

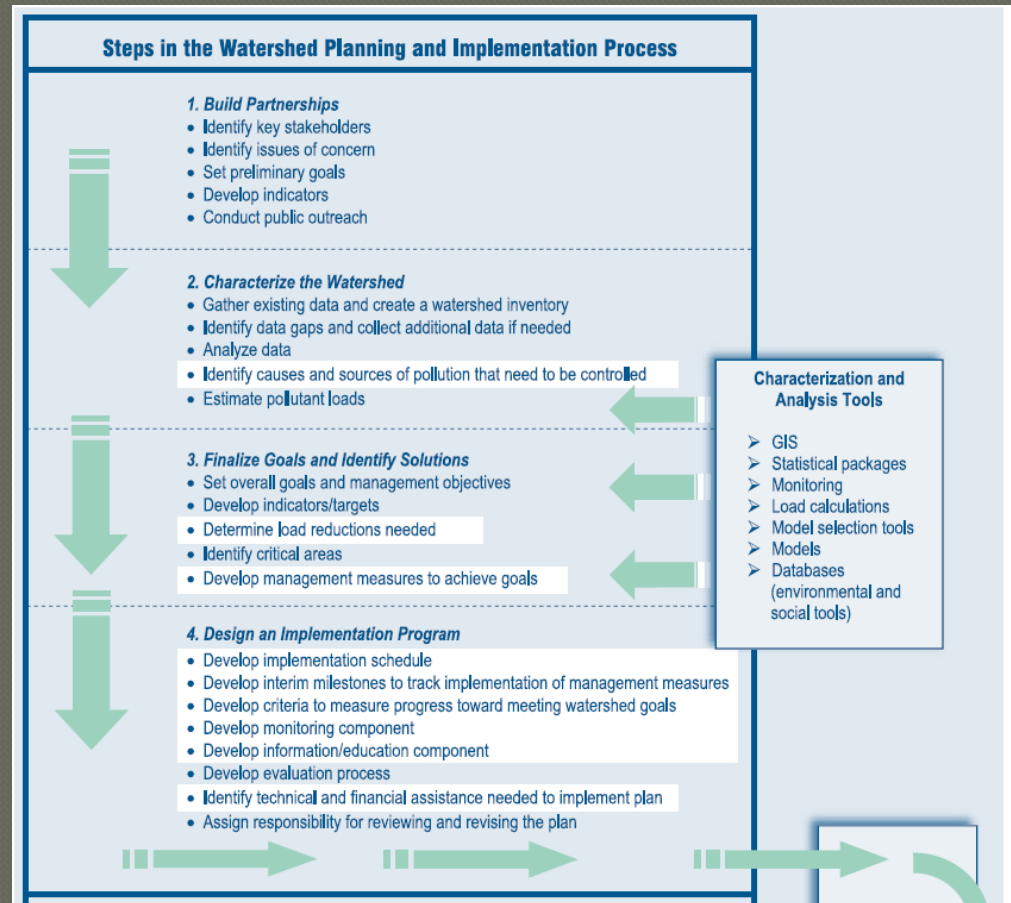
Development of Draft Watershed Management Plan for Little Creek-Palarm Creek Sub- Watershed

