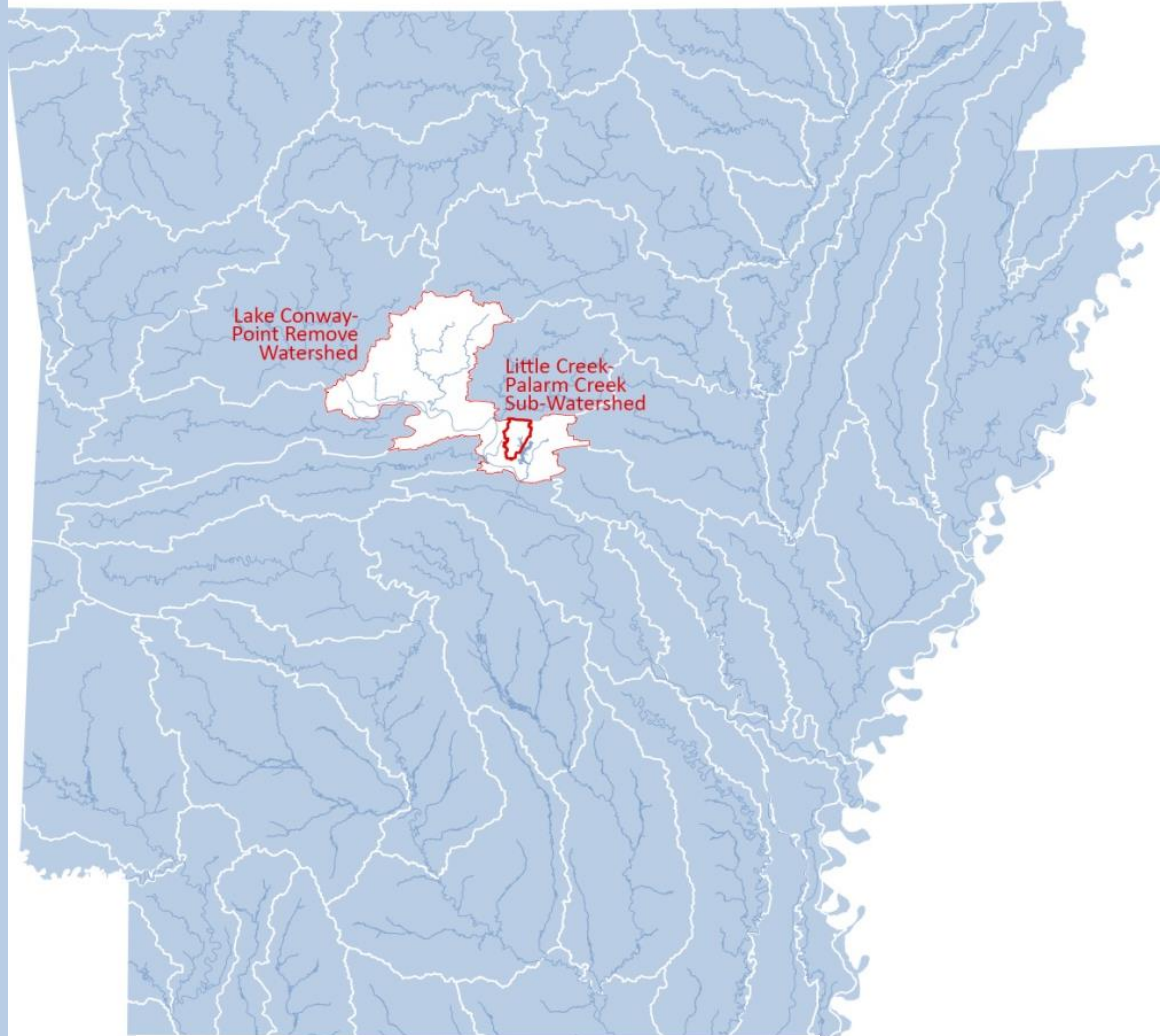


Preliminary Nine Element Plan for  
Lake Conway–Point Remove  
Watershed and an Urban  
Watershed Plan for Little Creek-  
Palarm Creek Sub-Watershed



UNIVERSITY OF ARKANSAS  
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METROPLAN  
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# Overview

