



ANNUAL REPORT 2022

ILLINOIS *River*
WATERSHED PARTNERSHIP

IMPACT SUMMARY 2022

RIPARIAN RESTORATION in partnership with Arkansas Department of Agriculture - Natural Resources Division, Walton Family Foundation, Arbor Day Foundation, and sponsors.

- **8 miles of riparian area** restored
- **740 acres of productive pastureland** provided with off-stream watering facilities
- **24,800 linear feet of fencing** funded for rotational grazing
- **791 native trees planted** in the watershed

YOUTH EDUCATION in partnership with American Electric Power Foundation, and sponsors.

- **4,030 students educated** on water quality
- **834 students participated** in watershed Learning Center field trips
- **25 schools** located in Arkansas and Oklahoma participating in youth education programming

WATER QUALITY MONITORING in partnership with American Electric Power Foundation, and sponsors.

- **43 students** monitored streams and creeks
- **242 bags of trash and recyclables** removed from the river and its tributaries

LOW IMPACT DEVELOPMENT in partnership with the Walton Family Foundation and sponsors.

- **4 Blue Neighborhood meetings** to learn about urban best management practices
- **3 invasive plant removal workshops**
- **148 attendees** to Blue Cities Events
- **28,982 people received educational mailers**, door hangers, or emailed newsletters

SEPTIC TANK REMEDIATION PROGRAM in partnership with Arkansas Department of Agriculture - Natural Resources Division.

- **25 systems repaired** or replaced
- **\$284,960 worth of projects installed**
- Grant assistance totals \$194,284





MISSION

THE ILLINOIS RIVER WATERSHED PARTNERSHIP

works to improve the integrity of the Illinois River Watershed through public education, outreach, and implementation of conservation and restoration practices throughout the watershed.

VISION

**WE
ENVISION
THAT THE**

ILLINOIS RIVER AND ITS TRIBUTARIES

will be a fully functioning ecosystem, where ecological protection, conservation, and economically productive uses support diverse aquatic and riparian communities, meet all state and federal water quality standards, promote economic sustainability, and provide recreational opportunities.

ABOUT YOUR ILLINOIS RIVER WATERSHED:

It includes just over 1 million acres and spans across two states;

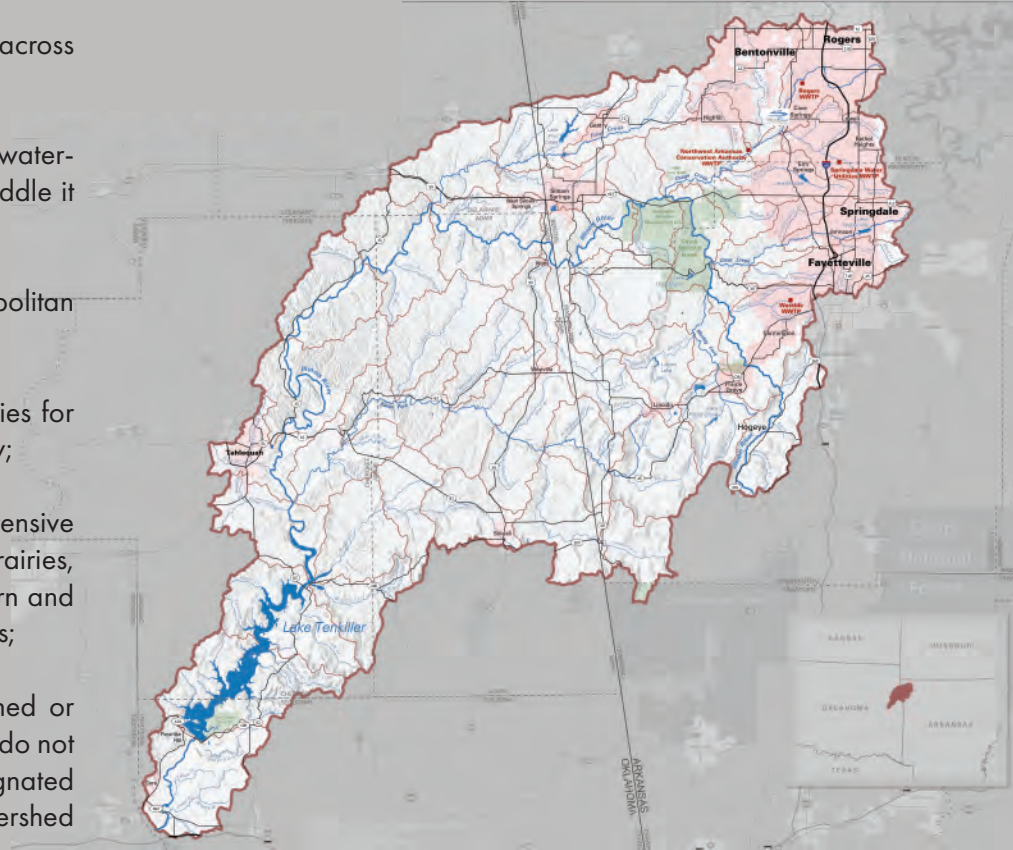
It has over 1,000 miles of streams and scenic waterways and attracts thousands of people to paddle it each year;