Dr. Marty Matlock
James McCarty
Eric Cummings

Watershed Management Plan

9 Elements

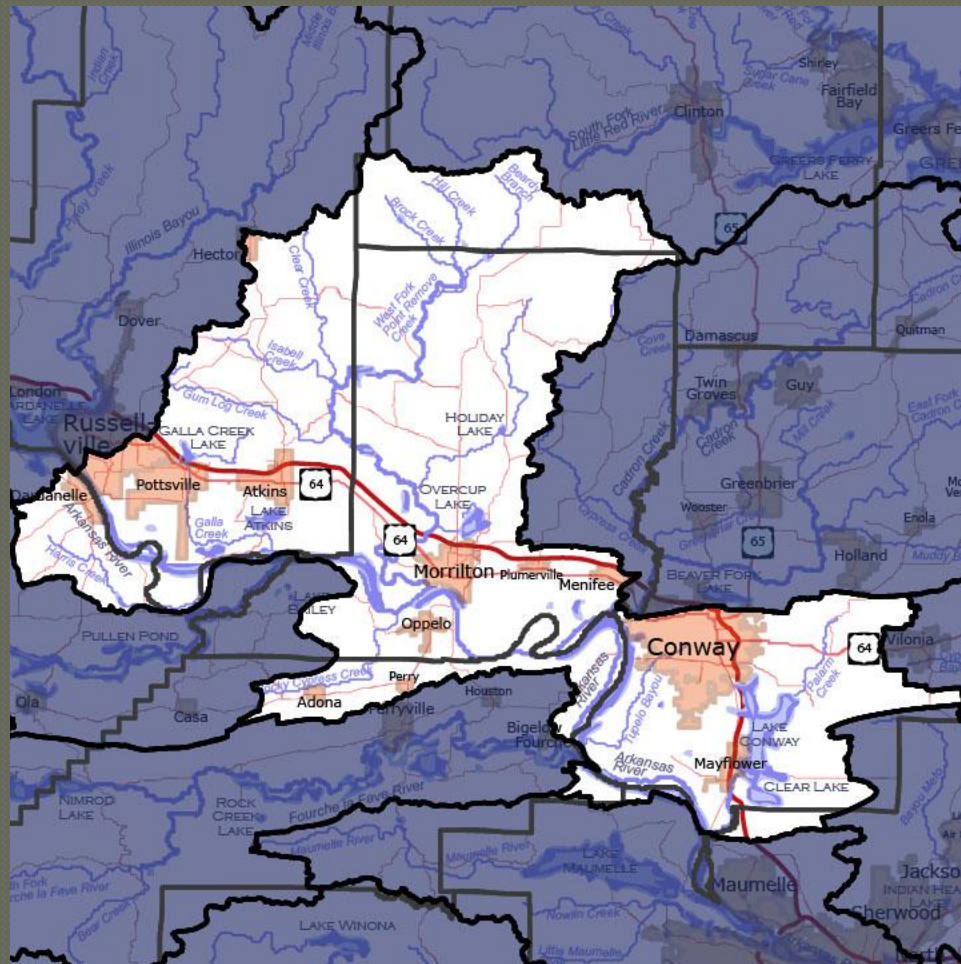
1. ID Causes and Sources
2. Determine Load Reduction Needs
3. Management Measures to Achieve Reductions
4. Implementation Schedule
5. Milestones
6. Measurement Criteria
7. Monitoring
8. Information/Education
9. Technical/Financial Assistance Needed



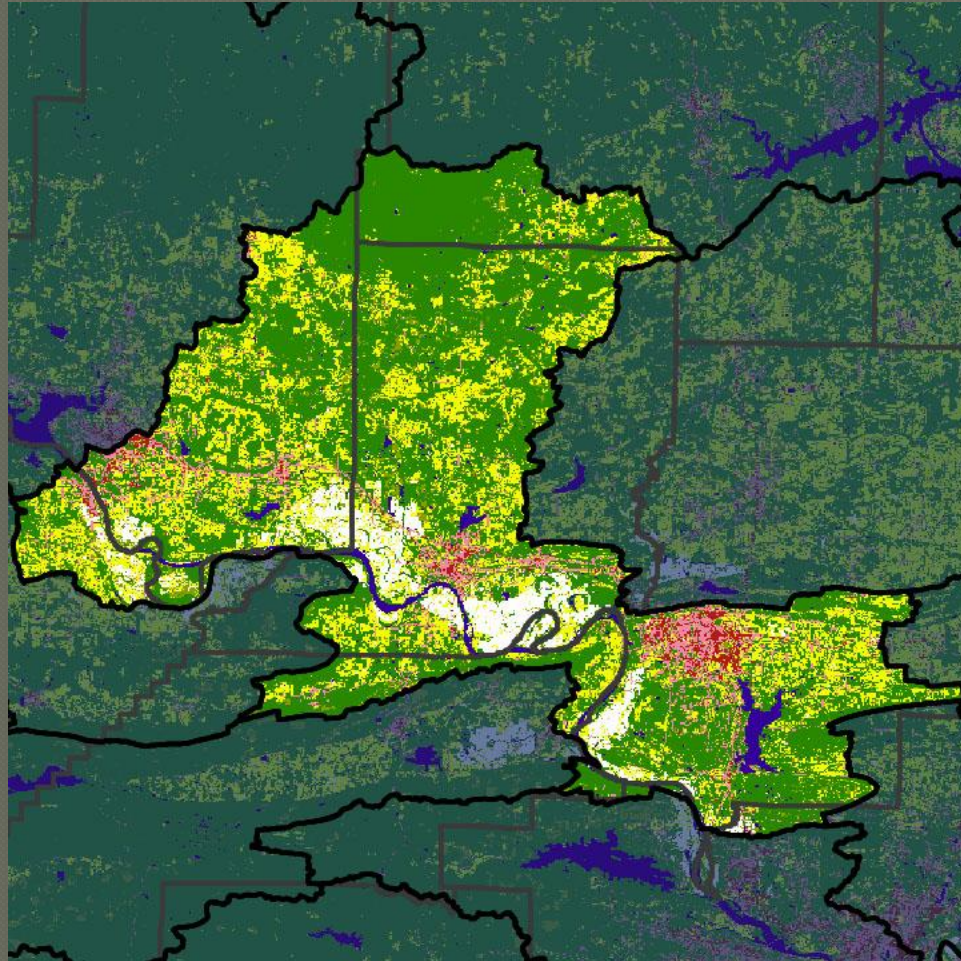
Lake Conway – Point Remove Priority Watershed