- Stakeholder Success
- Nine Element Plan Update
  - Modeling
  - WQ Analysis



# Stakeholder Success

**Four Meetings Facilitated by UA and Metroplan**

## **Additional Presentations**

- PRWRID
- Ecofest

## **Main Participants**

- Lake Conway HOA, AGFC, UCA, ADEQ, City & State Gov't Officials

## **Meeting Topics**

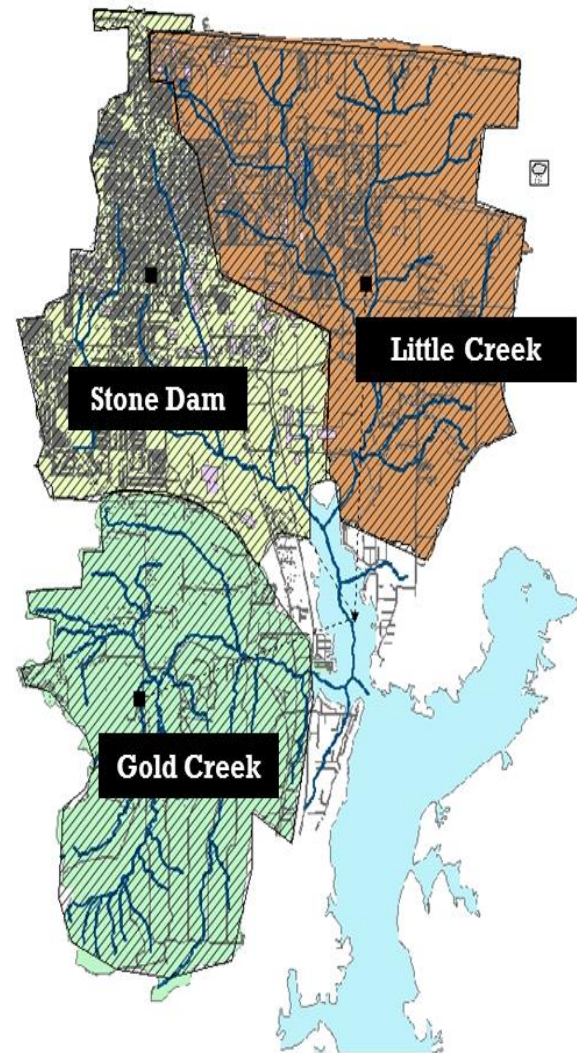
- Conway LID Project Presentation
- Nine Element Plan Education and Progress
  - Watershed Advocacy

**Outcome – Lake Conway Watershed Alliance**



## Modeling

- LID Demonstrations – 67% Complete
- Lake Conway Urban Watershed – 70% Complete
- BMP Location Maps and Scenario Development – Complete



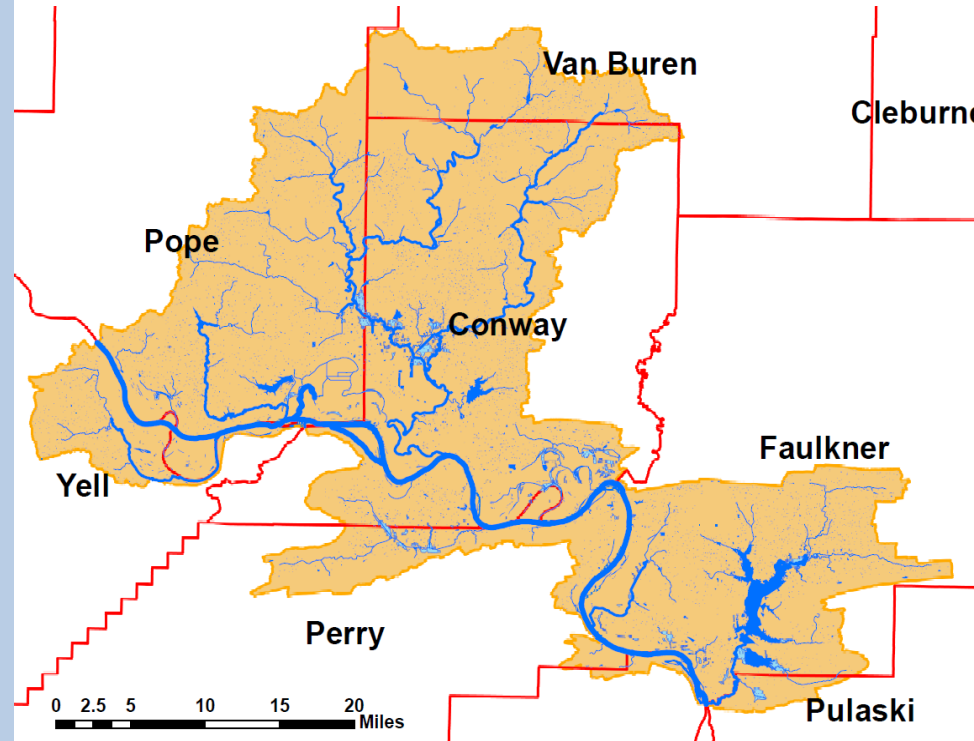
# Nine Element Plan Update

## Modeled after Illinois and Bayou Bartholomew Plans

- Robust watershed characterization
- Intense review of available watershed research and data
  - Documents stakeholder progress
  - Includes municipal code suggestions
- Will contain guidance for completion by the LCPRWA