It contains one of the fastest growing metropolitan areas in the country;

Within it are two of the top producing counties for livestock and poultry production in the country;

It is home to a diverse ecology, containing extensive cave systems, upland and lowland prairies, oak-hickory dominant forests, and the northern and western most portions of the Boston Mountains;

It has over a dozen federally listed threatened or endangered species, multiple waterways that do not meet water quality standards and/or designated uses, and is considered a nutrient surplus watershed for phosphorus and nitrogen.



LETTER FROM THE DIRECTOR

Partnerships and Investments are Yielding Results in Illinois River Water Quality

Dear Partners,

Together, with your commitment to water quality, the next generation better understands their personal responsibility to our lakes, rivers and streams. In 2022 we were in the classroom delivering water quality education to 4,030 students. This year, we repaired or replaced 24 failing septic systems that are no longer adding nutrients into our streams and groundwater. Due to more than 10 years of committed work by many partners, 13.5 miles of Clear Creek are no longer impaired for pathogens like E. Coli. You and I know how important results like these are and that's why I'm grateful for your partnership and the resources you invest in this work. You make this work possible.

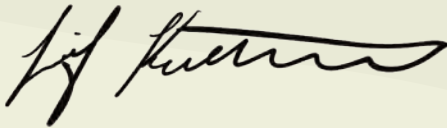
In 2022 the Arkansas Department of Agriculture - Division of Natural Resources, Oklahoma Conservation Commission (OCC), IRWP and many other partners began the process of updating the watershed management plans for the Illinois River. These integrated watershed management plans will guide the work all of us must do to realize our goal of a fully functional watershed. Results will not happen without everyone getting involved. As our region grows and more pressure is placed on our natural infrastructure like floodplains and riparian buffers, we recognize the growing challenge of achieving a healthy watershed. We will need long-term investments, partnerships, and solutions that preserve and protect natural infrastructure throughout the watershed.

I'm deeply appreciative of the work you -individual landowners, the business community, cities and counties, and others- do every day to improve our regional waters. All of us recognize that addressing water quality requires long-term commitment and broad public support. That's why we launched a new program to focus on engaging the public in recreation on the Illinois River. Because people care for what they value and we need a lot more people caring about the Illinois River.

We, like you, care about the results of our work. That's why we are looking at 2023 with a clear focus on outreach, education and implementation of conservation practices that achieve measurable results.

Thank you for all you do for water quality. We are making progress and achieving goals together. We look forward to working with you further!

Sincerely,

A handwritten signature in black ink, appearing to read 'Leif Kindberg', written in a cursive style.

Leif Kindberg
Executive Director



SPONSORS

LEGACY and WATERSHED



WALTON FAMILY
FOUNDATION



RIVER and TRIBUTARY



STREAM, CREEK, and SPRING



ARVEST



CONSERVATION EDUCATION RECREATION

Our Quality of Life Reflects our Investments in the Watershed

The roots of IRWP are deep in the Illinois River Watershed banks. Since before our founding in 2005, IRWP and partners have invested years of work into protecting, preserving and restoring our riparian buffers, educating the public, engaging partners in water quality, and making progress towards water quality standards in Arkansas and Oklahoma. We also recognize that some watershed indicators are not going in the right direction. For example, we are losing



Adult Dobsonfly

nearly 20 acres of productive land annually; this includes soil and nutrients that come from streambank erosion. Assessed over multiple years, this study is helping us better understand the drivers of this erosion and what we, as partners in water quality, can do to reverse this trend through green infrastructure and low impact development practices, riparian buffers, and managing for deep-rooted native vegetation.