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Lake Conway – Point Remove Priority Watershed

Waterbody Name	Reach ID	Designated Use Impairment	Impairment Cause					Pollutant Source
			2012	2010	2008	2006	2004	
White Oak Creek	11110203-927	Aquatic Life	Sediment	Sediment	Sediment	Sediment	Sediment	Unknown
Stone Dam Creek	11110203-904	Aquatic Life			Zinc	Zinc		Unknown
		Aquatic Life Drinking Water	Ammonia Nitrate	Ammonia Nitrate	Ammonia Nitrate	Ammonia Nitrate	Ammonia Nitrate	Municiple Point Source
Whig Creek	11110203-931	Aquatic Life Drinking Water	Nitrate Copper	Nitrate Copper	Nitrate Copper	Nitrate Copper	Nitrate Copper	Municiple Point Source
Arkansas River	11110203-932/031U	Aquatic Life	DO	DO	DO	DO	DO	Hydo-Power
Arkansas River	11110203-031	Ag. and Ind. Water			TDS	TDS	TDS	Unknown
Arkansas River	11110203-026/27/28/30					TDS		Unknown

Table ES.1 Recommended TMDL for Ammonia

Season	Source	Recommended TMDL (lb/day)
Summer	LA: Watershed	0.038
	WLA1: Conway WWTP	69.1
	WLA2: Service Station	0.009
	Total Load	69.2
Winter	LA: Watershed	0.027
	WLA1: Conway WWTP	124.2
	WLA2: Service Station	0.009
	Total Load	124.9