## Timeline for Completion

- 50% Draft – Complete
- Element Contents and Guidance – 1 Oct 2014
- 100% Draft Internal Review – Oct-Dec 2014
- ADEQ Draft Review – Spring 2015



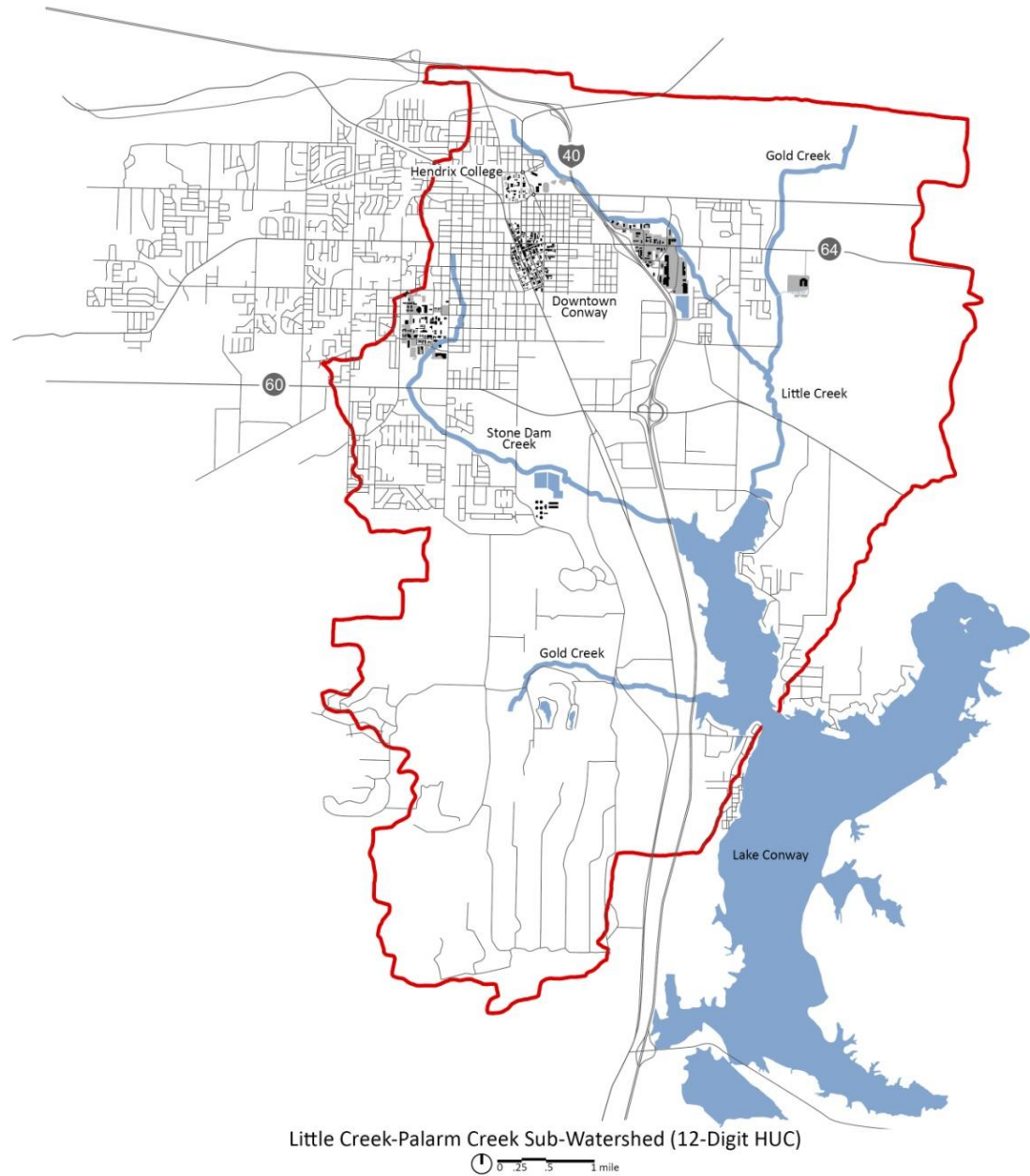


# Water Quality Analysis

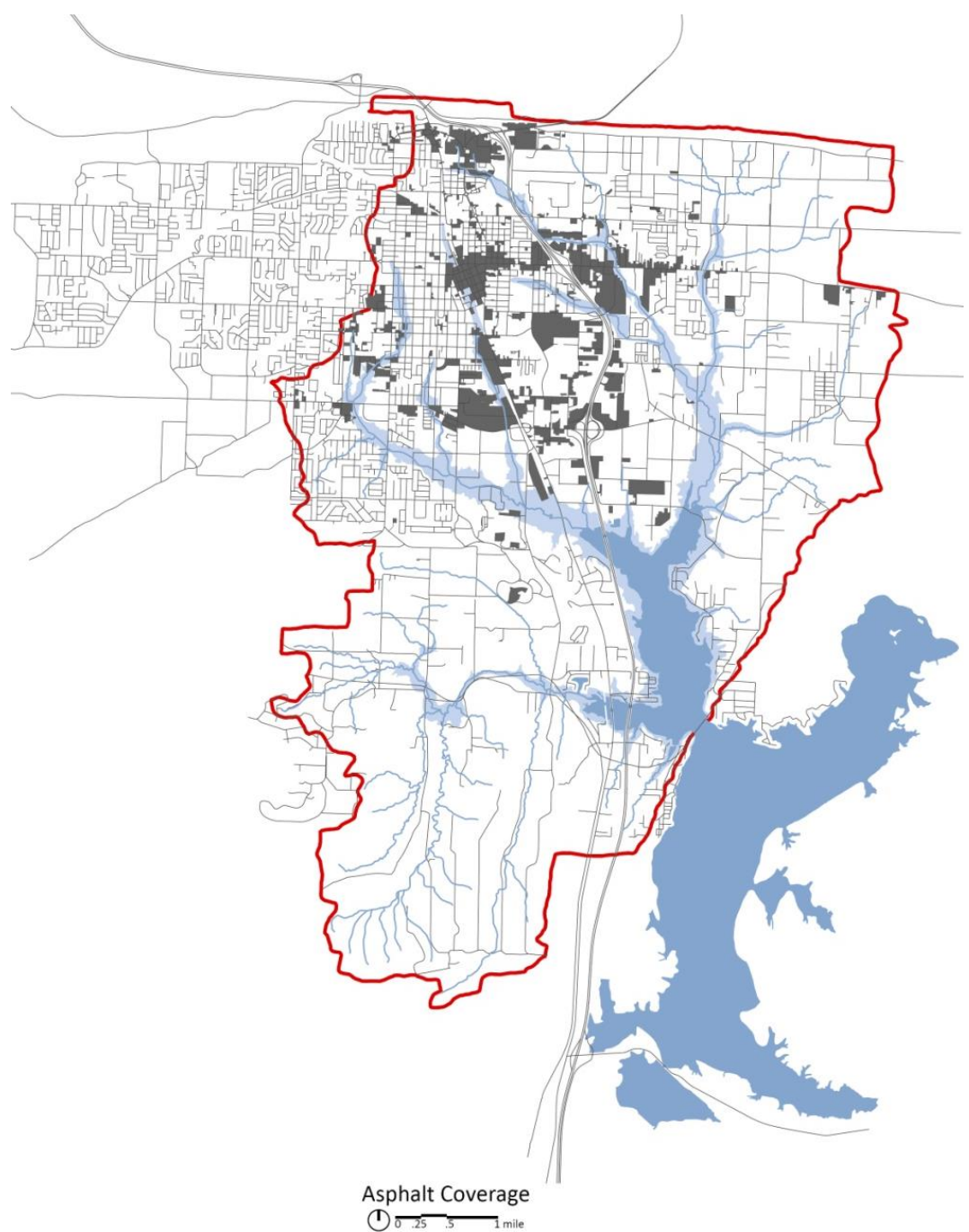
- QAPP – Complete
- Auto Sampler Calibration – Complete
- Sampling Timeline – Oct 2014 – May 2015



Half of the City of Conway drains into Lake Conway. Urbanized streams are primary vectors of sedimentation to Lake Conway leading to chronic flooding and dissipation of the lake's ecology.