Our region has also experienced a significant increase in concentrated rainfall over the past 15 years. Combined with rapid growth, we have a perfect combination of factors that will make progress towards improving water quality even more challenging. The U.S. Army Corps of Engineers is currently modeling the upper Illinois River Watershed in Benton and Washington Counties to understand where in the Illinois River Basin flooding and sedimentation is occurring.

Flooding and stormwater does not only affect our streambanks and water quality. It also affects the aquatic organisms and health of our rivers which we depend on for drinking and recreation. Species like the Dobsonfly larvae, *Corydalus cornutus* are a primary source of food for many of our game fish like smallmouth bass in the Illinois River. Our ecological assessment has surveyed macroinvertebrate diversity across the Illinois River for several years and is consistently finding diversity in macroinvertebrates is positively related to the presence of cobbles and gravel in the streambed and negatively related to the presence of silt, clay, and



Arkansas Game and Fish and IRWP measure a Smallmouth bass for genetics sampling on the Illinois River

mud in the streambed that frequently occur downstream of streambank erosion sites.

As we think about the next 6-8 years of work on the Illinois River, we

are committed to research and investments that look into the future and balance our region's many important goals. We are here with you, our partners, to support timely and cost-effective solutions that improve water quality and enhance quality of life.

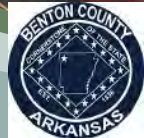
RECREATION STEWARDSHIP

The Illinois River is a recreational gem, meandering through Ozark National Forest in Arkansas, becoming an Oklahoma Scenic River, and hosting some of our region's best recreational fishing, hunting, floating, and trails. The goal of the Recreational Stewardship Program is to develop

a proactive recreation management plan that cultivates and grows a culture of positive stewardship in the watershed, ultimately benefiting water quality. This initiative is increasingly important as the population of our watershed and the demand to recreate on the Illinois River both rise.

As we launch this program, we have ambitious goals to improve and expand existing public access, reduce adverse impacts on the watershed and surrounding landowners, and engage and educate the public on their recreational use responsibilities. Short-term plans include implementing a life jacket loan program, improving signage and site amenities, providing better crowd management and education resources to encourage visitors to actively participate in the protection of the river.

In 2022 we worked with 180 volunteers to clean up 25 miles of the river and remove 242 bags of trash and recyclables." We are just getting started too!



