

# EXHIBIT C1

# ILLINOIS RIVER WATERSHED PARTNERSHIP

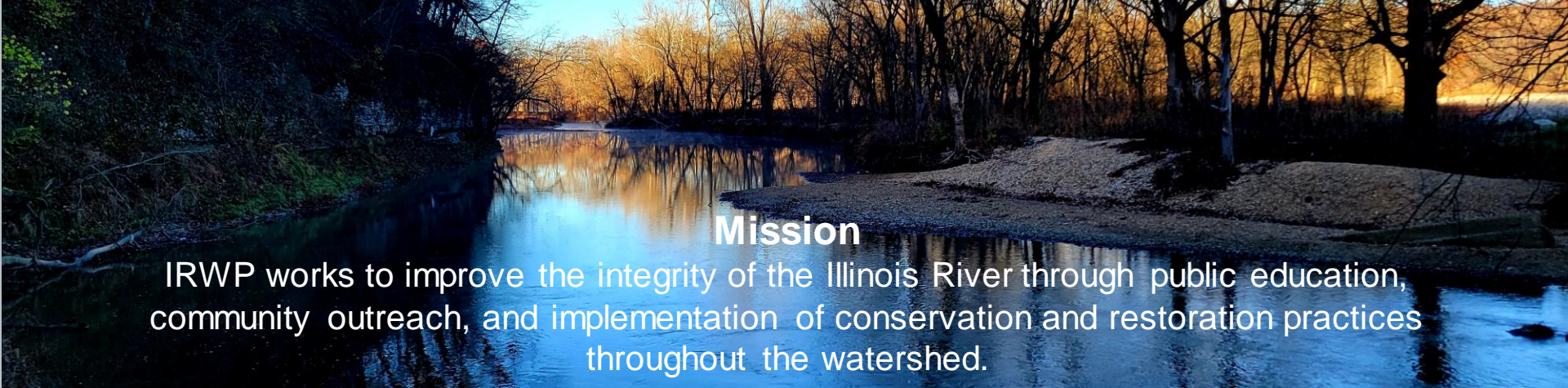
PROGRESS AND OPPORTUNITIES

---

SENATE AND HOUSE COMMITTEE ON AGRICULTURE, FORESTRY, AND ECONOMIC  
DEVELOPMENT



ILLINOIS *River*  
WATERSHED PARTNERSHIP



## Mission

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