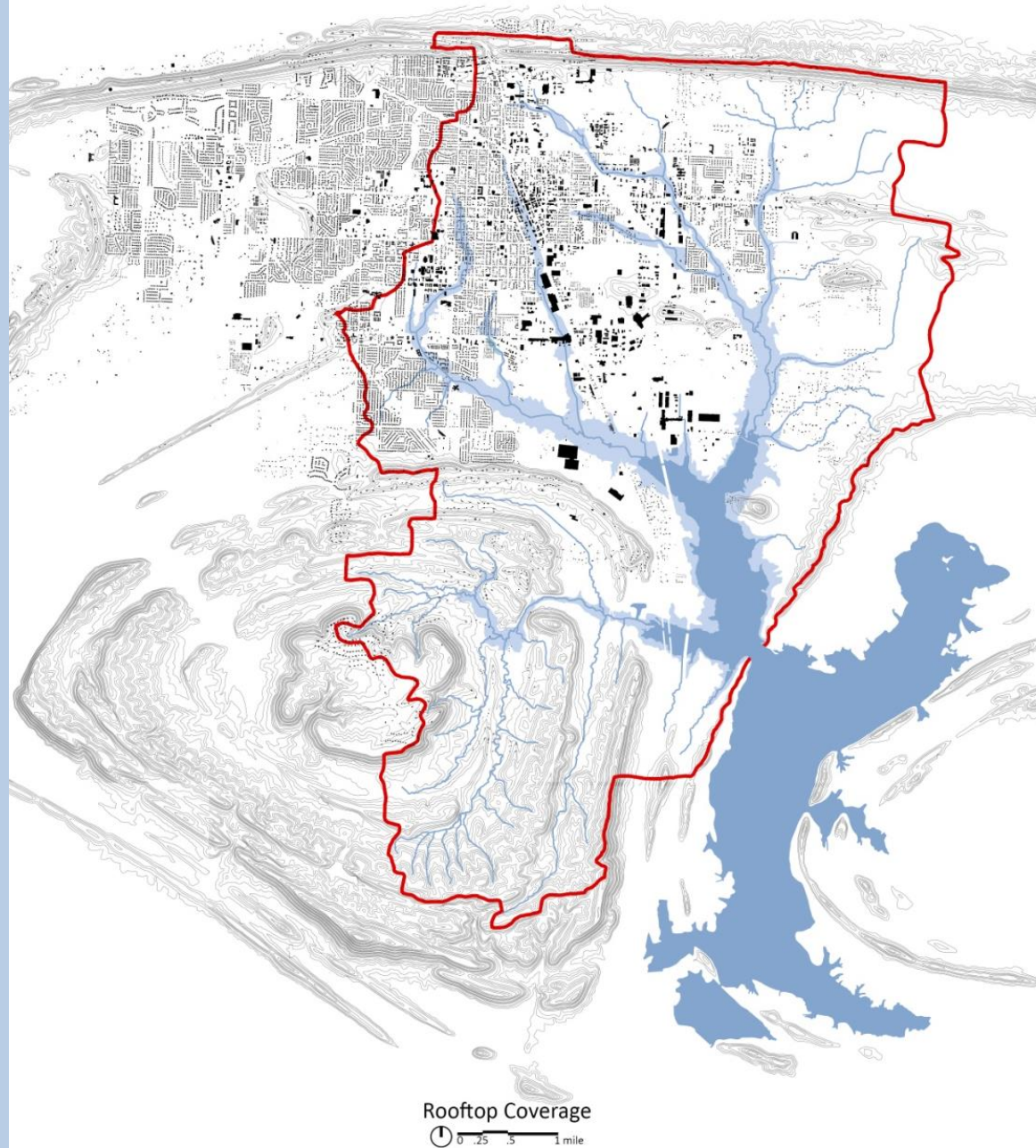


Dark grey areas represent impervious asphalt surfaces mostly large-scale industrial and commercial land uses. Urban stormwater runoff from parking lots is discharged into streams and floodplains leading to urban stream syndrome.