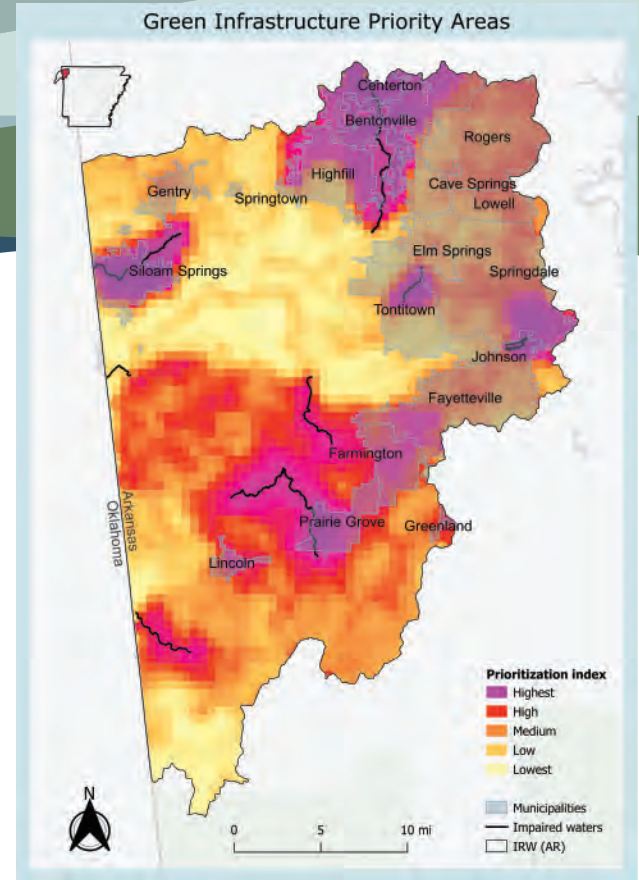


www.irwp.org/giprogram

GREEN INFRASTRUCTURE

As Northwest Arkansas continues to grow, green infrastructure (GI) has become an increasingly important way to minimize non-point source pollution and reduce stormwater management costs. In 2022, IRWP launched a low impact development (LID) and GI program to install 30 best management practices at 12 high visibility locations. To prioritize potential project sites, IRWP prioritized areas to work by looking at slope, impervious surface, visibility, proximity to impaired streams, and other factors.

Looking forward, IRWP will utilize a combination of traditional GI like rain gardens, bioswales, and permeable pavement, as well as new practices like detention pond retrofits and outlet structure modifications. By choosing the best practice for each site, IRWP aims to improve water quality and increase public knowledge and adoption of green infrastructure practices in collaboration with partners.



RESTORATION PROGRAMMING

In early 2022, IRWP expanded the geographic range of the Riparian Restoration Program to include the entire Arkansas side of the Illinois River Watershed. This expansion has led to a significant increase in overall applicants for the program and allowed us to build more relationships with landowners interested in implementing best management practices for water quality.

In 2022, IRWP reached agreements with eight new landowners to:

- *Implement BMP's for water quality along 8 miles of streams in the Illinois River Watershed.*
- *Install off-stream alternative watering facilities for 740 acres of productive pastureland.*
- *Construct over 24,800 linear feet of fence to exclude cattle from riparian areas and improve opportunities for rotational grazing.*

IRWP also partnered with the Springdale Water Utilities and the Watershed Conservation Resource Center to provide technical and financial assistance for a Stream and Wetland Restoration Plan in Johnson. The plan will include a design for restoration of 1,600 feet of Little Sandy Creek, stabilization of 650 feet of aggrading channel on the Trout Spring Run, and a management

plan for 1.6 acres of wetlands to promote native wetland vegetation and improve habitat for aquatic organisms, amphibians, and other wildlife.

One of the most exciting projects we were able to begin implementing in 2022 was a partnership with the City of Siloam Springs



Streambank stabilization on Sager Creek

for restoration work in Bob Henry Park. With the combination of increased storm-water runoff and rapidly changing weather patterns, there has been a significant increase in the instability of Sager Creek in recent years. This project will restore approximate 6,196 linear feet of Sager Creek and includes:

- *Restoration of a 330' section of streambank and native plant restoration just south of the Masonic Temple.*
- *Installation of a bioretention facility which will provide storage for and treat approximately 10 acres of impervious surface before being discharged into Sager Creek.*



As part of this project, the City of Siloam Springs has provided funding for construction of a boardwalk, stabilized creek access, and a viewing platform for residents to enjoy the bioretention facility and Sager Creek from multiple vantage points. Elements of this project include riparian zone enhancement along 2,115' of streambank in Bob Henry Park to improve diversity and habitat along the stream corridor and the restoration of a 300' section of streambank just downstream of the dog park using natural channel design and other bioengineering techniques. IRWP worked with Benton County Roads Department to implement seven unpaved roads water quality improvement practices and train other Roads Departments staff on these.



IRWP and partners lead Benton County Unpaved Roads Workshop in May 2022



The Course at Sager's Crossing, Before, During, and After



YOUTH EDUCATION

IRWP's Youth Education program kicked off with a number of schools requesting field trips to our Watershed Sanctuary in Cave Springs. This experience enables students to enjoy their education outdoors while rotating through four different learning stations. Students are taught the importance of making sound watershed management decisions, how ground and surface water can carry contaminants into our local waterways, and much more during these events. A total of 827 students visited our Sanctuary for an outdoor education experience in 2022.

IRWP was in the classroom this year, as well. Extending from Arkansas to Oklahoma, students learned about various watershed topics - types of pollution, water chemistry, bio-indicators of aquatic health, and downstream effects of pollution to name a few!