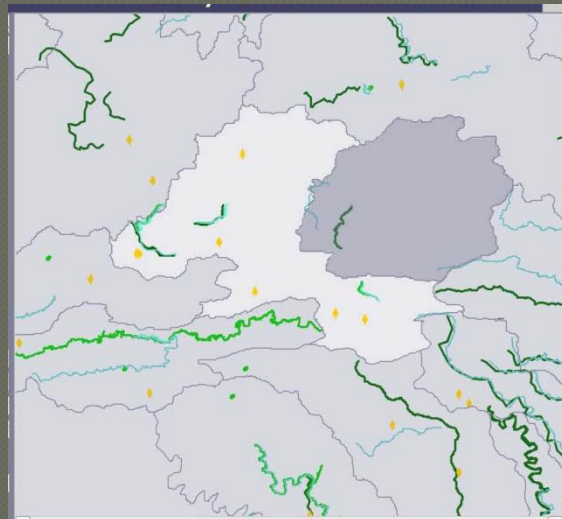


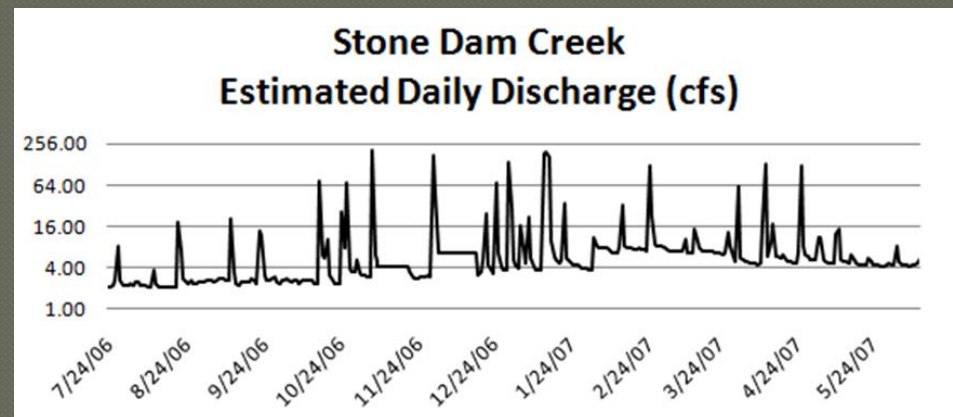
Table ES.2 Recommended TMDL for Nitrate

Season	Source	Recommended TMDL (lb/day)
Summer	LA: Watershed	0.01
	WLA1: Conway WWTP	471
	WLA2: Service Station	0.07
	Total Load	471.1
Winter	LA: Watershed	0.02
	WLA1: Conway WWTP	446
	WLA2: Service Station	0.07
	Total Load	446.1

Lake Conway – Point Remove Priority Watershed

Existing Data

- Monitoring on the Arkansas River
- Monitoring in Point Remove and tributaries
- Special studies for Lake Conway and Stone Dam Creek
- SWAT Model NPS Assessment
- TMDLs