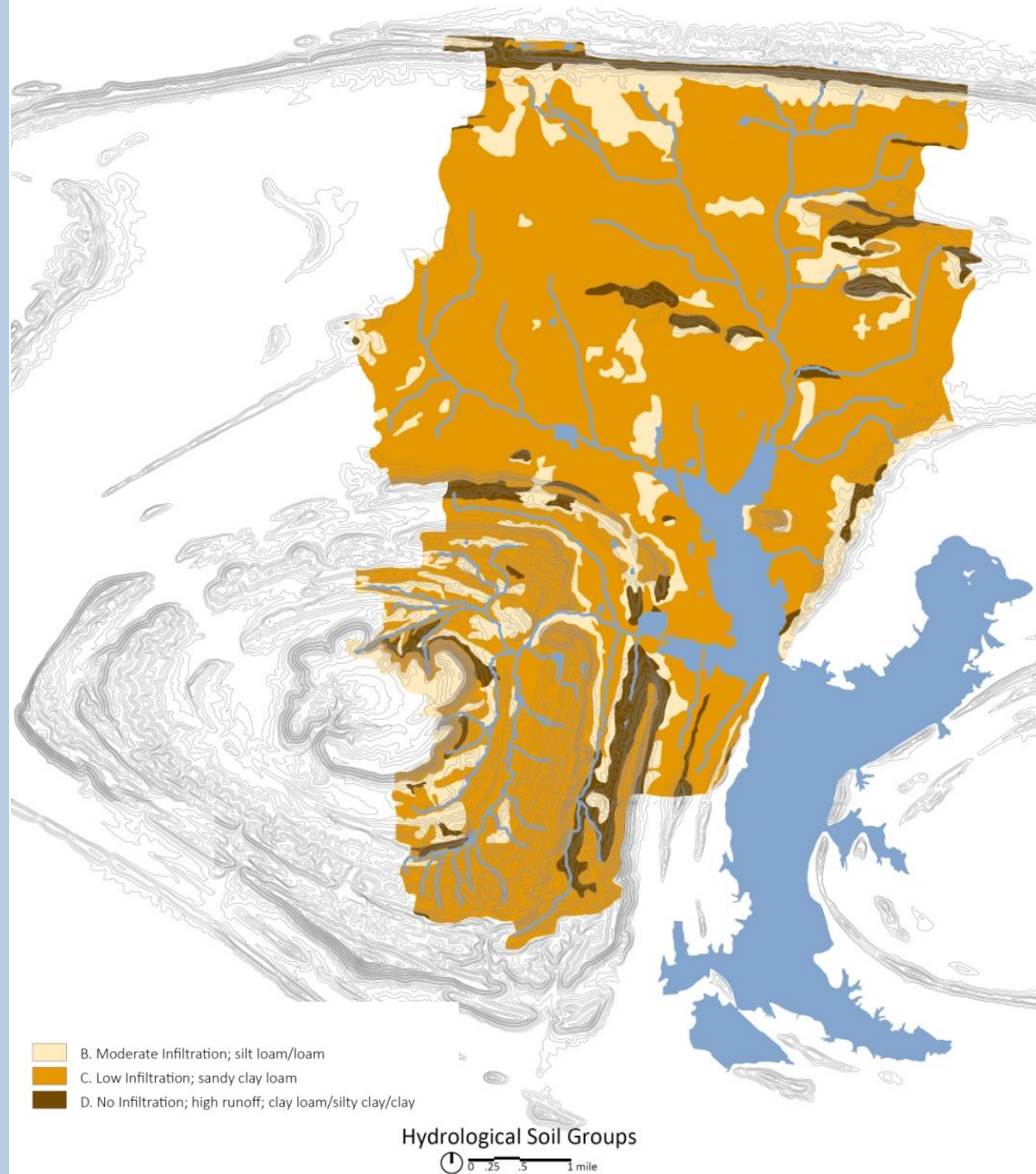




Almost one quarter of the watershed is covered with rooftops. Research shows that more than 30% coverage of a watershed with impervious surface leads to irreversible watershed degradation.



Compounding the problems from urbanization, the sub-watershed soils are mostly clay loam and thus lack ability for infiltration. High rates of stormwater runoff are directed over the surface contributing to urban stream syndrome.

