Pond Creek Watershed-based Plan Public Meeting

July 17, 2019
6:00 PM

Agenda

I. Welcome and Introductions

II. Overview of Pond Creek Watershed

III. Elements of the Pond Creek Watershed-based Plan

IV. Discussion

Greater Egypt Regional Planning and Development Commission

Tyler Carpenter
GIS & Environmental Planning Director

Ruth Ann Fowler
Planner

Ciara Nixon
Planner

Illinois Environmental Protection Agency

IEPA- 604(b) Program

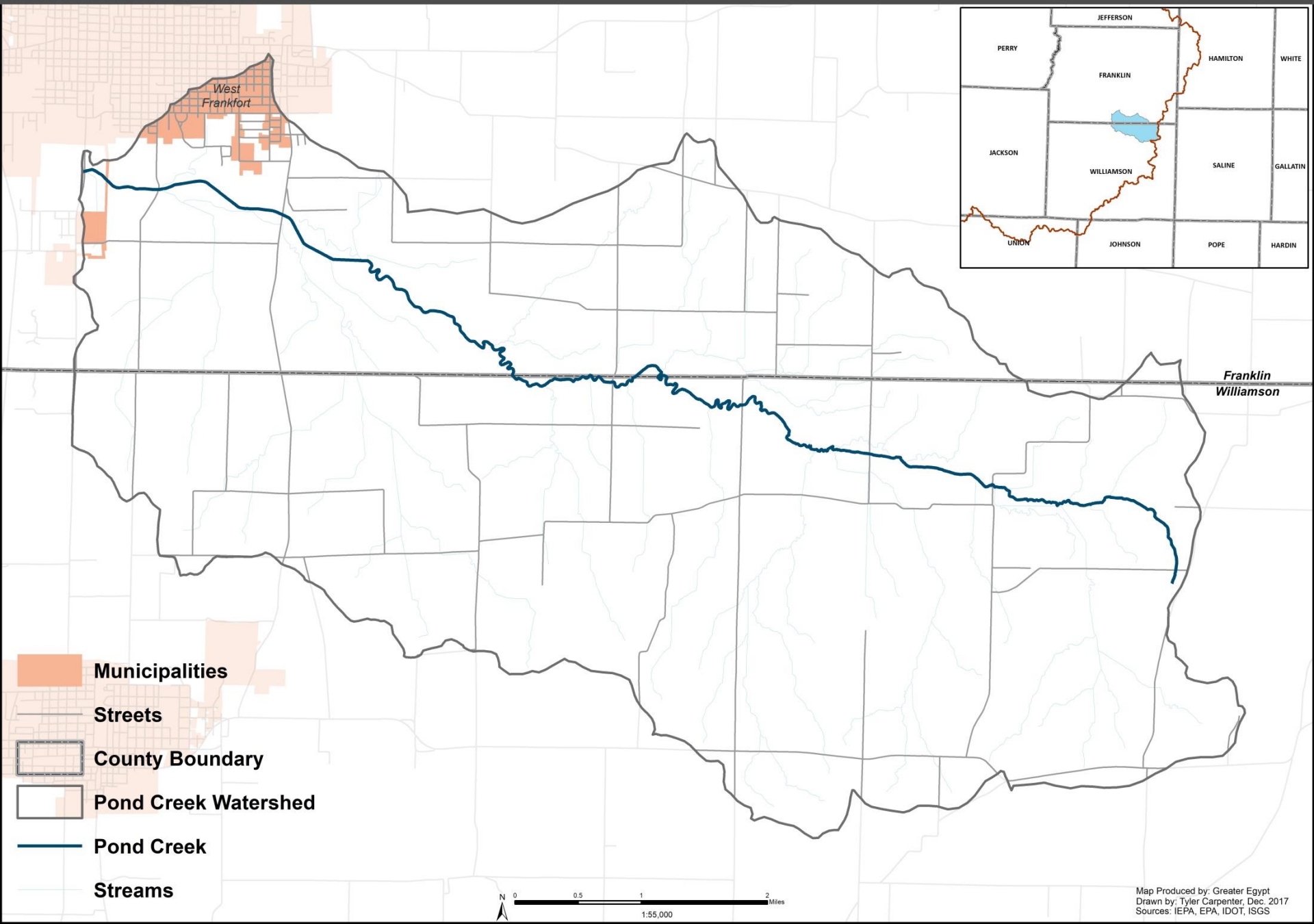
- Water Quality Management Planning Grant
- Greater Egypt's 604(b) grants include:
  - watershed-based planning
  - stormwater management educational materials