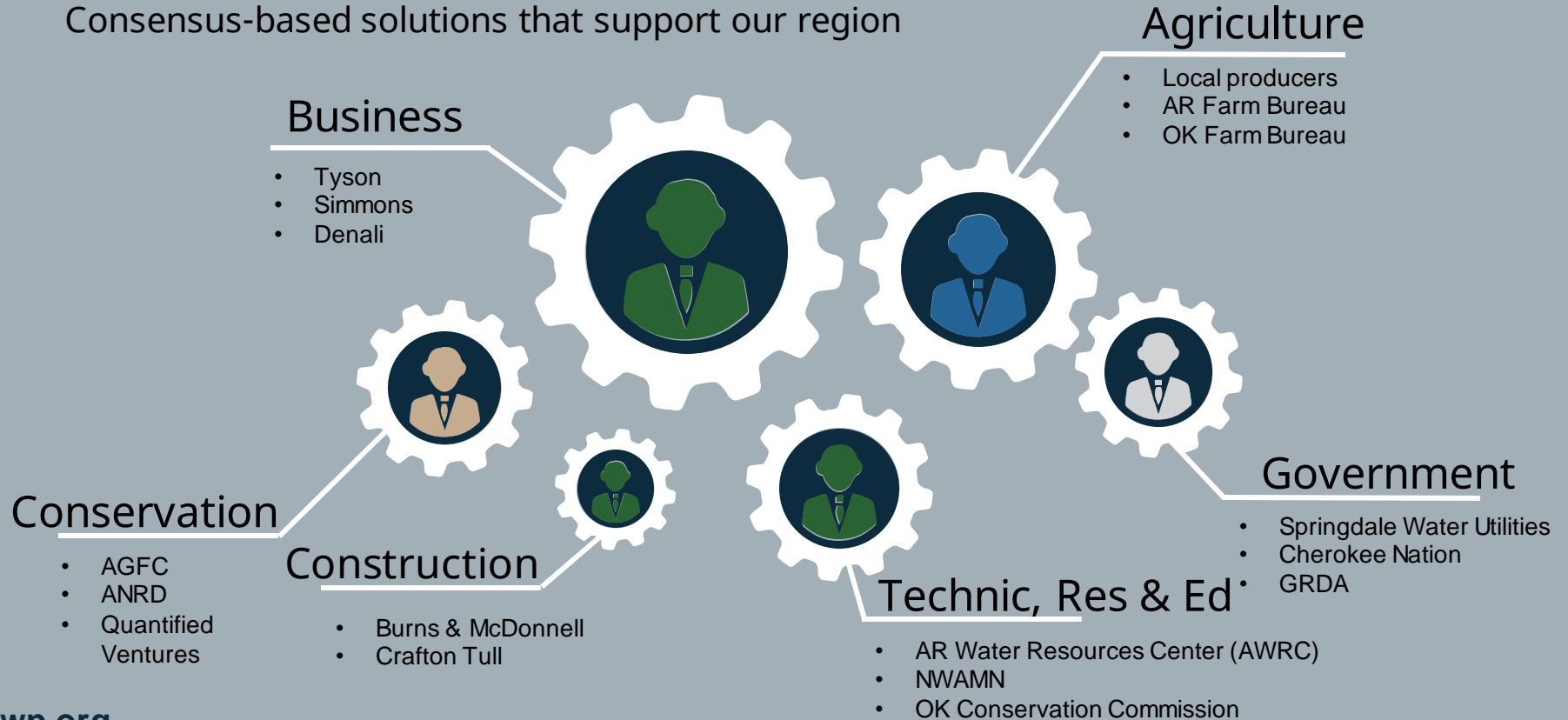


## IRWP Programs

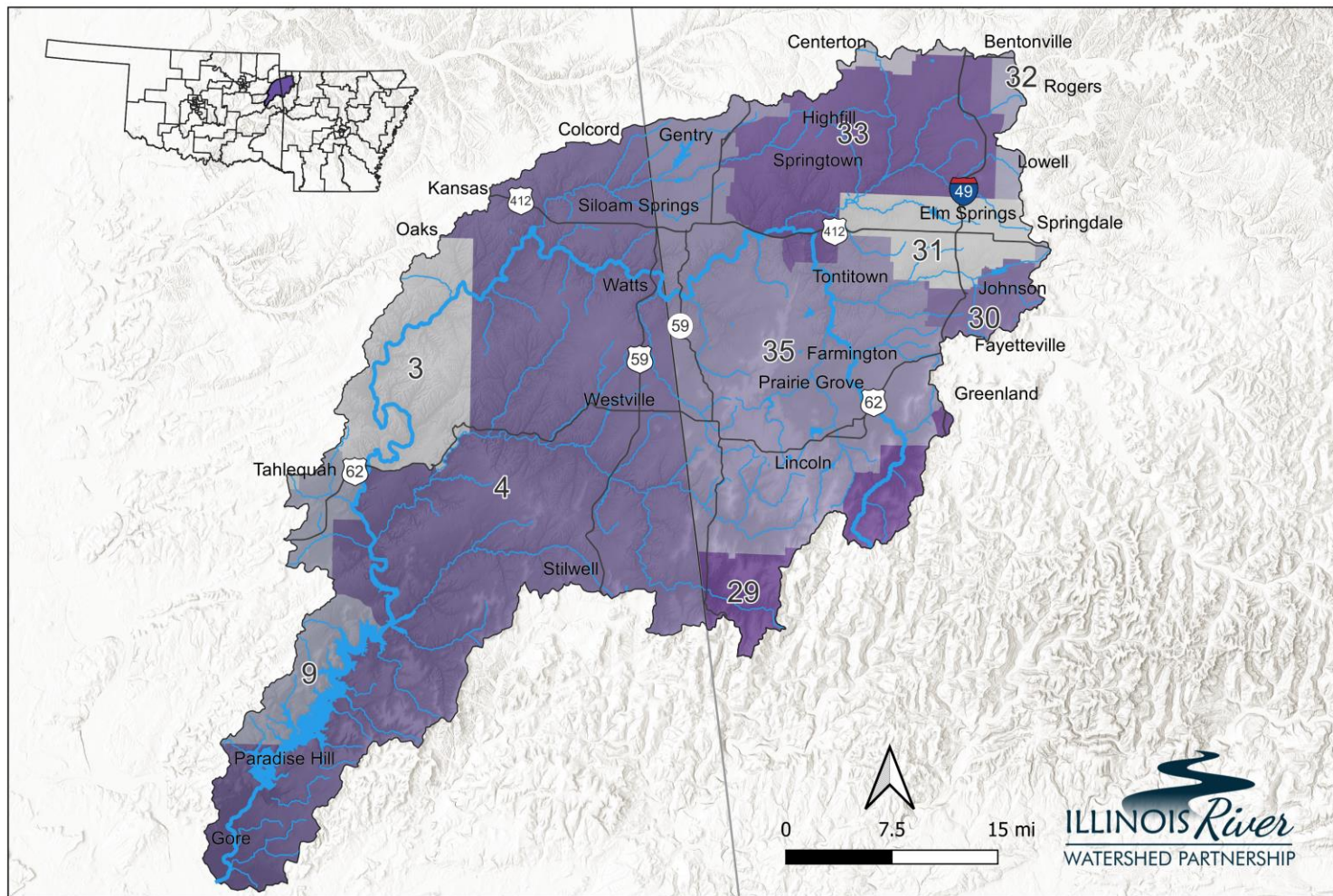
- Public Education
- Low Impact Development/Green Infrastructure
- Riparian Restoration and Landowner Services
- Septic Tank Replacement Program
- Water Quality Monitoring
- Recreation Stewardship