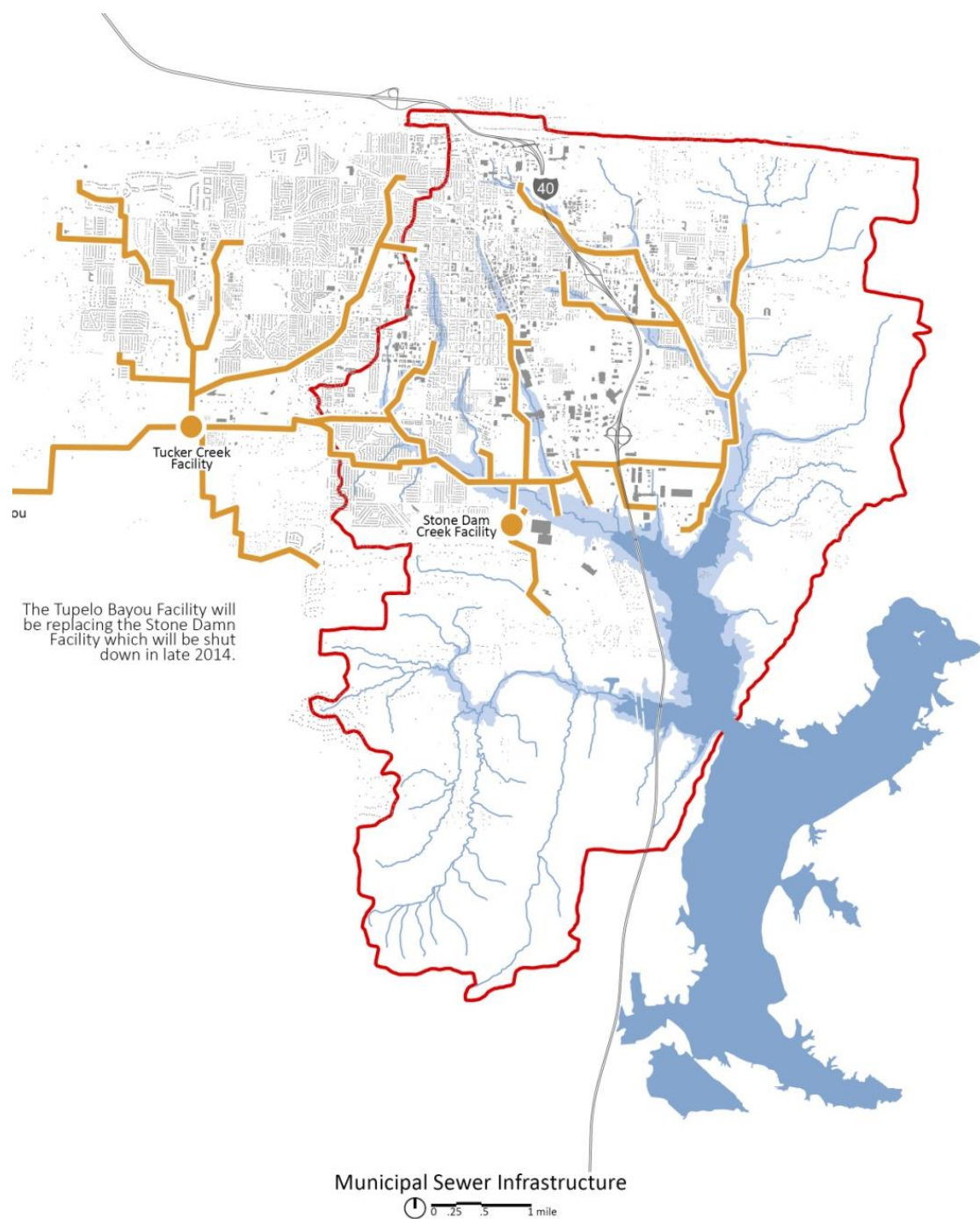


Tree cover occurs primarily in the non-urbanized areas of the watershed and are thus not a factor in mitigating urban stormwater impacts nor contributors to optimal stream functioning.

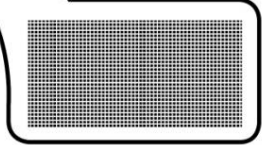
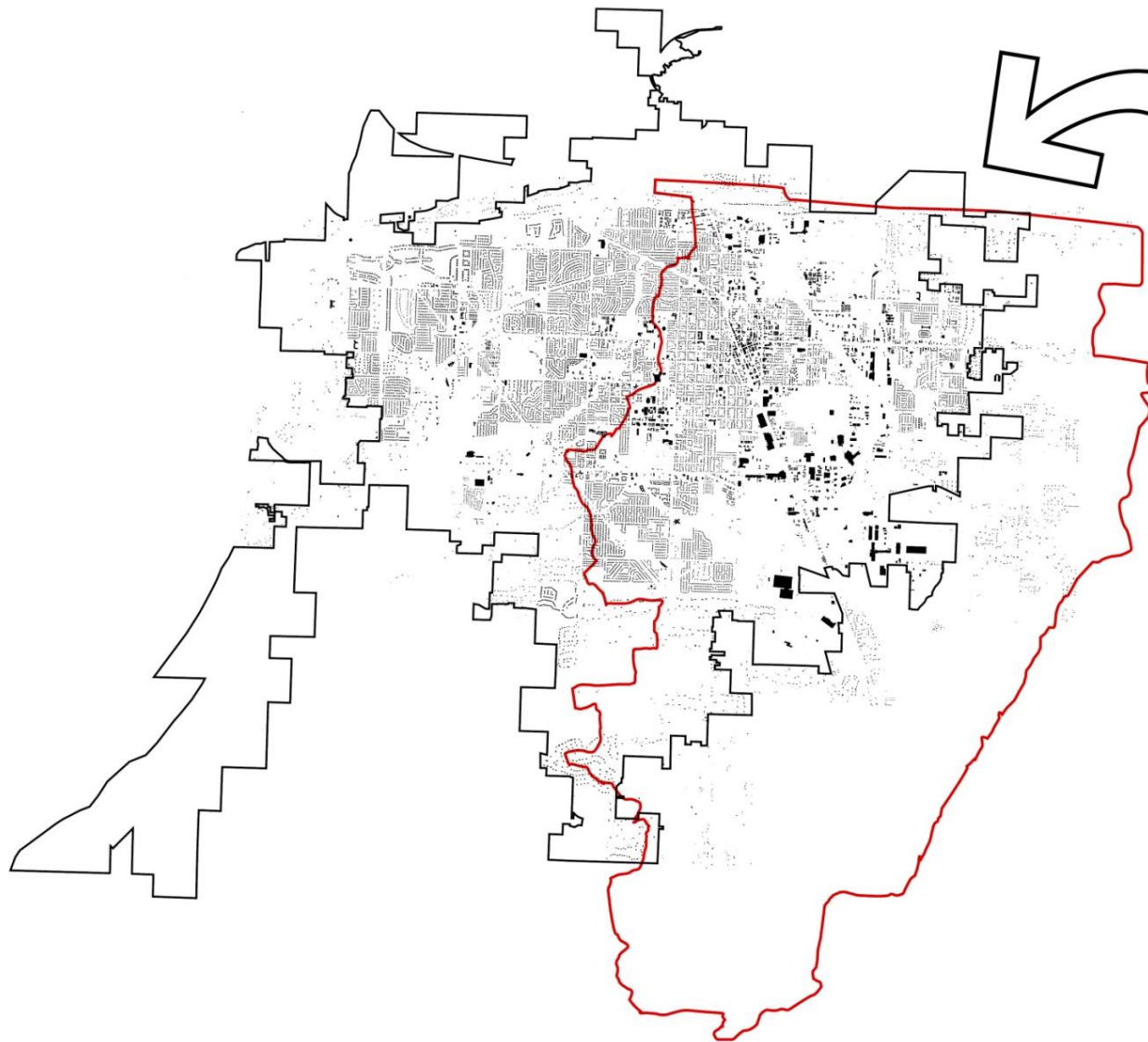