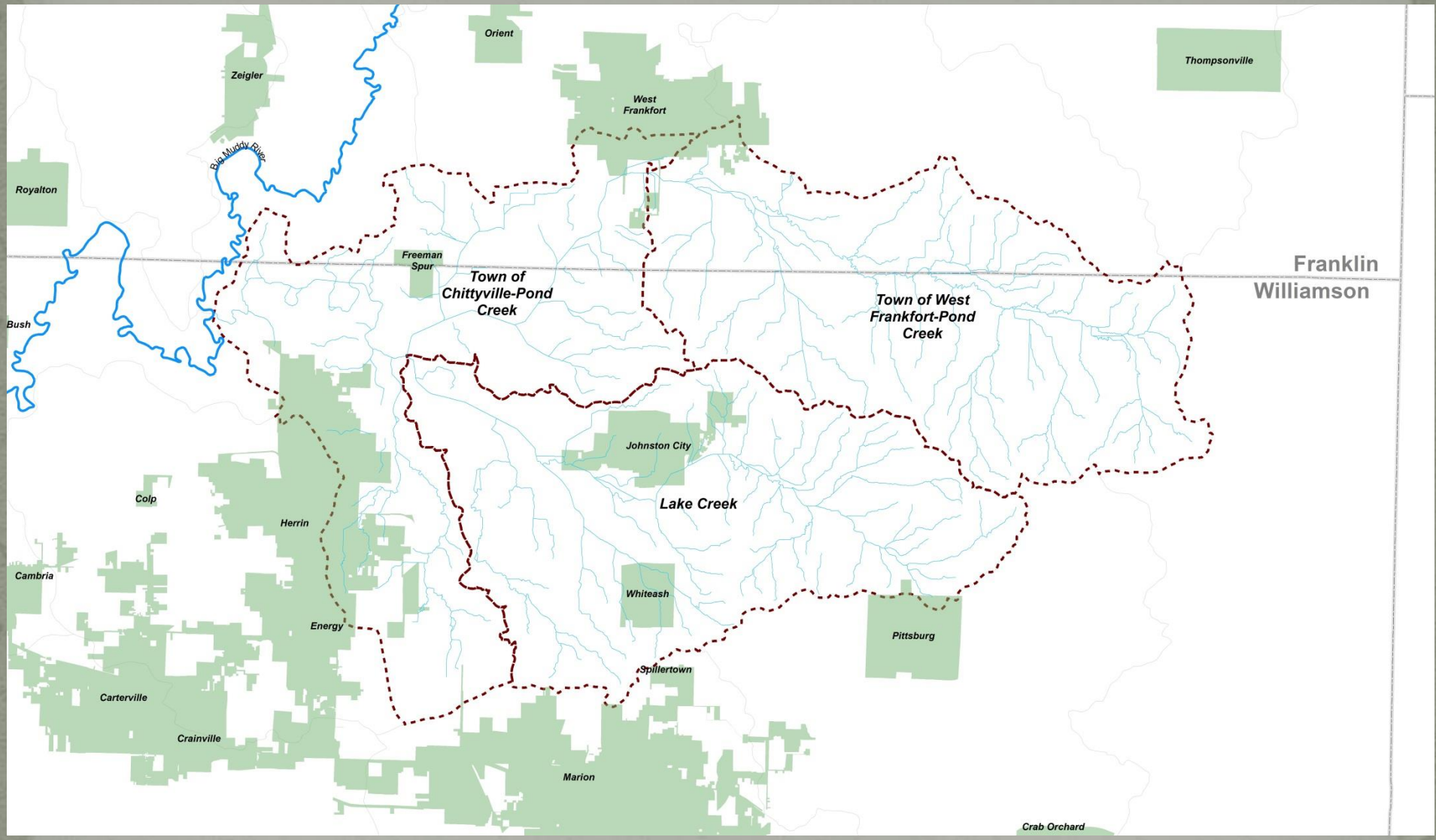
Pond Creek Watershed

Quick Facts:

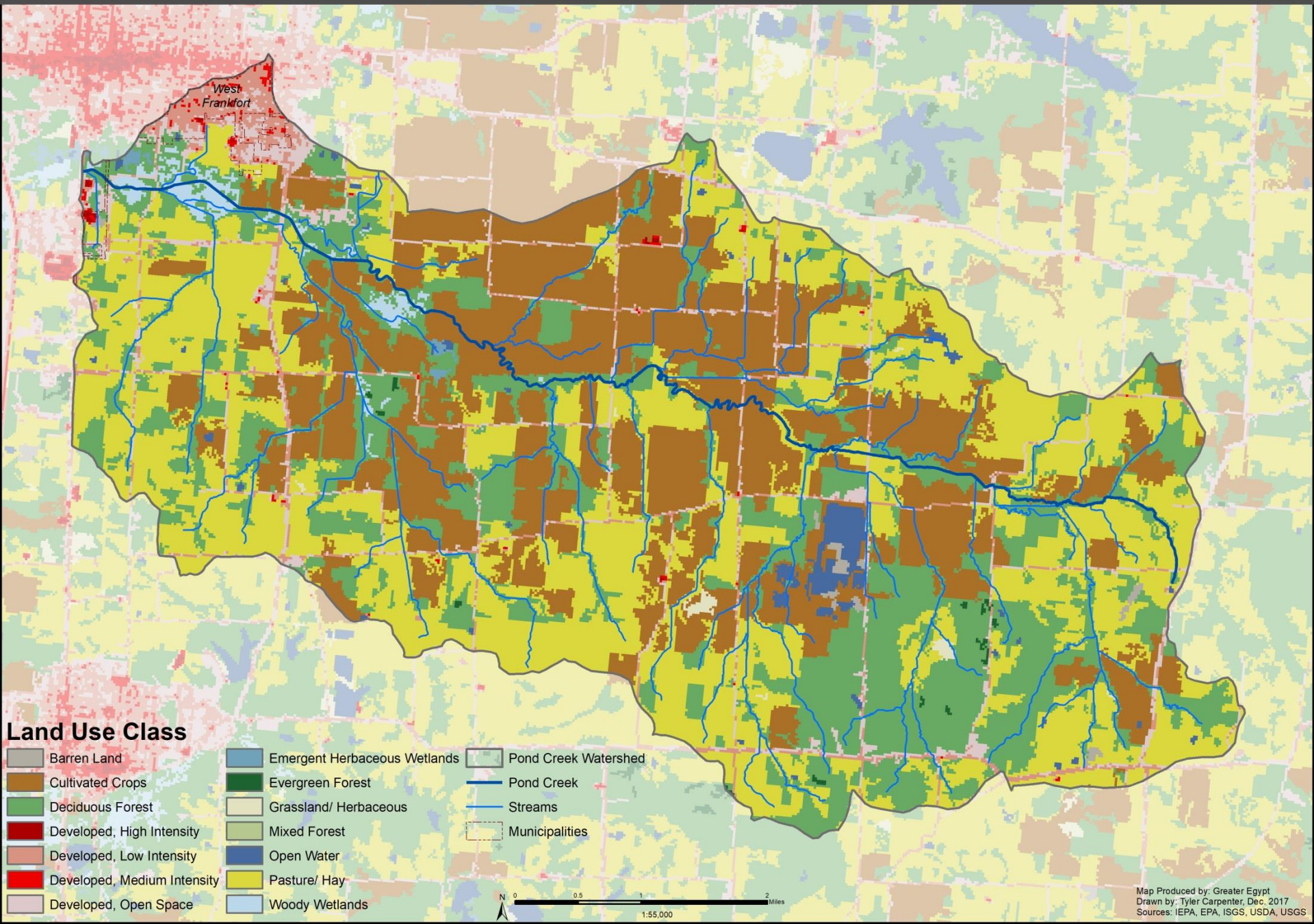
- 21,192 acres, or 33 square miles
- Located in Franklin and Williamson Counties
  - 32.7 % Franklin County
  - 67.3 % Williamson County
- Pond Creek runs 12.04 miles in a northwesterly direction
- West Frankfort is the only municipality in the watershed
- Detailed information can be found in the watershed inventory and assessment

