flow rates 70-90%
Almost pre-development conditions!
Low Impact Development at WLC

The Bio-Aquifer Storm System (BASS) allows for natural stormwater drainage and groundwater recharge, making the paved surface ecologically sound and economically smart.

In fact, the BASS method is an acceptable post-structural best Management Practice (BMP) used to meet the federal stormwater requirements. Roads and parking lots created using BASS with these permeable pavers offer vast benefits.
Low-Impact Development at the Learning Center
Grant 13-1300
Low-Impact Development at the Learning Center
Grant 13-1300
Low-Impact Development at the Learning Center
Grant 13-1300
Low-Impact Development at the Learning Center
Grant 13-1300
Low-Impact Development at the Learning Center
Grant 13-1300
Low-Impact Development at the Learning Center
Grant 13-1300
Rain Water Collection System
Growing Conservation
AEP/Flint Creek Power Plant Tree Farm, Gentry
2014/2015 Outreach Education & Conservation Project
Implementation TD:

Hours: 55,091
Participants: 53,215

Economic Value/Match: $1,156,911

* Outreach Hours at $21
http://www.handsonnetwork.org/tools/volunteercalculator
### 1. Could you locate the Illinois River Watershed in Northwest Arkansas and Northeast Oklahoma on a map?

<table>
<thead>
<tr>
<th>Option</th>
<th>Percentage</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Yes</td>
<td>72%</td>
<td>115</td>
</tr>
<tr>
<td>b. No</td>
<td>4%</td>
<td>7</td>
</tr>
<tr>
<td>c. Maybe</td>
<td>24%</td>
<td>38</td>
</tr>
</tbody>
</table>

### 2. Are you familiar with the Illinois River Watershed Partnership and its mission?

<table>
<thead>
<tr>
<th>Option</th>
<th>Percentage</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Yes</td>
<td>97%</td>
<td>154</td>
</tr>
<tr>
<td>b. No</td>
<td>3%</td>
<td>6</td>
</tr>
</tbody>
</table>
### 4. What is your perception today of the water quality of the Illinois River Watershed?

<table>
<thead>
<tr>
<th>Perception</th>
<th>Percentage</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Water Quality</td>
<td>28%</td>
<td>45</td>
</tr>
<tr>
<td>Medium Water Quality</td>
<td>58%</td>
<td>93</td>
</tr>
<tr>
<td>Low Water Quality</td>
<td>1%</td>
<td>3</td>
</tr>
<tr>
<td>Don't know</td>
<td>10%</td>
<td>16</td>
</tr>
</tbody>
</table>

158 people responded.
8. What conservation practices would you like to learn more about?

<table>
<thead>
<tr>
<th>Practice</th>
<th>Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Rain Gardens and Bioswales</td>
<td>69</td>
<td>43%</td>
</tr>
<tr>
<td>b. Riparian Buffer Zones</td>
<td>42</td>
<td>26%</td>
</tr>
<tr>
<td>c. Porous Paving</td>
<td>59</td>
<td>37%</td>
</tr>
<tr>
<td>d. Streamside Restoration</td>
<td>59</td>
<td>37%</td>
</tr>
<tr>
<td>e. Native plants and trees</td>
<td>109</td>
<td>68%</td>
</tr>
</tbody>
</table>

9. Have you participated in a conservation project or event in the Illinois River Watershed in the past?

<table>
<thead>
<tr>
<th>Participation Period</th>
<th>Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Within the last year</td>
<td>90</td>
<td>56%</td>
</tr>
<tr>
<td>b. 1-2 years</td>
<td>29</td>
<td>18%</td>
</tr>
<tr>
<td>c. 2 or more years ago</td>
<td>41</td>
<td>25%</td>
</tr>
</tbody>
</table>
Blog: Upstream Matters
Digital and Print Media Outreach

2014/15 Newspaper/Radio/Interview Features = 25+ Articles

NWA Democrat Gazette readers = 187,600
2014/15 E-Newsletter = 6,000 Subscribers
Digital and Print Media Outreach
Digital and Print Media Outreach

11,942 “Likes”
### Your Fans

The people who have liked, commented on, or shared your posts or engaged with your Page in the past 28 days.

#### Women

- **61%** People Engaged
- **54%** Your Fans

#### Men

- **39%** People Engaged
- **46%** Your Fans

### Demographics

#### Country

<table>
<thead>
<tr>
<th>Country</th>
<th>People Engaged</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States of America</td>
<td>398</td>
</tr>
<tr>
<td>Canada</td>
<td>1</td>
</tr>
<tr>
<td>Germany</td>
<td>1</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>1</td>
</tr>
<tr>
<td>Australia</td>
<td>1</td>
</tr>
<tr>
<td>Brazil</td>
<td>1</td>
</tr>
<tr>
<td>Egypt</td>
<td>1</td>
</tr>
<tr>
<td>Spain</td>
<td>1</td>
</tr>
</tbody>
</table>

#### City

<table>
<thead>
<tr>
<th>City</th>
<th>People Engaged</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fayetteville, AR</td>
<td>49</td>
</tr>
<tr>
<td>Tulsa, OK</td>
<td>31</td>
</tr>
<tr>
<td>Springdale, AR</td>
<td>29</td>
</tr>
<tr>
<td>Bentonville, AR</td>
<td>23</td>
</tr>
<tr>
<td>Cave Springs, AR</td>
<td>21</td>
</tr>
<tr>
<td>Siloam Springs, AR</td>
<td>21</td>
</tr>
<tr>
<td>Tahlequah, OK</td>
<td>16</td>
</tr>
<tr>
<td>Rogers, AR</td>
<td>16</td>
</tr>
<tr>
<td>Broken Arrow, OK</td>
<td>11</td>
</tr>
<tr>
<td>Muskogee, OK</td>
<td>9</td>
</tr>
</tbody>
</table>

#### Language

<table>
<thead>
<tr>
<th>Language</th>
<th>People Engaged</th>
</tr>
</thead>
<tbody>
<tr>
<td>English (US)</td>
<td>389</td>
</tr>
<tr>
<td>English (UK)</td>
<td>5</td>
</tr>
<tr>
<td>Portuguese (Brazil)</td>
<td>1</td>
</tr>
</tbody>
</table>
IRWP Approach: Education
Motivation
Action
Watershed Protection

Illinois River, OK

Thank you!