# Local Stakeholders

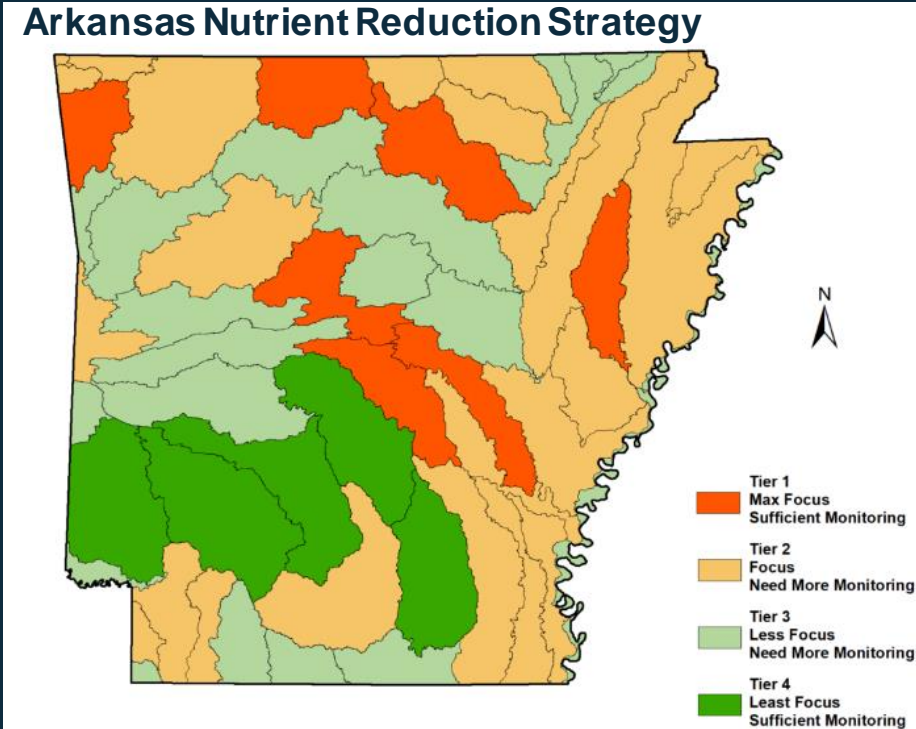
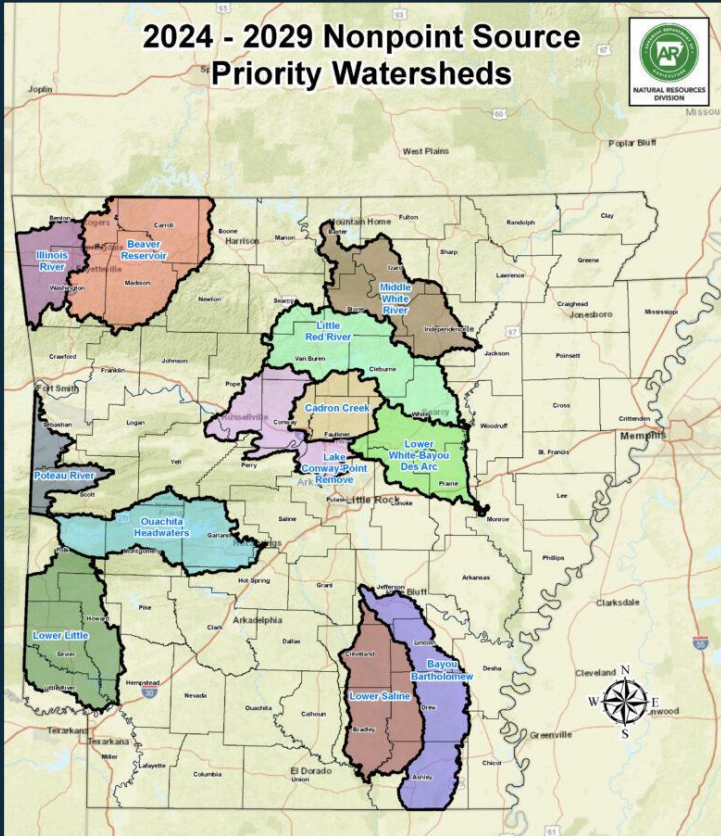
Consensus-based solutions that support our region