Pond Creek Watershed - Planning Area

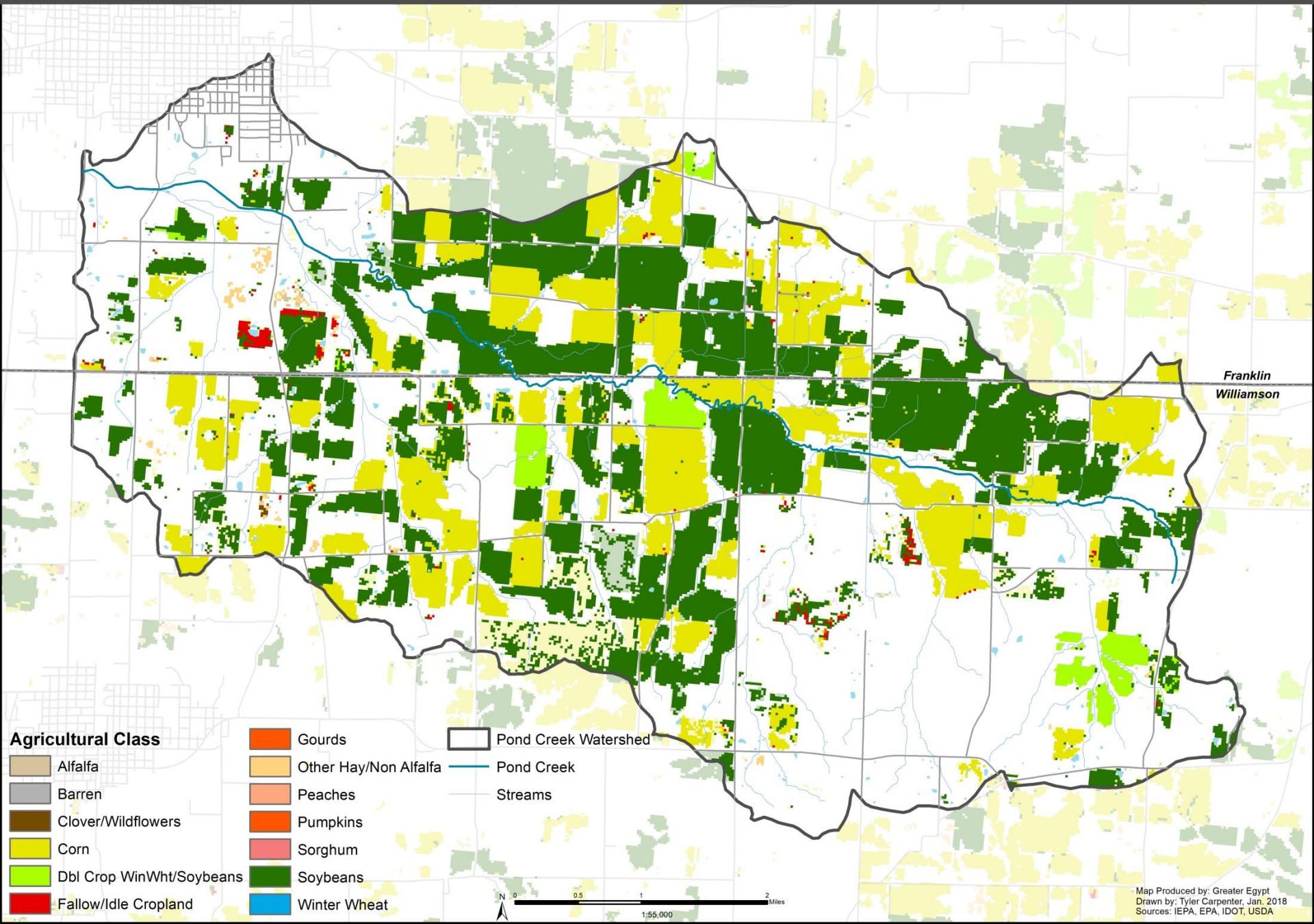



Orient
Thompsonville
Zeigler
West Frankfort
Big Muddy River
Royalton
Freeman Spur
Town of Chittyville-Pond Creek
Town of West Frankfort-Pond Creek
Franklin
Williamson
Bush
Johnston City
Lake Creek
Colp
Herrin
Cambria
Whiteash
Pittsburg
Energy
Spillertown
Carterville
Crainville
Marion
Crab Orchard

Pond Creek Watershed - Land Use

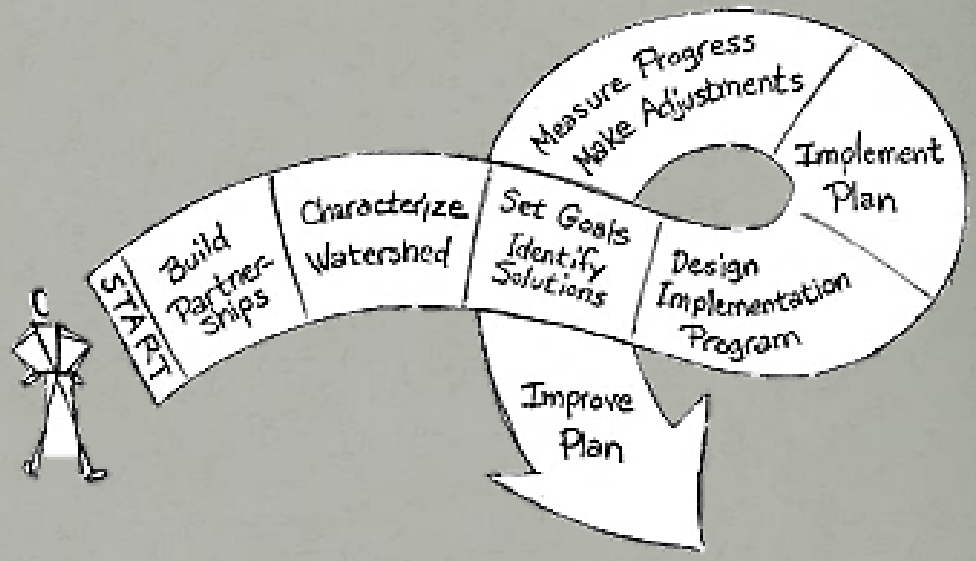


Pond Creek Watershed - Agriculture



Watershed-based Planning

- Summarizes the overall condition of the watershed
- Provides a framework to restore water quality in impaired waters
- Protects water quality in other waters adversely affected or threatened by point source and non-point source pollution