In collaboration with community partners including the Botanical Garden of the Ozarks, Beaver Water District, Peel Compton Foundation, and Rogers Water Utility, we taught another 739 students about water quality for a total of 4,030 students in 2022! We are hopeful that this type of programming will foster a culture of environmental stewardship throughout our community and create a healthy and sustainable watershed for all future generations to enjoy!



Lesson on watershed exploration at Osage Park in Bentonville



Mobile Learning Lab on watershed pollution.



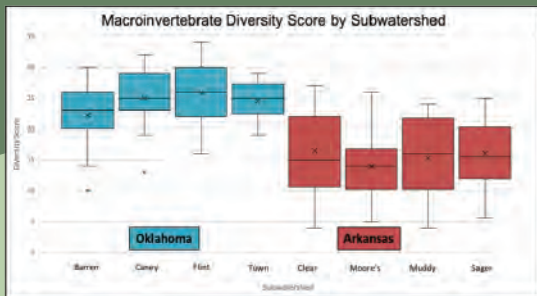
Field Trip at the Learning Center





EAST students index bugs or macroinvertebrates for our Water Quality Monitoring Program.

IRWP trains students to complete habitat assessments and collect macroinvertebrates (aquatic insects) at various sites within our watershed. Arkansas was the focus of this year's ecoassessment and students from 7 different schools became citizen scientists with IRWP. Macroinvertebrates, which are indicators of overall ecosystem health, are the favorite part for (most) students as they get to discover and handle never before seen organisms living in the water - crawfish always get the biggest reaction. Water quality samples are also collected and delivered to the Arkansas Water Resource Center (AWRC) and Tyson Foods for analysis of various parameters - phosphorus, nitrogen, bacteria, etc. In 2022, IRWP brought 43 students wearing waders into Arkansas streams to experience what it would be like to practice in-the-field environmental science.



The 2021 EcoAssessment found that macroinvertebrate diversity was higher across all Oklahoma sites when compared to Arkansas. The site with the highest average diversity score in Arkansas was Clear Creek. In Oklahoma, the site with the highest average diversity score was found in Flint Creek. The updated 2022 EcoAssessment will be released in March of 2023.

The Septic Tank Remediation Pilot Program funded by the Arkansas Natural Resources Division was officially kicked-off in March of 2021. That year, we funded 18 systems. In 2022 we worked with 25 different homeowners to repair or replace their septic systems.

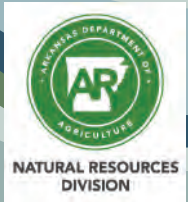
We have repaired or replaced 43 septic systems since 2021 totaling \$487,420 in design and construction costs.

- Grants Given: \$318,833
- 0% Interest Loans Dispersed: \$168,586



Pile's Concrete delivers a septic tank to a homeowner in Lowell.

SEPTIC TANK REMEDIATION PROGRAM



Septic Replacement in Springdale
Total Project Cost: \$9,345
July 26, 2022

These homeowners qualified for a zero-interest loan to pay for the installation of a new concrete septic tank and their lateral lines.

"I tell my kids I have the home team advantage," said one landowner as we stood outside his childhood home while the installer filled the newly-set concrete tank with water from the water hose to test it for leaks. As Springdale grew around them, they ended up with their lateral lines ultimately on the neighboring property and sustained some damage from vehicles driving over the drip field. Through the Septic Program, this homeowner was able to get a new gravity fed system with lines that are contained within their property, and a right-size tank for their family.



Porter Backhoe sets and tests a new 1000 gallon tank for leaks.

BLUE CITIES, BLUE NEIGHBORHOODS

The Blue Cities, Blue Neighborhoods Program funded by the Walton Family Foundation began in 2021 and was completed at the end of 2022. Through the field tours, vegetation management trainings, and the presentations supported by this grant, we increased our engagement with cities, counties, locally elected officials, and state legislators. We presented the Illinois River Watershed Toolkit (found at www.irwp.org/toolkit) developed through our Blue Cities program to municipalites across the watershed. These presentations and other outreach brought 148 professionals to three Blue Cities events.