# Senate Districts in the Illinois River Watershed



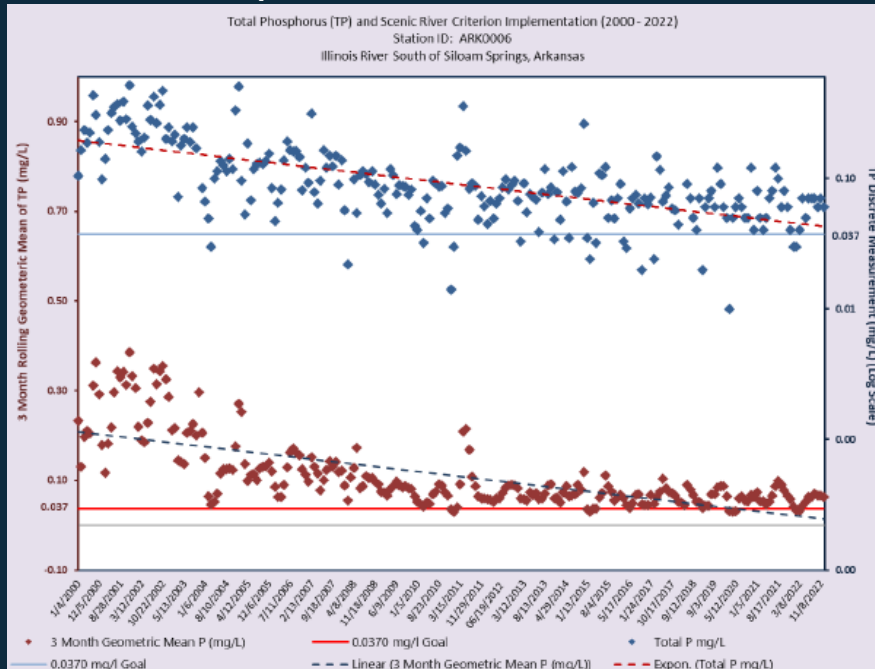
# The Watershed is a Priority for the State



Tier 1: Increase or maintain downward nutrient trends

# WATER QUALITY

- Many streams which do not meet designated use thresholds
- We can make big changes when we put our minds to it!