Types of Water Quality Pollution

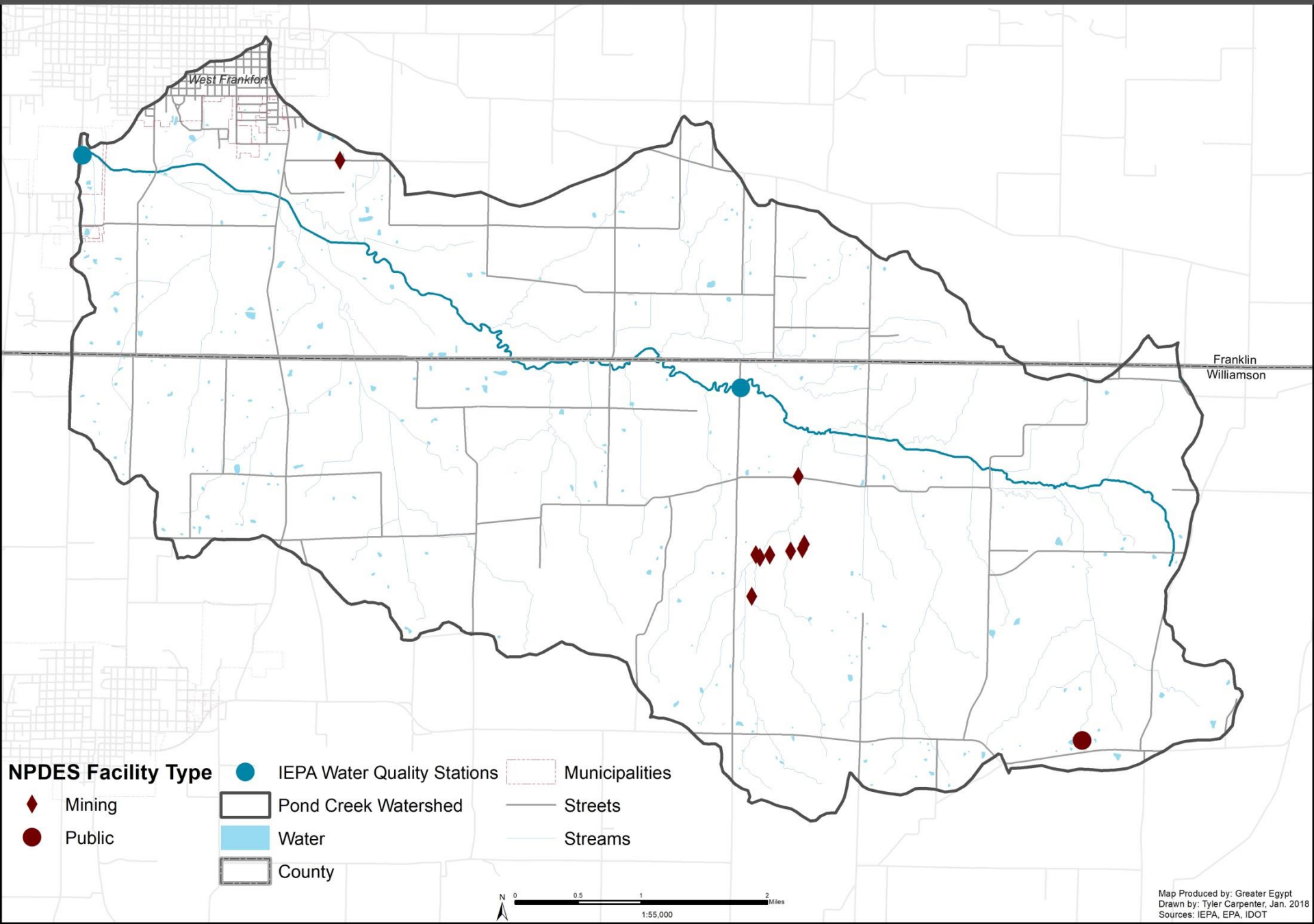
Point Source

- Domestic WTP
- Industrial WTP
- Combined Sewer Overflows
- Sanitary Sewer Overflows
- Mine Discharges
- Landfills

Nonpoint Source

- Urban Runoff
- Golf courses
- Crop Production
- Livestock Grazing
- Erosion
- Failing Septic Systems

Pond Creek Watershed - NPDES Facilities



Why Develop a Watershed-based Plan?

Benefits can include:

- Reduction of pollution on surface and groundwater
- Restoration of water bodies to a healthy state
- Conservation of farmland
- Partnerships and collaboration among stakeholders
- Support of sustainable communities and economic growth
- Prevention and reduction of flooding

Nine Elements of a Watershed-based Plan

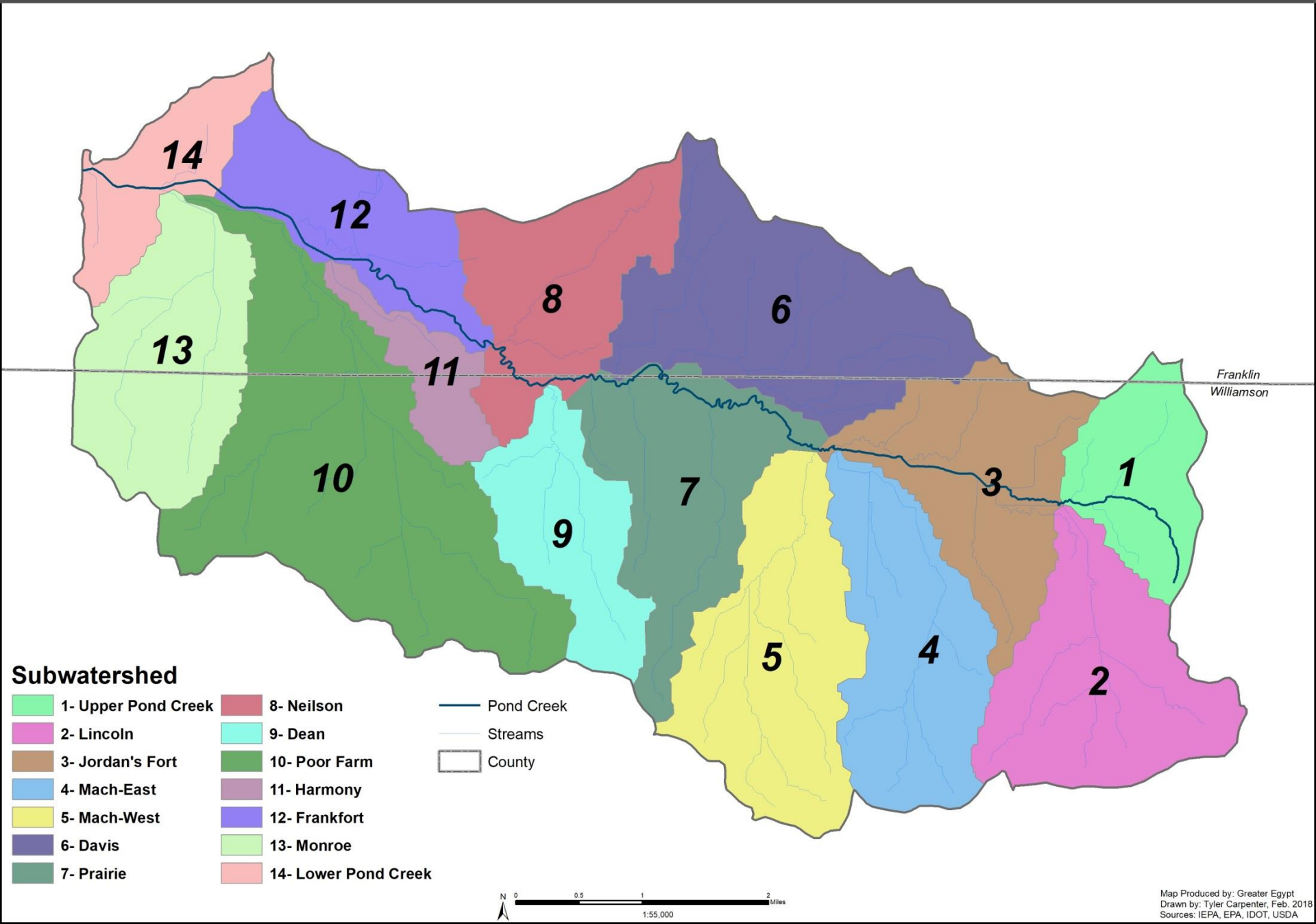
- Plan has to incorporate the Nine Minimum Elements to be approved by the EPA
- These include:
  - Identification of pollutants; estimate existing pollutant loads
  - Setting water quality goals
  - Best Management Practices (BMP) to achieve goals
  - Describing Technical and Financial assistance needed for the plan
  - Outreach/Education Component
  - Overall Implementation and Monitoring Strategy