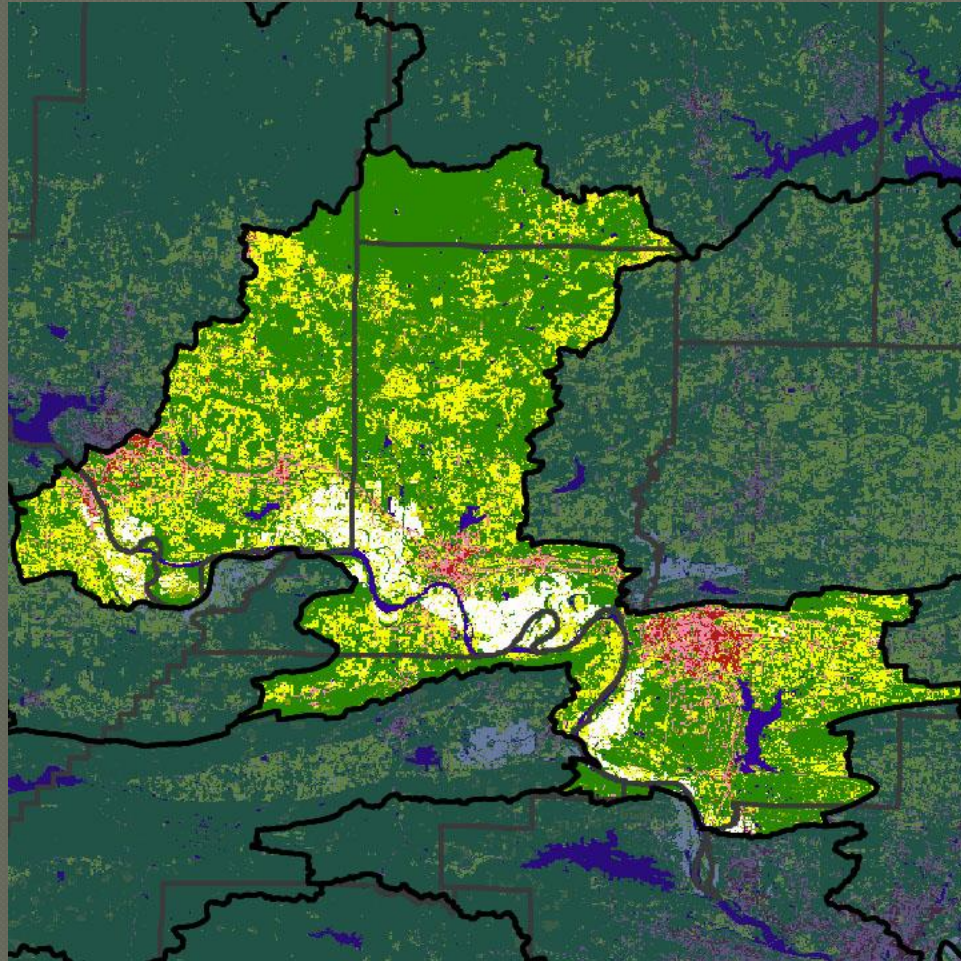


Lake Conway – Point Remove Priority Watershed

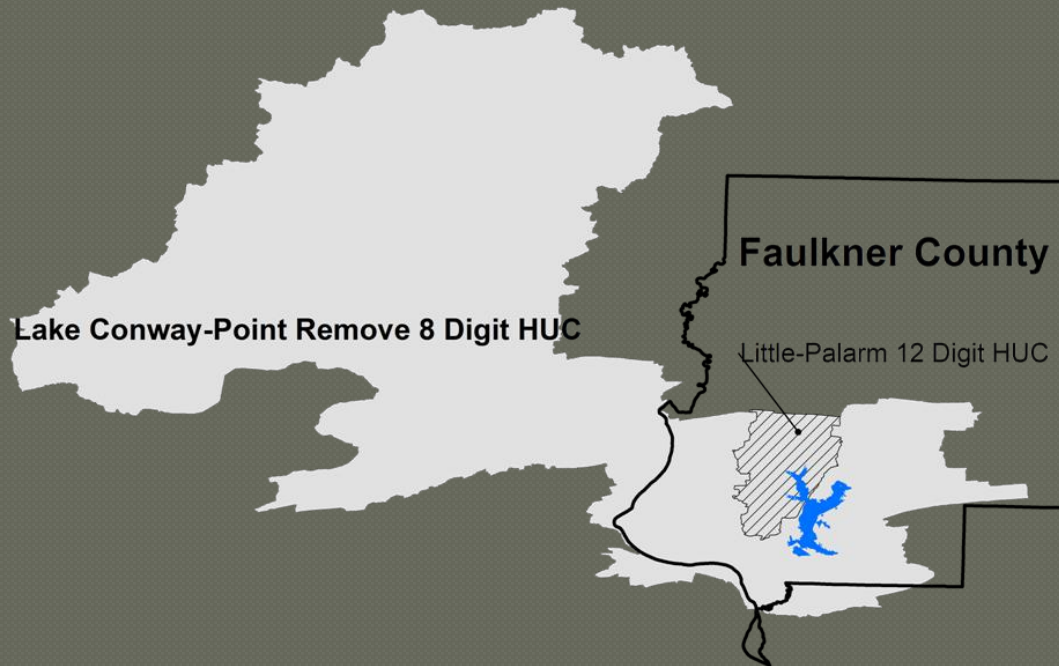
Existing Data - Issues

- Lack of routine monitoring sites
- Most special studies do not include