



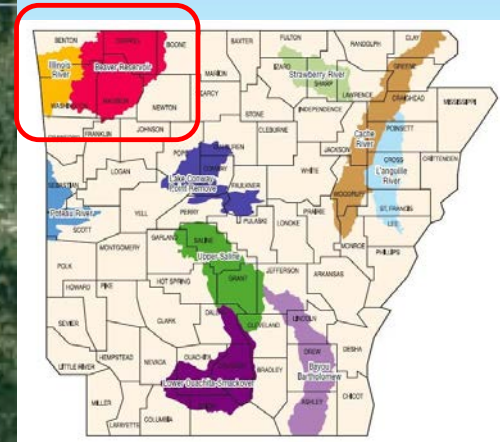
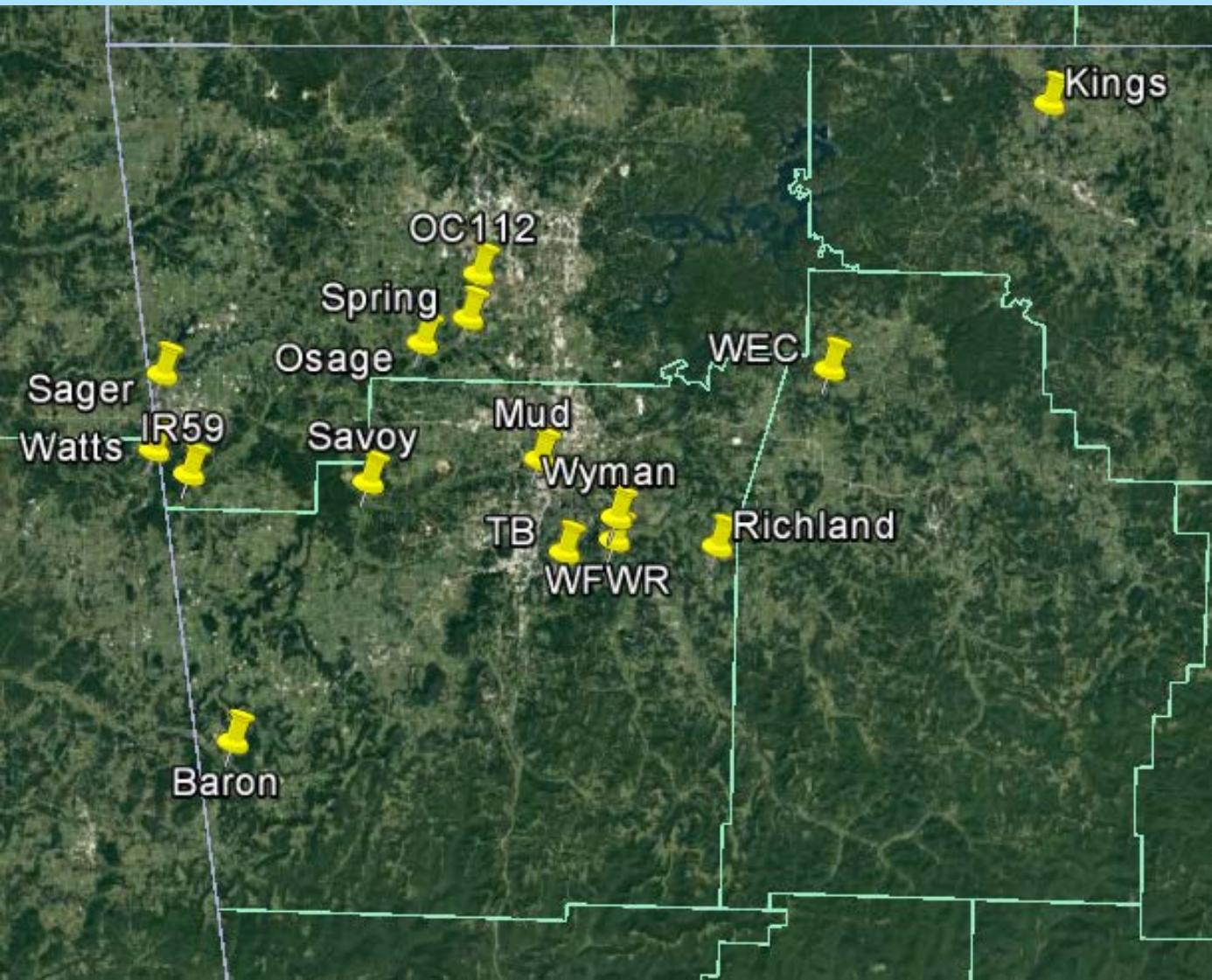
# Water Quality Monitoring in the Upper Illinois River Watershed and Upper White River Basin