Subwatershed (2022) DRAFT	AU	Parameter
Little Osage Creek	AR_11110103_630 AR_11110103_933	Primary Contact E. coli
Moores Creek	AR_11110103_026	Primary Contact E. coli
Muddy Fork	AR_11110103_027	Primary Contact E. coli
Illinois River	AR_11110103_024 AR_11110103_028 AR_11110103_020 AR_11110103_018	Primary Contact E. coli; Turbidity Base Flow
Baron Fork	AR_11110103_813	Critical Season DO
Clear Creek	AR_11110103_029	Primary/Secondary Contact E. coli
Unnamed Tributary of Brush Creek	AR_11110103_733	Primary Season DO
Lake Fayetteville	AR_11110103_4080	pH - Short Term Continuous
Flint Creek	OK121700060010_00	Oxygen, Dissolved
Illinois River	OK121700030280_00	Enterococcus, Escherichia coli, Phosphorus, Total
Pumpkin Hollow Creek	OK121700030090_00	Oxygen, Dissolved
Tyner Creek	OK121700050090_00	Oxygen, Dissolved
Barron Fork	OK121700050010_00	Phosphorus, Total
Caney Creek	OK121700040010_00	Macroinvertebrate Bio
Tenkiller Ferry Lake	OK121700020220_00 OK121700020220_00	Oxygen, Dissolved, Chlorophyll-A, Mercury, Phosphorus, Total
Walltrip Branch	OK121700050070_00	Macroinvertebrate Bio
Cedar Hollow Creek	OK121700030110_00	Macroinvertebrate Bio Fish Bioassessments
Tahlequah Creek (Town Branch)	OK121700030040_00 OK121700030020_00	Enterococcus, Escherichia coli
Stick Ross Creek	OK121700030030_00	Macroinvertebrate Bio
Park Hill Creek	OK121700020270_00	Macroinvertebrate Bio
Elk Creek	OK121700020180_00	Oxygen, Dissolved
Chicken Creek	OK121700020110_00	Fish Bioassessments
Deep Branch	OK121700010020_00	Oxygen, Dissolved

Annual Precipitation for 07195500



# Causes: A Changing Watershed

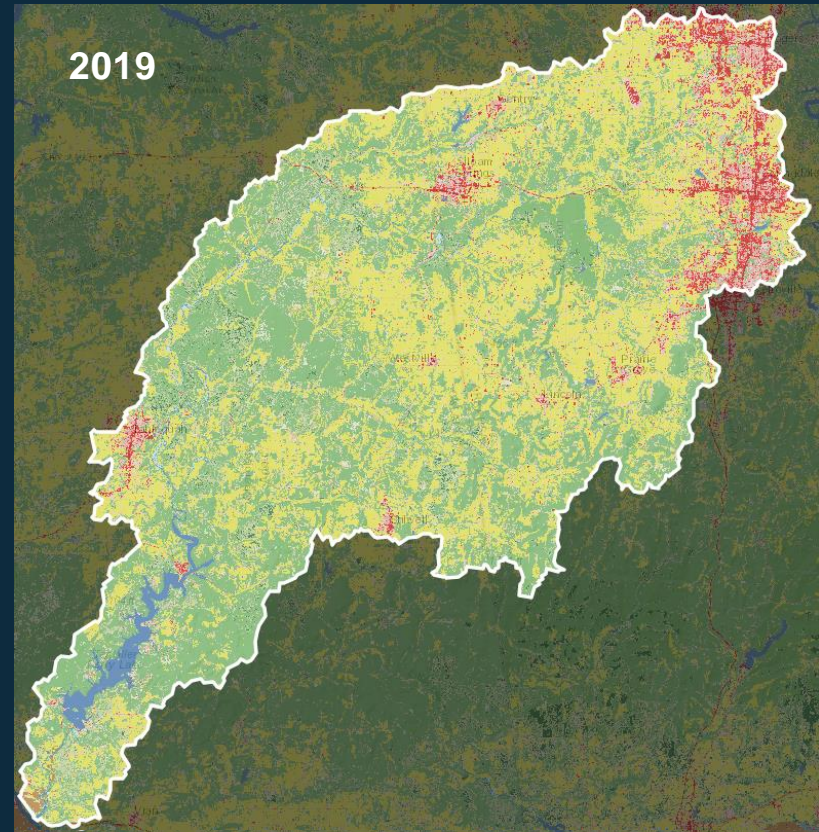
- Streambank erosion
- Increased average annual precipitation
- Increasing streamflow
- Higher runoff rates and sustained flow
- Construction in the floodplain
- De-vegetation of the riparian corridor and other land management practices

# A Changing Watershed

- Rapid Growth in Impervious Surface – 85% increase in 50-100% impervious 2001-2019
- Population to nearly double to 1 million residents by 2045
  - 1,060,576 acres: In 1990 4.4 acres for every person; by 2045 there will only be 0.83 acres per person

## Takeaways:

- *The times they are a-changin'*
- Half of what we are going to need in drinking, storm and wastewater has not yet been built?
- We are going to need to do a lot of work on non-point source water quality!