A.) Identify Causes and Sources of Water Pollution and Estimate Existing Pollutant Loads

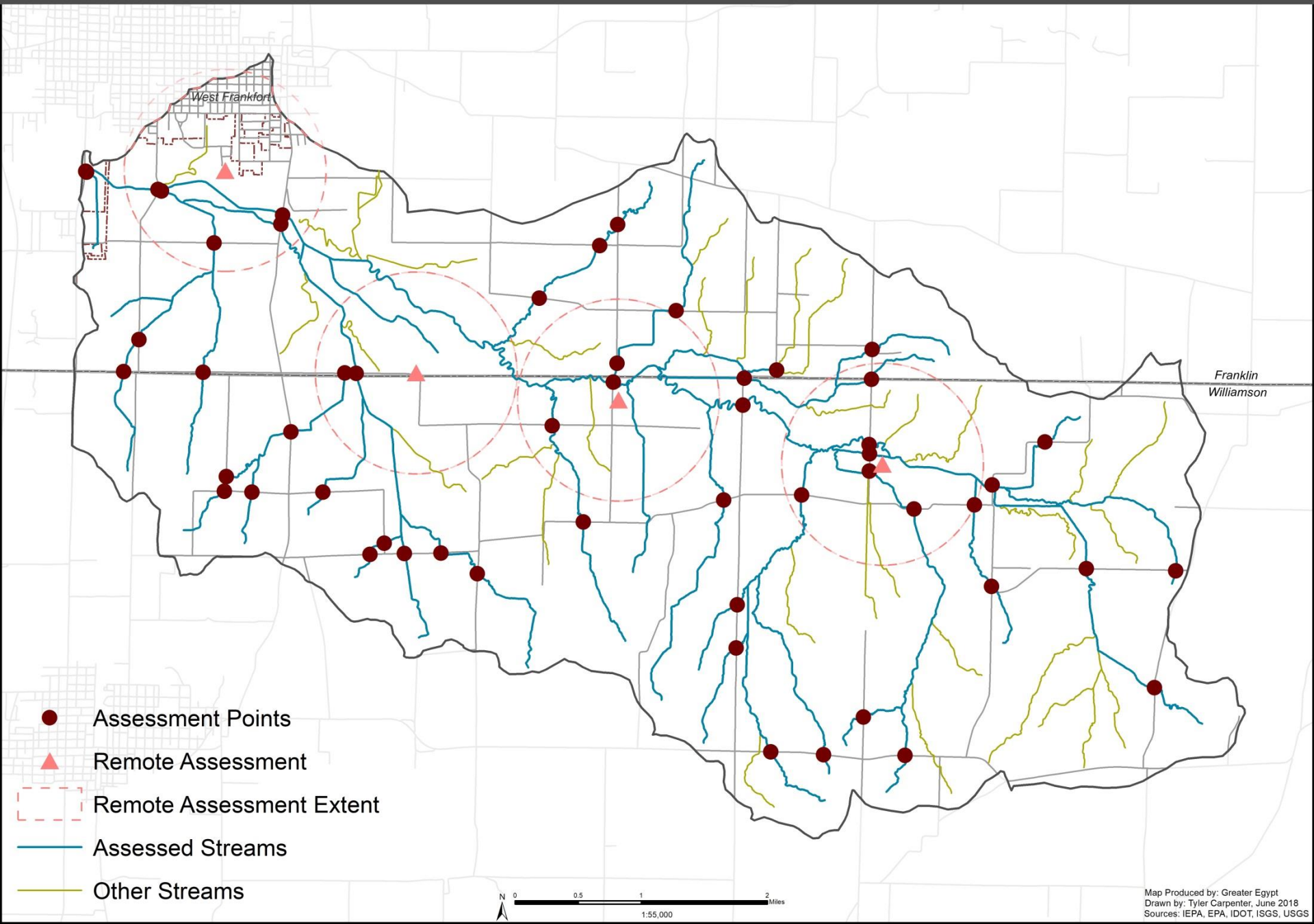
Watershed Resource Inventory

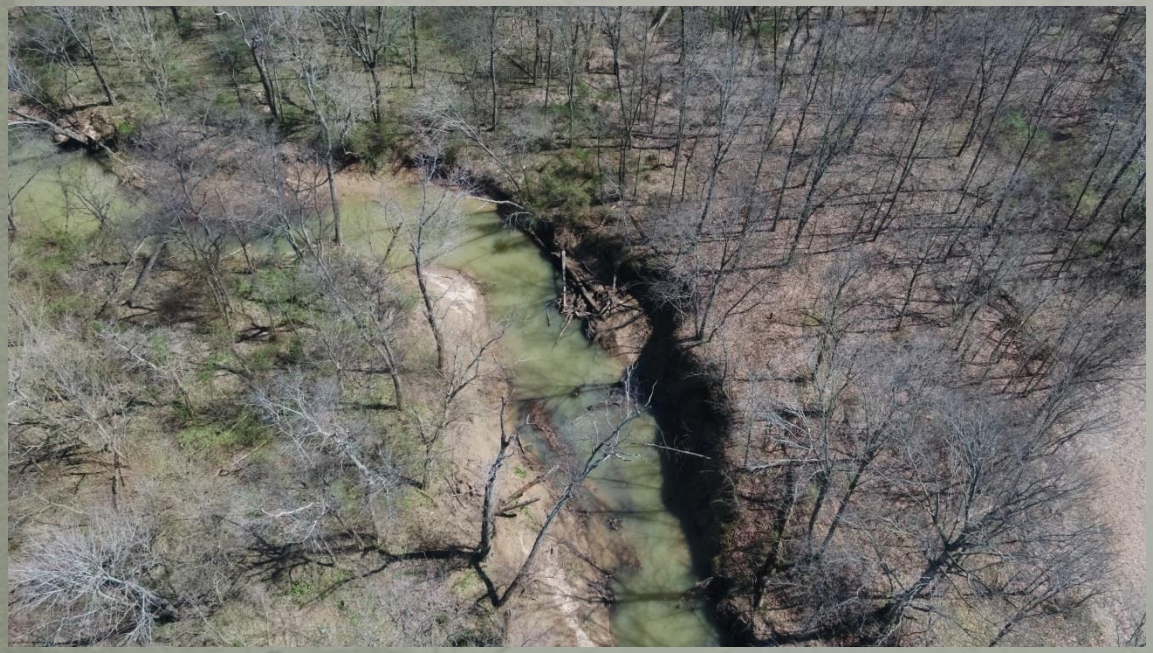
- Documentation of existing conditions in the watershed and subwatersheds
- Inventory and assessment of components such as: geographic boundaries, land use, and drainage
- Field assessment of erosion, riparian areas, and channelization