flow data, thus loads not calculable
- Loads dominated by Arkansas River, most of which is out of control of the HUC 8 population

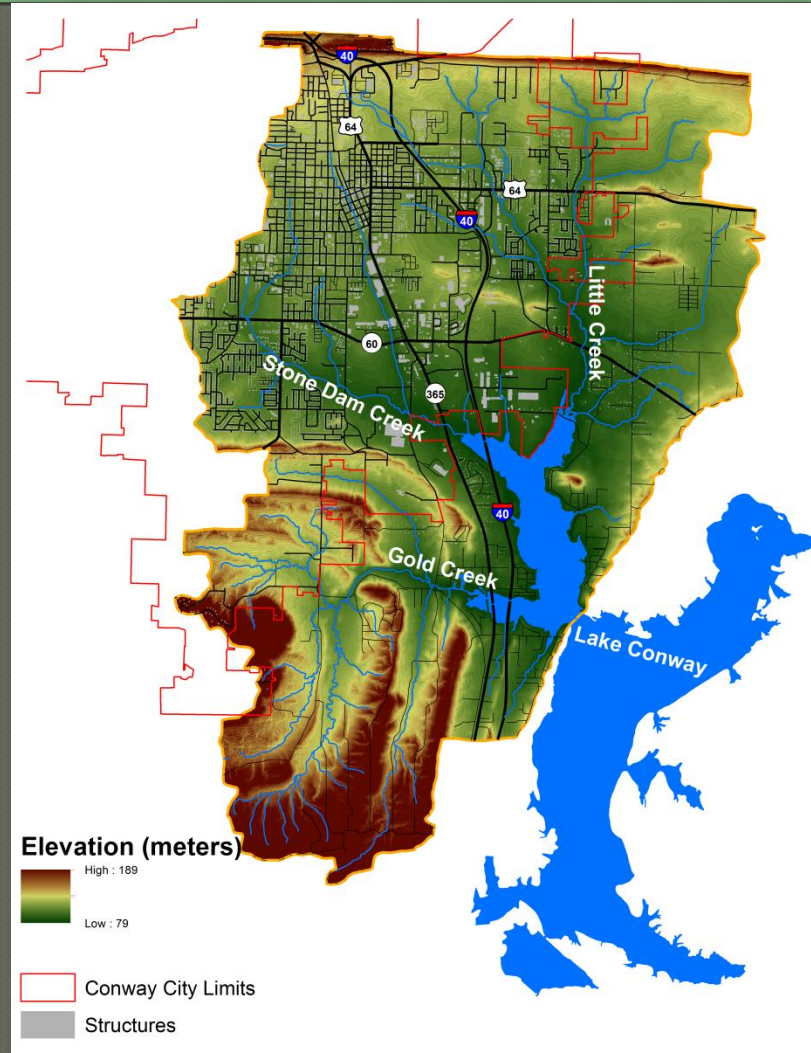
Lake Conway – Point Remove Priority Watershed