# Municipal & Other Investments

---



- Wastewater Treatment Plant Upgrades
  - Noland and Westside plant upgrades (\$180.7m); SWU sludge dryer and clarification/headworks projects (\$67m); NACA pipeline upgrades (\$42m); Siloam Springs Biological Nutrient Removal (\$17.5m); Rogers sludge drying (\$31.2m)
  - In 20 years, investments like in Springdale have reduced phosphorus discharge from an estimated 400,000 to 10,000 lbs of phosphorus annually.
- Large-scale Urban Stormwater Management
  - Pinnacle under-street detention using Permeable Interlocking Concrete Pavement (PICP) on 30 acres saving the developer ~\$500K
  - Rogers Municipal Stormwater Management Plan ~ \$1m
- Nutrient Management
  - ~1.6m tons of poultry litter exported since 2005 ~96m lbs of phosphorus (Tyson)
  - 10% of pastures receive poultry litter (FTN and Associates)
- AR Stormwater Studies funded by ANRD and USACE ~\$350K

# Riparian Restoration Program

- Focused on proven conservation BMP's
  - Riparian Revegetation
  - Constructed Wetlands
  - Stream Restoration
  - Livestock fencing
  - Off-stream watering facilities



2,700 feet restored, 10,000 sq foot bioretention to treat stormwater

WALTON FAMILY  
FOUNDATION



# LITTLE OSAGE CREEK RESTORATION

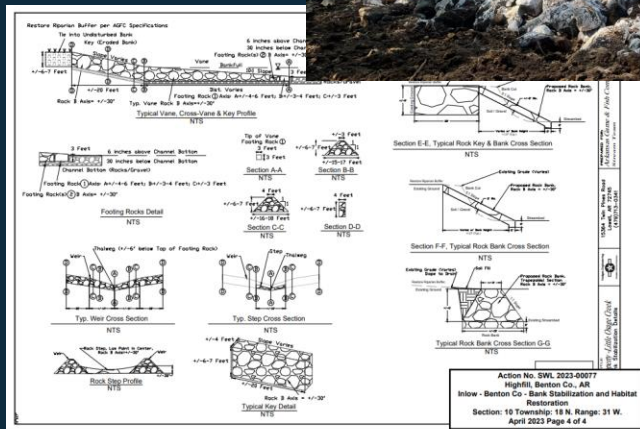


**Before Construction**

Streambank stabilization and establishment of 60-foot riparian buffer along 4,000 linear feet with cattle exclusion

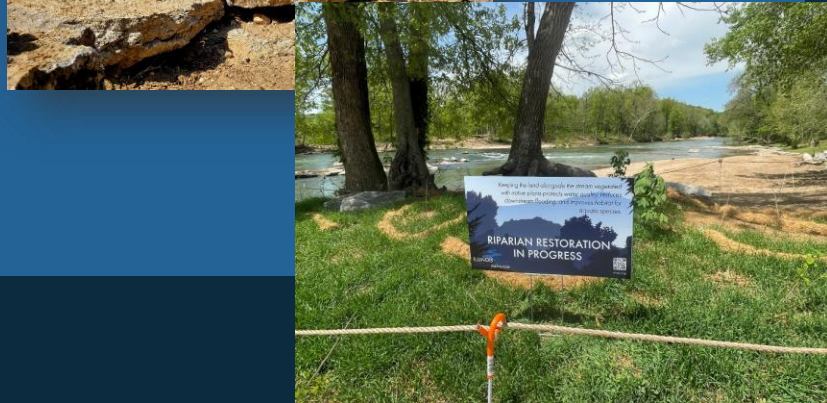


**During Construction**





# Riparian Restoration Program Achievements



- 6 conservation plans prepared since last year (**55 in total**)
- 21,079 linear feet of streambank restored/protected (**21.49 miles, 102% of goal**)
- 472 acres serviced by alternative watering facilities (**1,422 acres, 107% of goal**)
- 30,963 linear feet of fencing installed for rotation grazing (**101,729 linear feet, 135% of goal**)