The municipal sewer system is the best indicator of the direction of growth. While future growth will likely occur continue westward but also will infill within the most sensitive areas of the sub-watershed.



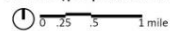




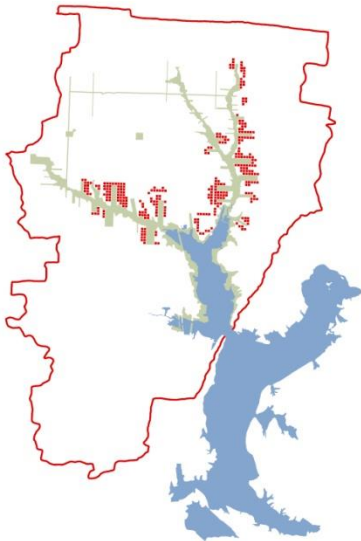
**2800 acres of new development at a density of three units per acre (2030 projected population 88,000)**

...how can we align hydrological modeling with new development over the next 15-years?

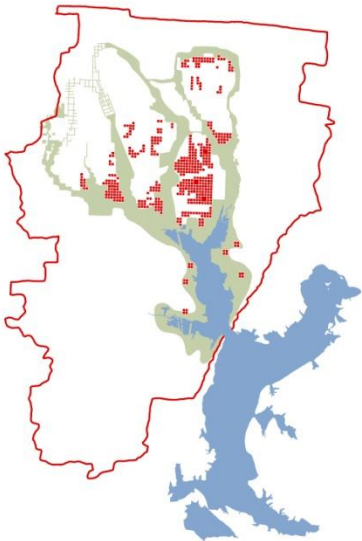
Conway, Arkansas  
38,528 acres (population 62,596)



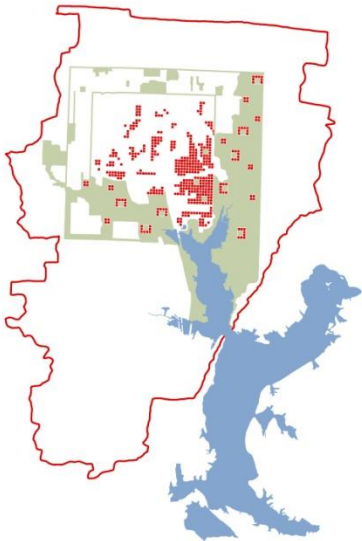
Instead of thinking of new development and hydrological functioning as separate issues, how can green infrastructure restore urban watershed functioning as the city grows?  
Four *Watershed Urbanism* Approaches...



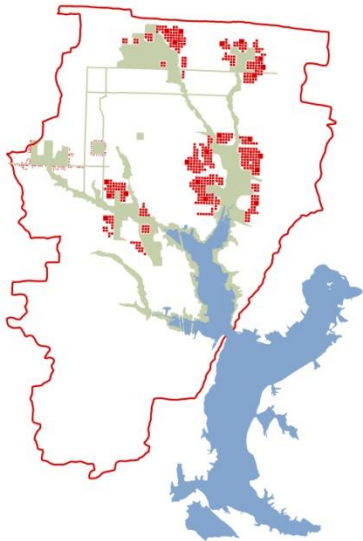
Approach 1: Green Fingers  
0 0.25 0.5 1 mile



Approach 2: Green Loop  
0 0.25 0.5 1 mile



Approach 3: Green Ring  
0 0.25 0.5 1 mile



Approach 4: Green Constellations  
0 0.25 0.5 1 mile