Little Creek-Palarm Creek 12 Digit HUC



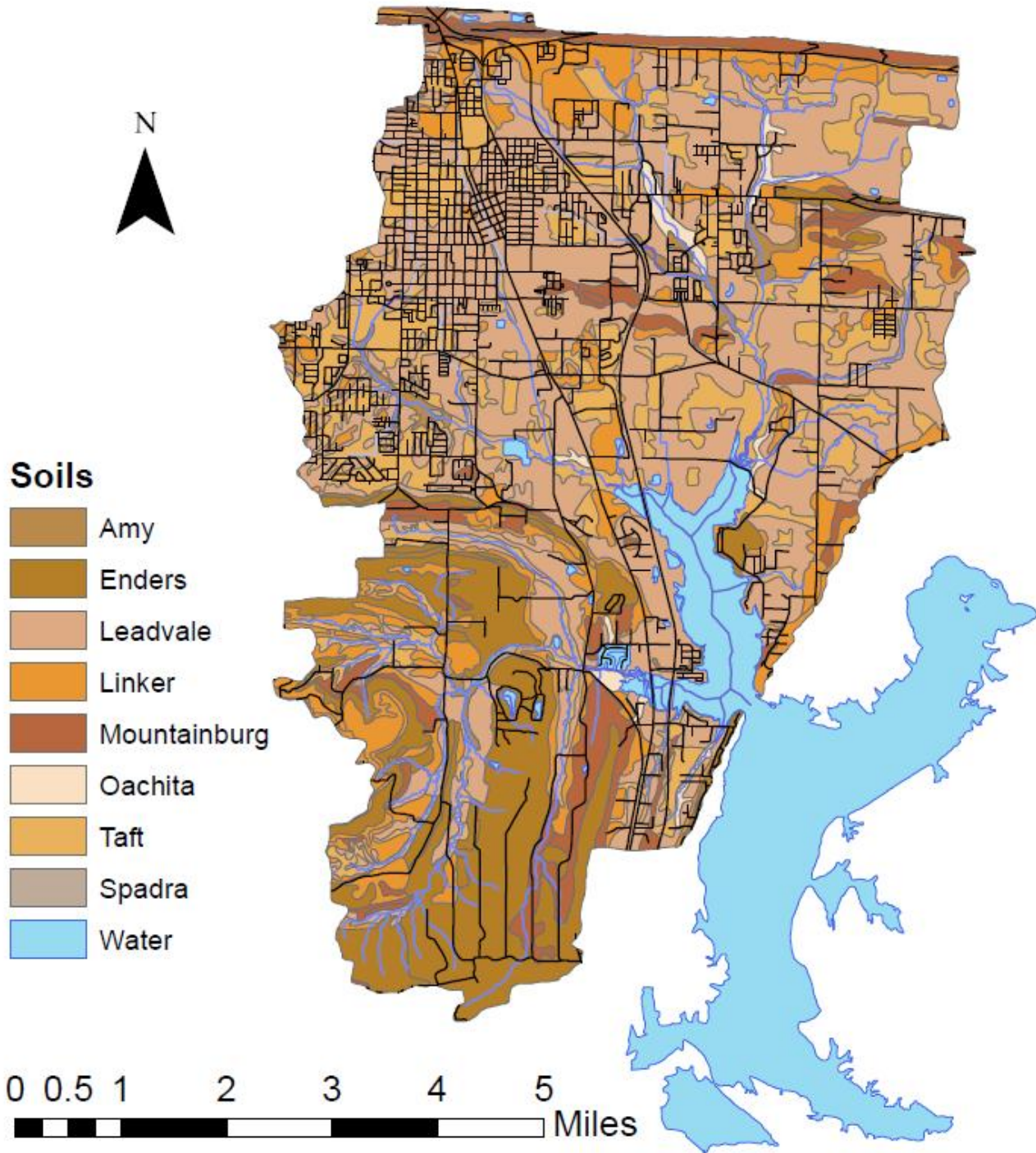
Little Creek-Palarm Creek 12 Digit HUC



BMP Model Development

○ SUSTAIN Modeling

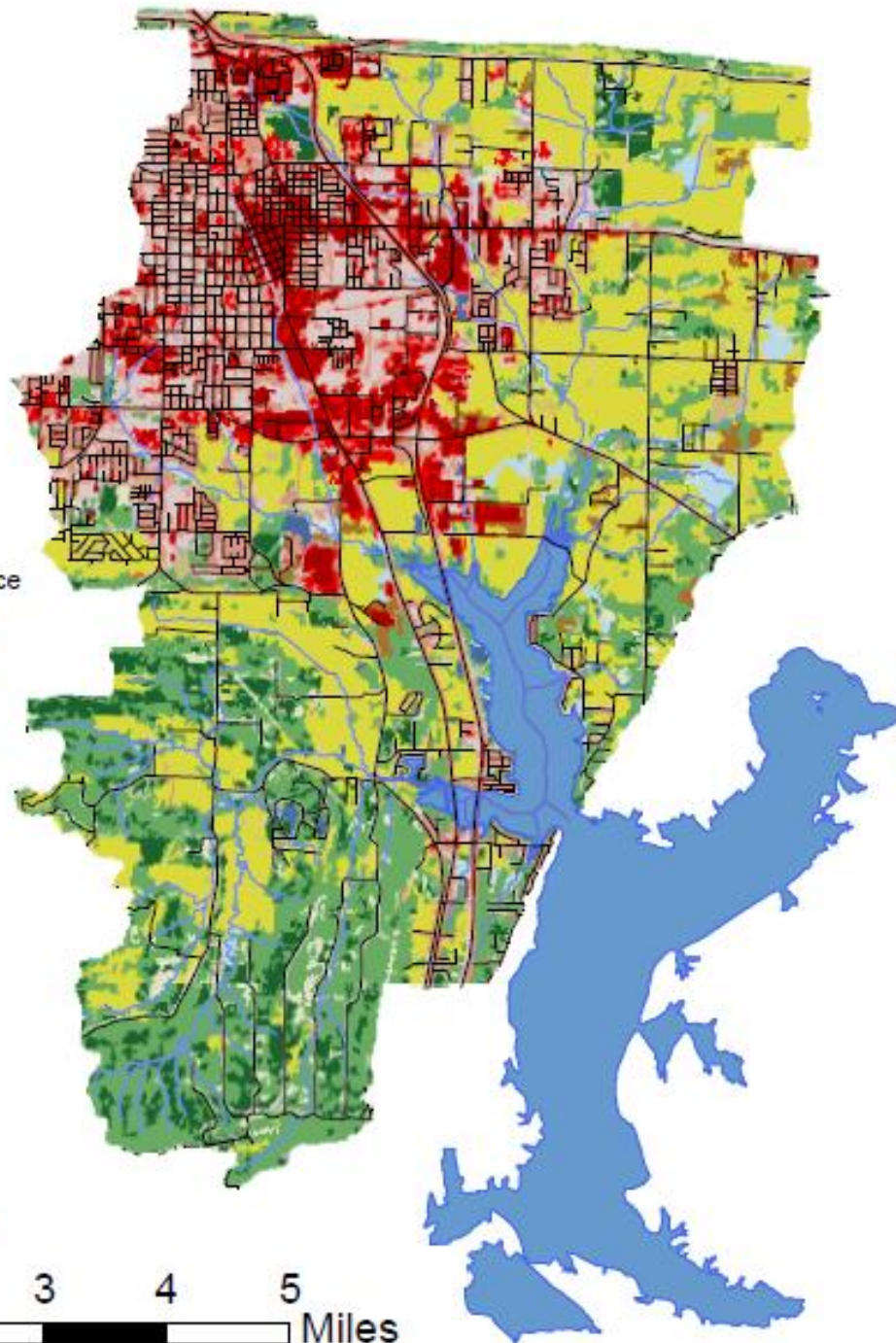
- Land Use
- Roads
- Buildings
- Soils
- BMP Placement