# Youth Education

- Field trips to IRWP 28 acre indoor/outdoor education facility
- Mobile Learning Labs
  - Water Chemistry, Watershed Pollution and Solutions, Bioindexing Macroinvertebrates, Watershed Exploration
- 4,546 students educated since last year



**AMERICAN  
ELECTRIC  
POWER  
FOUNDATION™**  
BOUNDLESS ENERGY™





West Property, 2.54 miles restored, 200 acres alt water; 7,104 feet of fence, ~\$73,000



Installation of six practices to reduce erosion and cost, \$275,140

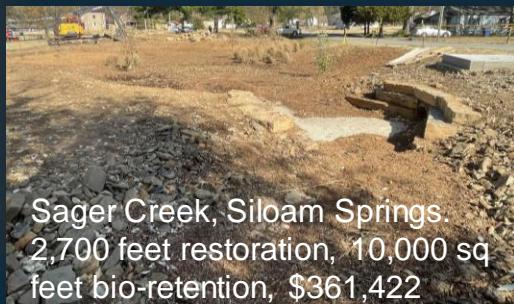
## Other Notable Water Quality Investments



Hutcheck Family, \$17,350 design and installation, 90% grant



Youth Education, 4,200 students educated in 2022, \$15/student

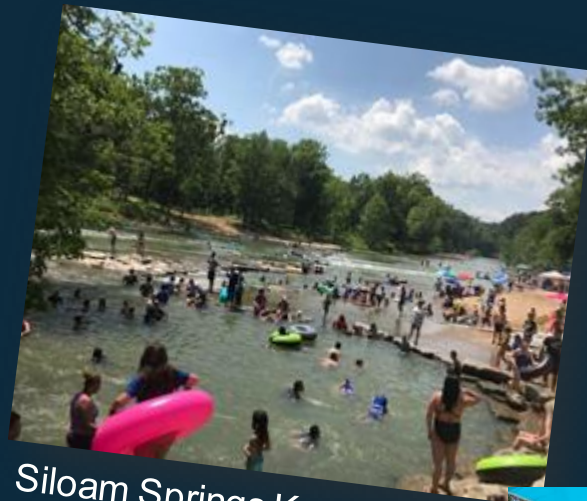


Sager Creek, Siloam Springs. 2,700 feet restoration, 10,000 sq feet bio-retention, \$361,422

- 2015 – 2018: EPA 319, 15 BMPs servicing 7.7 acres, \$374,059
- 2019 – 2022: WFF Blue Cities/Blue Neighborhoods, \$250,000
- 2019 – 2022: USFWS, Water quality improvement practices, \$87,000
- 2019 – 2022: ANRD Benton County Unpaved Roads, \$275k
- 2020 – 2023: STRP, \$2.1m, 61 projects \$728k since March 2021

# Recreation and our Economy

- In Arkansas and Oklahoma the Illinois River and its major tributaries are a multi-million dollar recreational amenity.
  - Illinois River generates \$12 million in tourism for just Cherokee County
  - OK Scenic River is a regional and national draw
  - Illinois River is only a ½ hour drive from much of NWA
  - Popular small mouth bass fishing destination
  - Use is growing rapidly year-over-year
- Investments in water quality projects have significant economic impact
  - Buffalo River Conservation Committee (2019) implimenting water quality projects
  - 1.47 million park visitors spent an estimated \$66.3 million, 960 jobs
- Significant economic impact opportunity for our region!



Siloam Springs Kayak Park



WOKA Whitewater Park



Illinois River below Chewey

# WMP UPDATE 2022/23

---

Goal of reducing exceedance of healthy limits for nitrate, pathogens, sediment, phosphorus and other contaminants that impact water quality

We are focused on:

- Better understanding and reducing stormwater through incentives
- Achieve a 75% forested riparian buffer
- Budgeting for nutrient and sediment reduction goals
- Putting conservation on the ground!

Our region depends on this watershed and we can invest in it now or pay a higher cost later.





## LEGACY and WATERSHED



## RIVER and TRIBUTARY



## STREAM, CREEK, and SPRING





● ● ● ●

# THANK YOU

---



[director@irwp.org](mailto:director@irwp.org)



[irwp.org](http://irwp.org)

Leif Kindberg  
Executive Director  
479-422-5676