Project 15-400 (continuation of Project 11-500)  
Brian E. Haggard, Bradley J. Austin, Erin E. Scott

ANRC NPS Stakeholder Meeting

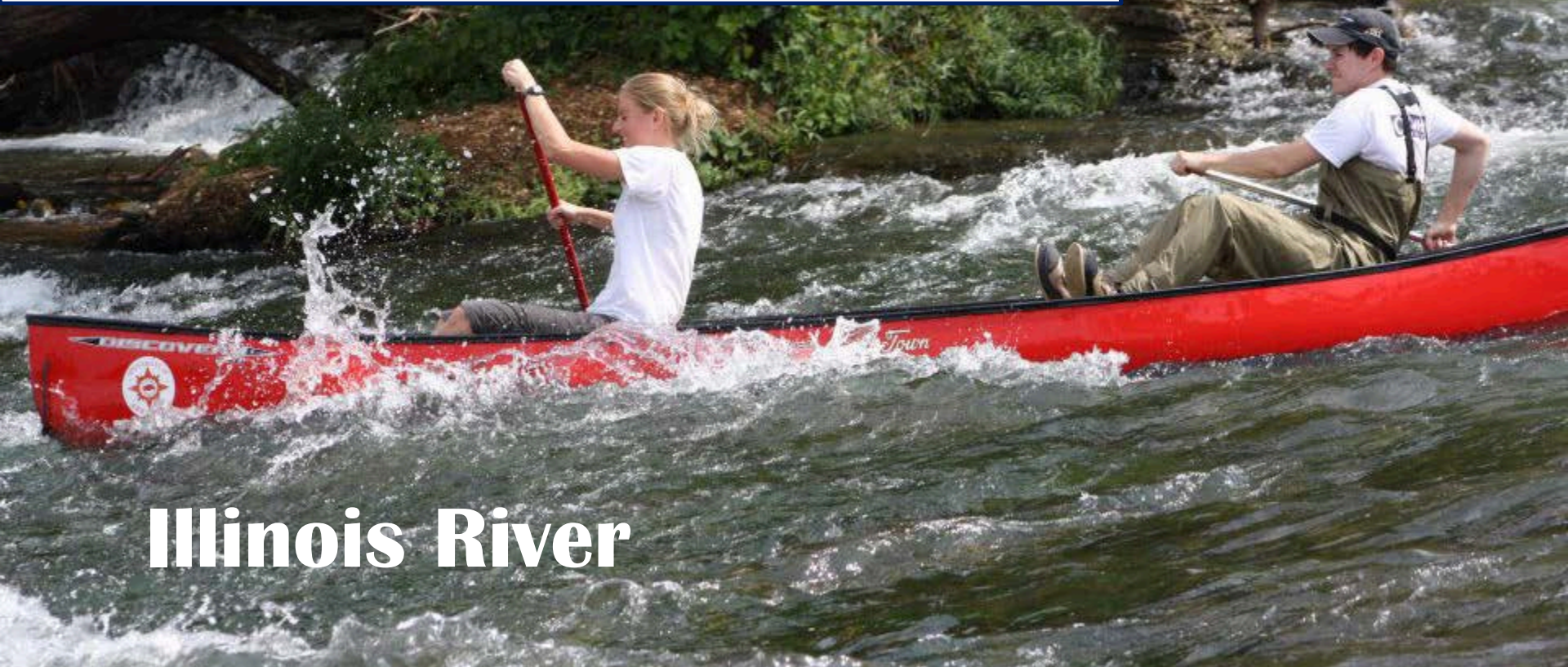
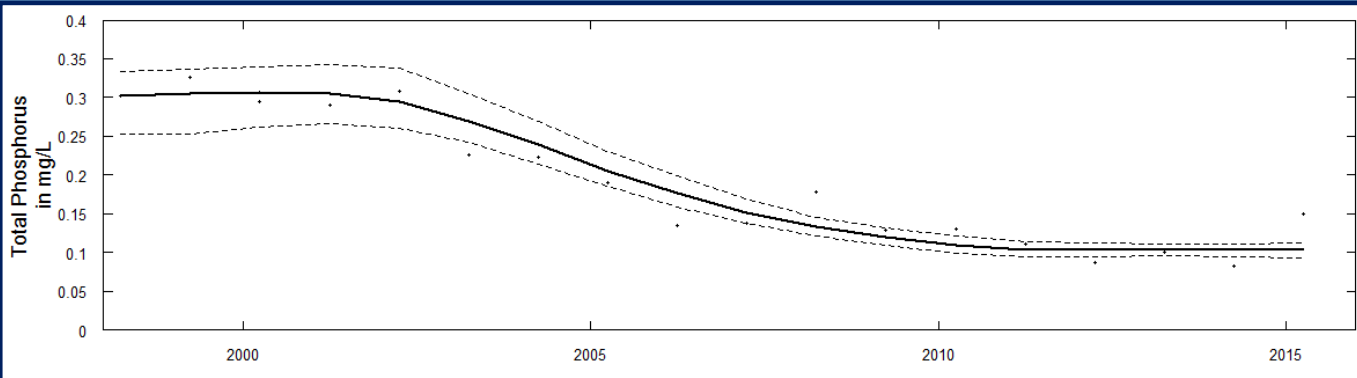
September 28, 2017