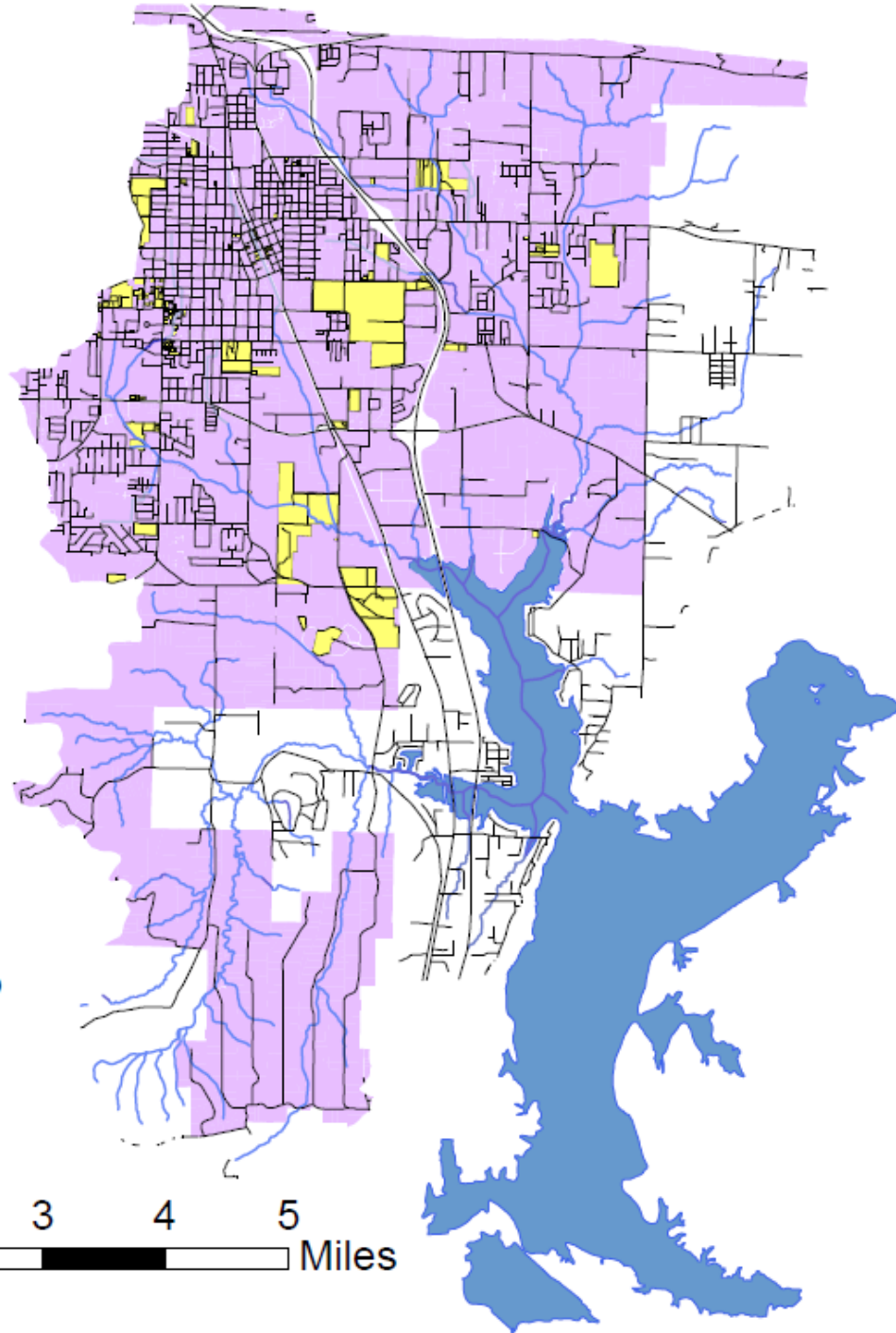




Land Use

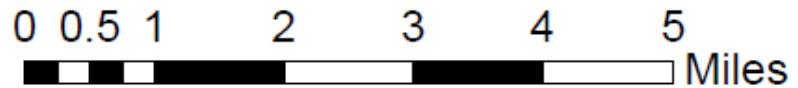
-  Water
-  Developed Open Space
-  Low Intensity Urban
-  Med Intensity Urban
-  High Intensity Urban
-  Barren
-  Deciduous Forest
-  Evergreen Forest
-  Mixed Forest
-  Shrub
-  Grassland
-  Pasture
-  Cropland
-  Woody Wetland
-  Herbaceous Wetland





Land Ownership

-  Public
-  Private



Watershed Stakeholder Meetings

- Ecofest

- Public education and outreach

- Lake Conway Watershed Alliance –

- First Meeting 09/26/2013 at Conway Armory
 - 6:00pm – 8:00pm