Pond Creek Watershed - Subwatersheds

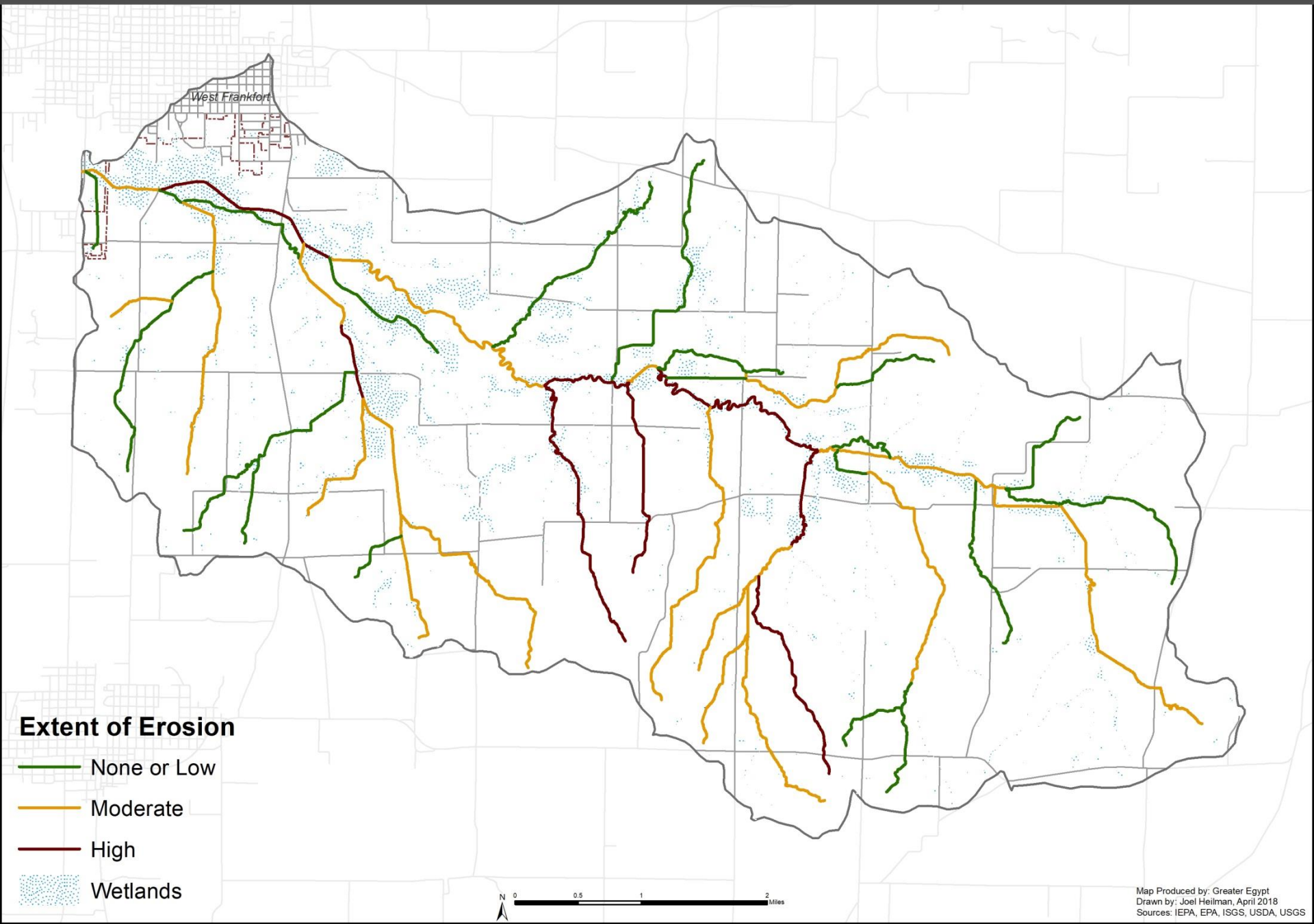


Pond Creek Watershed - Assessed Streams

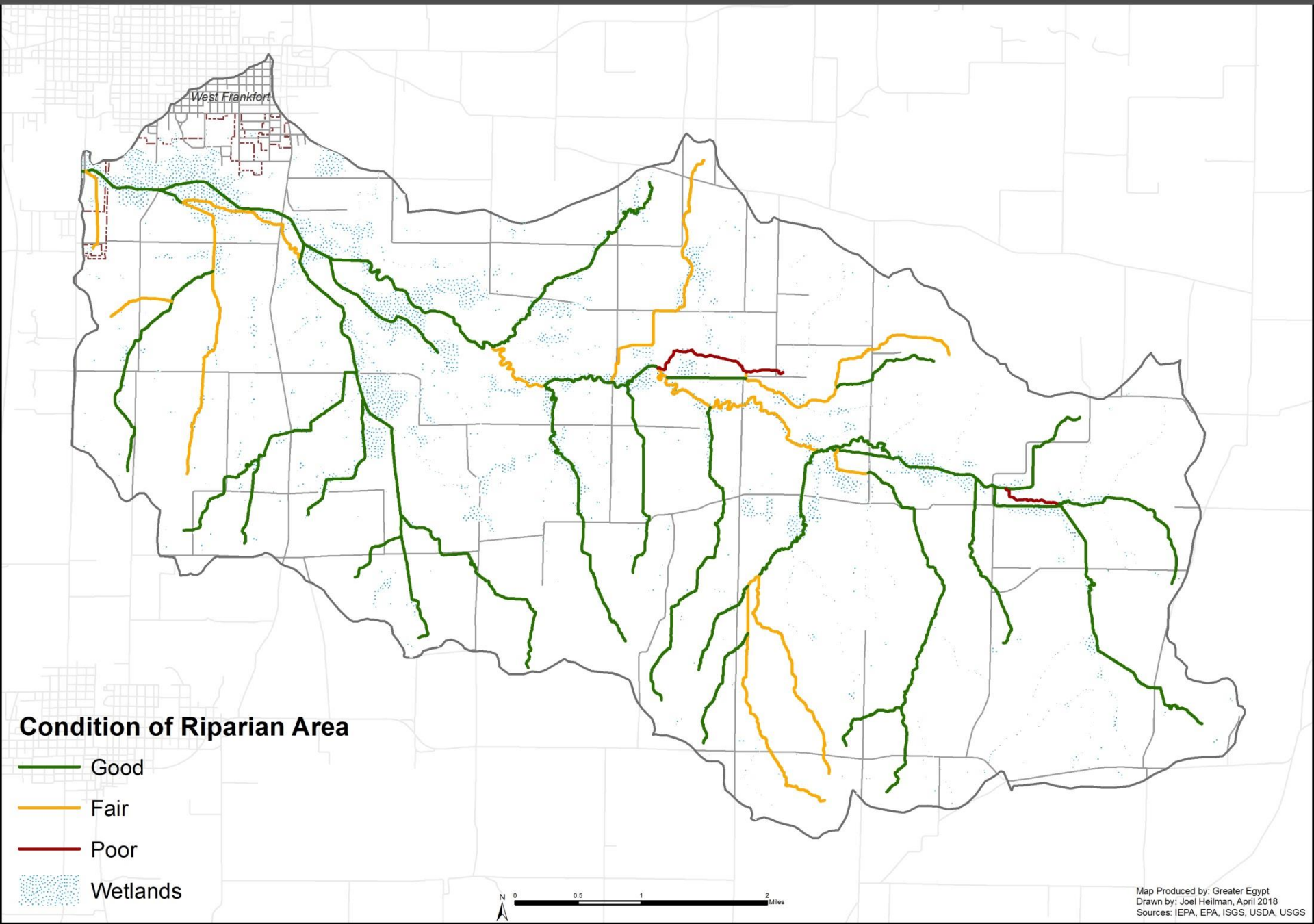




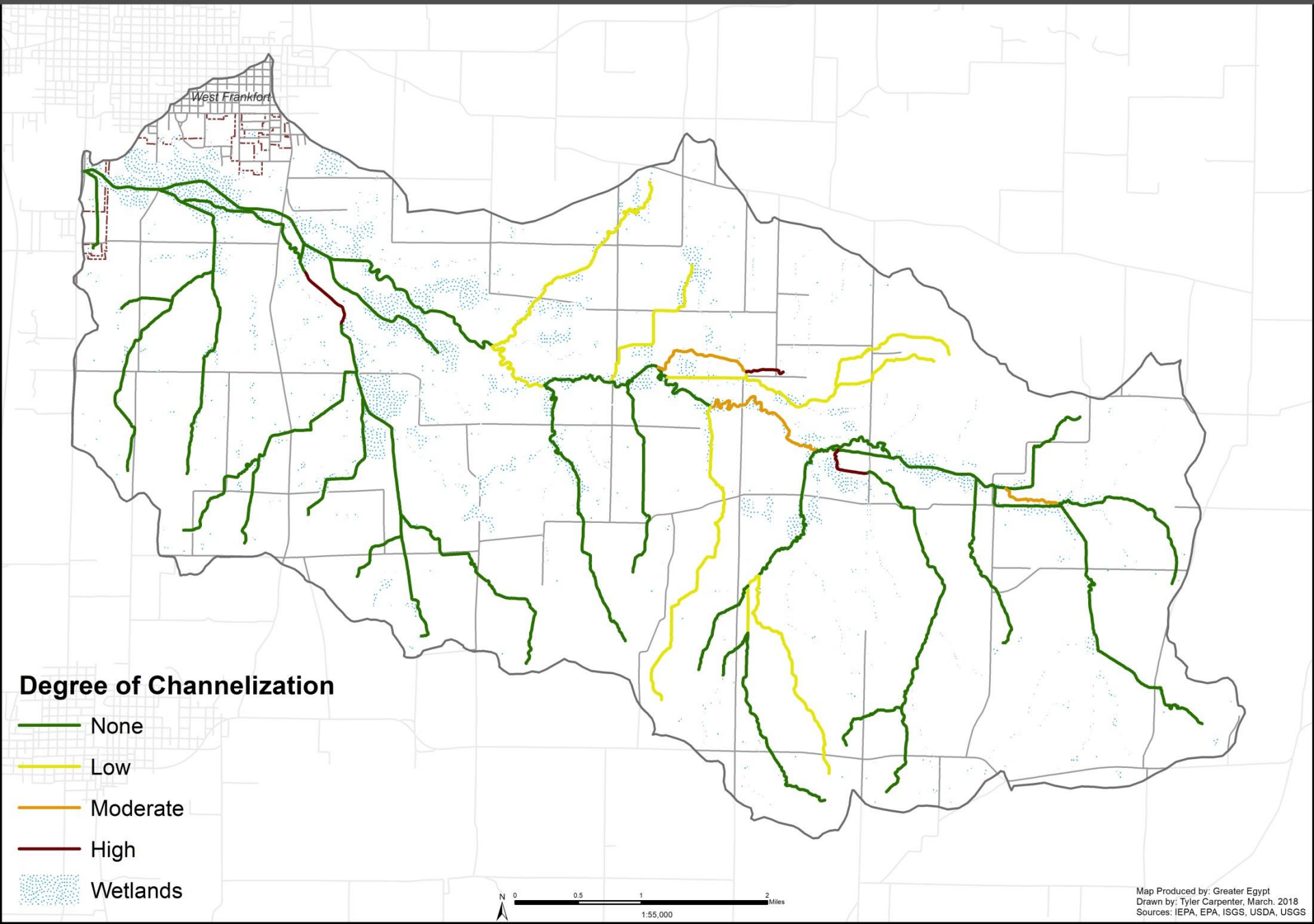
Pond Creek Watershed - Extent of Erosion



Pond Creek Watershed - Condition of Riparian Area



Pond Creek Watershed - Degree of Channelization



Estimated Annual Pollutant Loads

Source	N Load (lb/yr)	Percent of Total Load	P Load (lb/yr)	Percent of Total Load	Sediment Load (tons/yr)	Percent of Total Load
Urban	13226.85	5.89%	2044.62	4.67%	303.61	1.14%
Cropland	88475.27	39.37%	25491.76	58.21%	15854.41	59.69%
Pastureland	81533.71	36.28%	9785.49	22.34%	3700.06	13.93%
Forest & Grassland	2510.17	1.12%	1183.70	2.70%	193.97	0.73%
Groundwater	28589.45	12.72%	1278.18	2.92%	0.00	0.00%
Streambank	10415.90	4.63%	4010.12	9.16%	6509.94	24.51%
Total	**224751.35**		**43793.88**		**26561.99**	

B.) Set Water Quality Goals and Load Reduction Targets

Goals could:

- Achieve water quality standards and total maximum daily loads for specific pollutants
- Identify load reduction targets for specific nutrients/ pollutants
- Base nutrient reduction goals off of the IL Nutrient Loss Reduction Strategy

Waterbody	Causes of Impairment	Possible Sources of Impairment
Pond Creek	**Chloride, Dissolved Oxygen, Sedimentation/Siltation**	Channelization
		Impacts from abandoned mine lands (inactive)
		Loss of Riparian Habitat
		Streambank Modifications/ Destabilization
		Unknown Source
		Crop Productions
		Agriculture
		Urban Runoff/ Storm Sewers

IL Nutrient Loss Reduction Strategy (ILNLRS)

- Collaborative effort between IEPA, IL Dept. of Agriculture, and the IL NLRS Policy Working Group and subcommittees

- Develop strategies and promote best management practices (BMP) for nutrient runoff