# Priority Watersheds



Stream Name	Site ID	Period of Record
Illinois River	IR59	1997-current
Kings River	Kings	2001-2010, 2011-current
West Fork White River	WFWR	2002-current
Osage Creek	Osage	2007-current
White River	Wyman	2009-current
War Eagle Creek	WEC	2009-current
Illinois River	Watts	2009-current
Illinois River	Savoy	2009-current
Baron Fork	Baron	2009-current
Sager Creek	Sager	2011-current
Spring Creek	Spring	2012-current
Mud Creek	Mud	2015-current
Osage Creek	OC112	2015-current
Richland Creek	Richland	2015-current
Town Branch	TB	2015-current

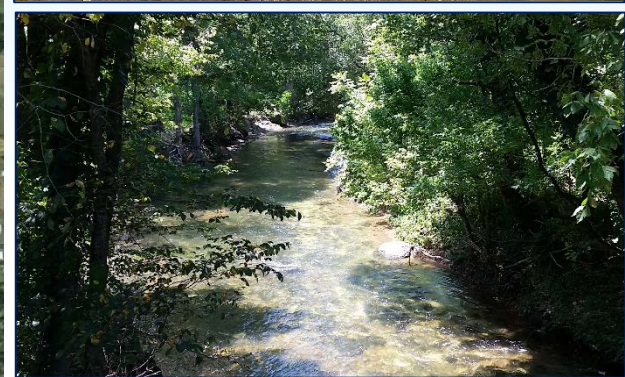
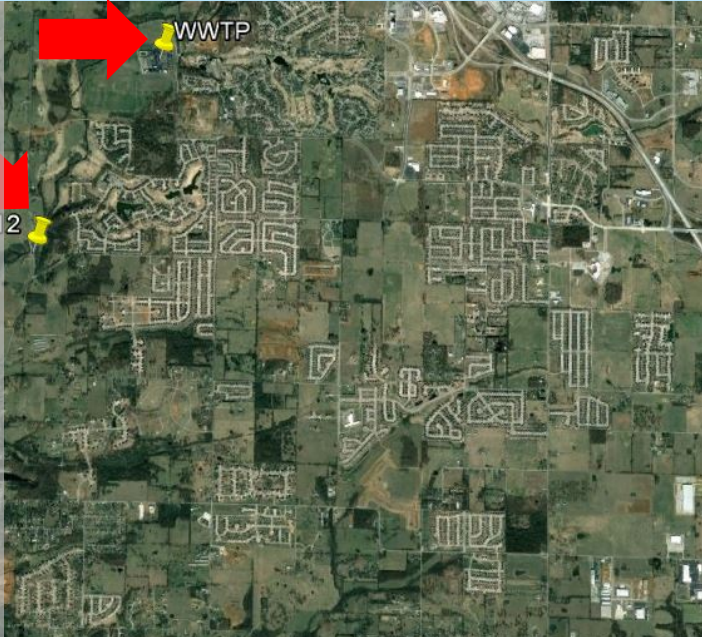
# Transboundary River