IRWP partnered with Beaver Watershed Alliance and Watershed Conservation Resource Center to host three vegetation management workshops in 2022. The 2022 NWA Stormwater Discussion was an important milestone toward working more closely as a region; it also connected the need for LID and GI around both our drinking water resources and our wastewater resources. This grant supported our first "Float Field Tour" where we took 23 participants to tour the new Logan Springs Preserve, "bug-kick" a.k.a. do macroinvertebrate indexing, learn about the Northwest Arkansas Open Space Plan, and see the erosion downstream firsthand.

Additionally, we hosted four Blue Neighborhoods meetings in Fayetteville, Springdale, Bentonville, and Rogers. Three of these neighborhoods have projects moving forward!



A colorful backyard educational meeting with neighbors.



Watershed Conservation Resource Center presents at the first invasive mangement workshop.

BLUE NEIGHBORHOOD SPOTLIGHT: SALEM HEIGHTS Fayetteville



Neighbors at Salem Heights rally around improving a natural area and riparian corridor.

Salem Heights is currently in the process of restoring a previously neglected riparian area along a spring run into a community natural area with pollinator garden features. This neighborhood is situated just upstream of the Wilson Springs Preserve, home of threatened aquatic species. The site has two identified springs and wetland features that capture water before draining to Hamestring Creek and eventually to Clear Creek. The land use around this neighborhood is quickly changing from pastureland and primarily agricultural uses to subdivisions, roads, and commercial centers. The area including Salem Heights has significant implications to impair Clear Creek with pathogens, nutrients, chemicals, litter, and—important at this site—temperature. The Arkansas Darter found just downstream is sensitive to warm runoff heated by hot pavement during the spring, summer, and fall. In 2022, we pursued funding to support Low Impact Development Best Management Practices (BMPs) that would treat runoff from Ruppel Road adjacent to this neighborhood with bioswale retrofits in street medians. Like many neighborhoods in the region, a major need is to develop vegetation management plans and organize neighborhood/community support (volunteers) to manage invasive species like bush honeysuckle, chinese privet, wintercreeper, and native species which improve water quality.



Jared Phillips discusses his off-stream watering solutions provided by the Riparian Restoration Program. Lindi and Jared utilize Draft Horses on their farm!



PASTURE WALKS with NCAT-ATTRA and GRASSROOTS GRAZING GROUP (GGG)



Saturday, April 30th, 2022 was the perfect sunny, cool day for a Pasture Walk at Branch Mountain Farm in Lincoln. We joined GGG or Grassroots Grazing Group to see the conservation-minded practices Jared and Lindi Phillips are using to manage their sheep, a handful of cattle, forest-raised pigs, and draft horses.

Funding from our Riparian Restoration Program provided technical and financial assistance for on-farm practices that protect water quality and increase the profitability of the operations.



The Ollers implemented rotational grazing practices using high-tensile fence, exclusion from the water bodies, and alternative watering such as the blue plastic buckets.




Watch a 4 minute documentary on the Oller Family Farm and how they use Rotational Grazing for Soils and Forage Management.



<https://youtu.be/E4XqIGCZ8TA>



Online Learning Center



Septic Tanks and Water Quality

Use the button below to learn how a Septic System works.

What is a Septic System?

Septic systems are remarkable wastewater treatment devices that combine both natural and constructed features to ensure that wastewater is properly treated after leaving the home and before being introduced back into water systems in the environment. But, as with all sophisticated appliances, they require regular care and attention to ensure proper operation. It is very important that these systems are properly installed and maintained to prevent water contamination.

www.irwp.org/online-learning-center

ONLINE LEARNING CENTER

Our online learning center is open to anyone who wants to dive into the best management practices IRWP works to implement. These are:

- Commercial LID
- Residential LID
- Land Conservation and Stewardship
- Resources for Historically Underserved Producers
- Resources for Youth Educators
- Riparian Buffers
- Rotational Grazing
- Streambank Erosion and Restoration
- Septic Systems
- What You Can Do

GREEN INFRASTRUCTURE COSTS 101

Green Infrastructure (GI) and Low Impact Development (LID) are beneficial for the environment and help maintain healthy waters, but installation and maintenance costs can be a concern for interested landowners. Site specific factors such as space limitations, existing utilities, aesthetic requirements, or slope and soil conditions often influence costs, and choosing the best practice for your location will help keep installation and maintenance within budget. Additionally, integrating GI with ongoing or planned projects is often more cost effective than retrofitting individual sites. Per square foot, vegetated green infrastructure practices such as bioretention areas or rain gardens can be more expensive to install and maintain than other stormwater practices. However, when the costs are analyzed per unit of impervious surface being treated, these practices become more cost-effective than other technologies. Other green infrastructure benefits that should be considered include flood mitigation, habitat creation, pollutant reduction, and potential reductions in heating and cooling costs.