**Illinois River**

# Effects of Wastewater Effluent

➤ Rogers, Springdale, Northwest Arkansas Conservation Authority - major improvements to WWTPs



**Spring Creek**  
**Osage Creek**



# Effects of BMPs

- Siloam Springs and ANRC 319 efforts
- Stream channel restorations
- Riparian and wetland restorations



**Sager Creek**



# Transboundary River

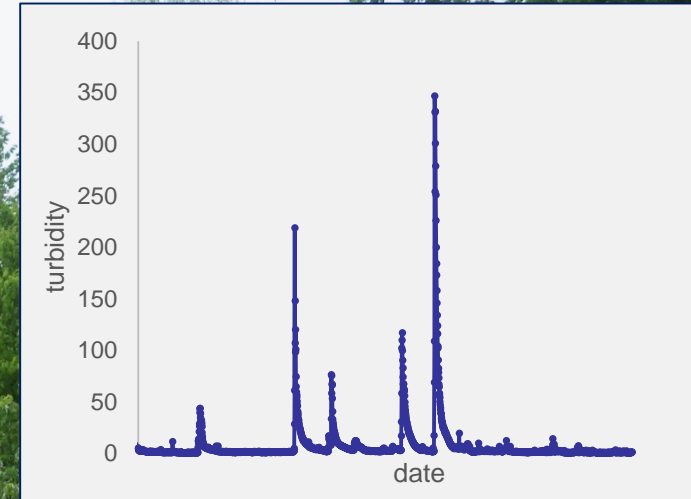
- 50% pasture
- 50% forest
- Little urban
- Illinois River tributary



**Baron Fork**

# Municipal Stormwater Management

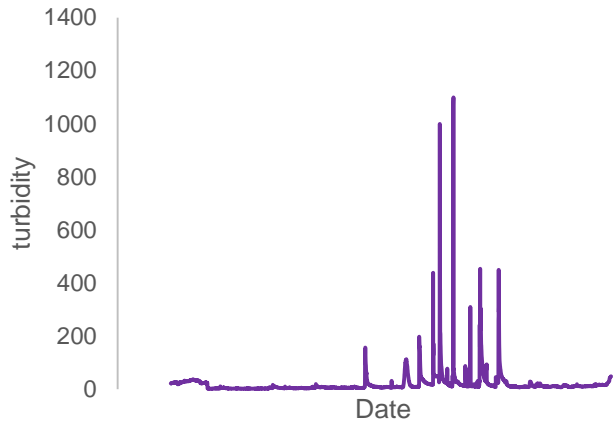
- Largely urban
- Continuous turbidity from USGS
- City of Fayetteville sediment reduction plan
- Develop models for sediment transport and loading



**Mud Creek**



# Municipal Stormwater Management




**Town Branch**

- Largely urban
- Continuous turbidity from USGS
- City of Fayetteville sediment reduction plan
- Develop models for sediment transport and loading

# TMDLs

## West Fork of the White River

- 
- Impaired for turbidity because of sediments
  - Beaver Watershed Alliance focus on improving water quality in this river
  - Major tributary to White River

# Beaver Lake Inflows

- Beaver Lake drinking water supply!
- Drives NWA economy – industries, recreation
- City of Huntsville WWTP discharges into WEC

**War Eagle Creek**





# Beaver Lake Inflows

- Beaver Lake drinking water supply!
- Drives NWA economy – industries, recreation
- 60% forest, 35% pasture, and 4% urban at “Richland”



**Richland Creek**



# Beaver Lake Inflows

- Beaver Lake drinking water supply!
- Drives NWA economy – industries, recreation
- City of Fayetteville WWTP discharges just downstream of “Wyman”
- 70% forest, 23% pasture, 7% urban



**White River**



# White River Tributary

- Enters White River downstream of Beaver Lake
- Major tributary to Table Rock Lake
- 70% forest, 26% pasture, 4% urban



**Kings River**

# Why is monitoring so important?

- ❖ Build long-term databases
- ❖ Protect source water quality
- ❖ Inform municipalities, state agencies



Constituent loads and water quality trends





Questions?