A ditch re-vegetated to treat stormwater
Photo by Phillippi Group



A bioswale, photo by Klausung Group

Learn More at: www.irwp.org/green-infrastructure-lid



THE ILLINOIS RIVER WATERSHED SANCTUARY

221 S MAIN ST. CAVE SPRINGS, AR

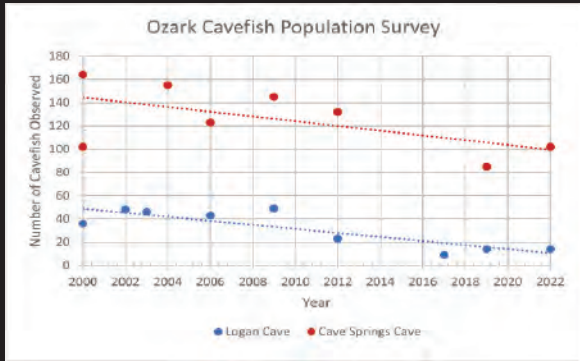
28-acre maintained natural area with hiking trails, pavilion, and cave spring

Book the Learning Center or Sanctuary Pavillion

www.irwp.org/reservations



The Ozark Cavefish lacks pigment. Photo by Missouri Department of Conservation.



Ozark Cavefish are cave dwelling organisms that live their whole lives underground. For this reason, they lack pigment and no sense of sight (they have eyespots, but no optic nerve). They play a key role in the delicate balance of cave ecosystems and are a biological indicator of aquatic health. Aquatic cave organisms like Ozark Cavefish are vulnerable to factors that degrade the quality of groundwater. Threats can include pollution from livestock and poultry, septic tanks, and chemicals, metals, and metalloids from urban runoff. Continued surveys of this sensitive organism may help us better understand how to implement best management practices within our watershed. Cave Springs Cave on IRWP property and Logan Springs Cave have been surveyed for Cavefish populations for many years. Data indicate a decreasing trend in population count over time dating back to the year 2000. Ozark Cavefish are a federally listed threatened species.

www.irwp.org/stories/the-story-of-the-ozark-cavefish



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Work Planning for 2023



Staff Seed Collection and Happy Hour at the Sanctuary



The Holiday Photo "Deleted Scene"

"There is, there has been, there will always be a certain group of people whom inspiration visits. It's made up of all those who've consciously chosen their calling and do their job with love and imagination. Their work becomes one continuous adventure as long as they manage to keep discovering new challenges in it. Difficulties and setbacks never quell their curiosity. A swarm of new questions emerges from every problem that they solve. Whatever inspiration is, it's born from a continuous 'I don't know!'"

Poet Wislawa Szymborska

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Seth Walters Simmons Foods

Heath Ward Springdale Water Utilities

FINANCIALS

Assets

Cash	\$1,116,092.74
Restricted Restoration Funding	\$1,797,830.66
Fixed and Other Assets	\$1,810,727.27
Total Assets	\$4,724,650.67

Liabilities

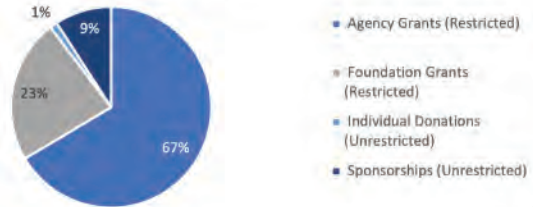
Accounts Payable	\$5,335.06
Deferred Grant Revenue	\$1,689,158.44
Total Liabilities	\$1,694,493.50

Net Assets

Beginning Net Assets	\$2,976,586.83
Change in Net Assets	\$53,533.59
Total Net Assets	\$3,030,120.42

Total Liabilities & Net Assets \$4,724,613.92

Revenue by Source



Expenses by Program