- Goals include: **25% reduction in phosphorus load (2025)**

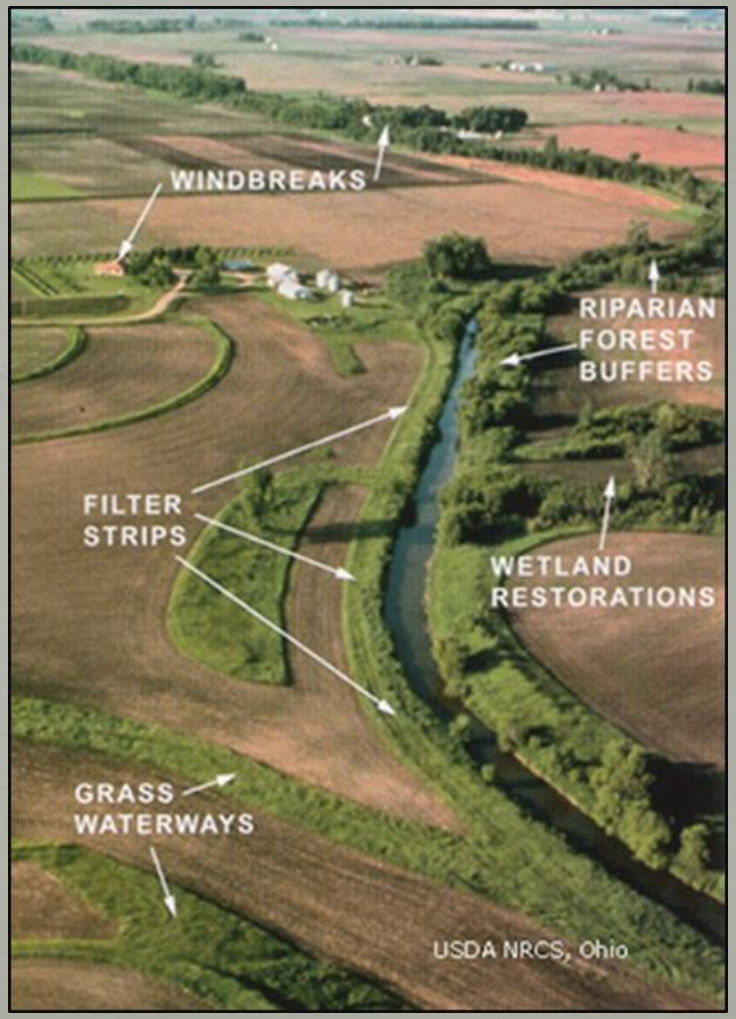
  15% reduction in nitrate-nitrogen load (2025)

  Eventual goal is 45% for both nutrients

C.) Describe Management Measures Needed to Achieve Load Reduction Targets

Management measures include:

- Identifying best management practices (BMP) to achieve water quality objectives
- Identifying priority areas and practices
- Site-specific and watershed-wide



Focus on:

- Agricultural BMP
- Streambank Stabilization

Notes:

- No obligation
- BMP in plan will have a good chance to get funded with plan approval
- Other suggestions?

BMP Type	
Agricultural	Agricultural Filter Strips
	Conservation Tillage
	Cover Crops
	Critical Area Planting
	Drainage Water management
	Grassed Waterways
	Livestock Crossings
	Nutrient Management Planning
	Pasture/Hayland Planting
	Riparian Buffers
	Terraces
	Water and Sediment Control Basin
Flooding	Infiltration/ Detention Basins
	Dikes
	Wetland Creation
Waterbody	Debris Removal
	Streambank Stabilization

D.) Describe the Technical and Financial Assistance Needed to Implement the Plan

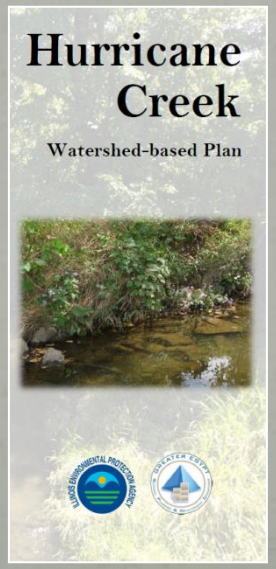
- EPA 319 Grants offer a 60 percent cost share
- Other funding sources can come from various state/ federal agencies:
  - USDA
  - IDNR
  - USFWS

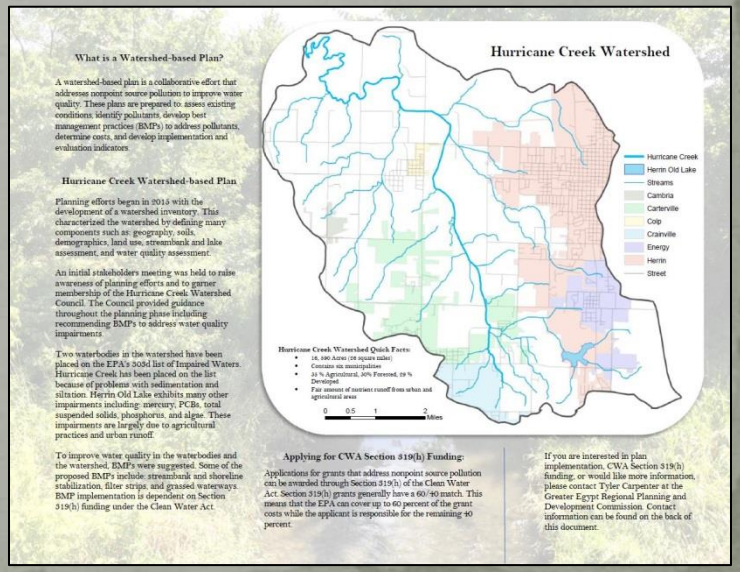
BMP	Technical Assistance	Funding Source(s)
Agricultural Filter Strip	Farm Bureau, Landowner, NRCS, SWCD	IEPA 319, USDA
Agricultural Management Workshop	Planning Commission, Farm Bureau, NRCS, USDA, SWCD	IEPA 319
Conservation Cover	Farm Bureau, NRCS, USDA, SWCD	IEPA 319, USDA
Cover Crops	Farm Bureau, NRCS, USDA, SWCD	IEPA 319, USDA
Critical Area Planting	NRCS, USDA	IEPA 319, USDA
Debris Removal	Volunteers, landowners, public works, contractor	Volunteers, landowners, public works, contractor
Detention Basin	Landowner, IDOT, contractor, municipality, public works	Landowners, municipality

E.) Enhance Public Understanding Through Outreach Measures

Measures could include:

- Public meetings
- Informational pamphlets regarding watershed planning efforts
- Workshops
  - Stormwater management
  - Agricultural activities





1. **Establish a Pond Creek Watershed Action Committee**
    1. Will oversee plan implementation and monitoring
2. **Hold public meetings**
    1. Keep the public informed throughout plan implementation
3. **Create a website for watershed activities**
4. **Distribute flyers or brochures regarding watershed management efforts**
5. **Enlist volunteers for litter cleanup days**
    1. Could be conservation groups, 4H, Boy/Girl Scouts or other local groups
6. **Hold a recycling drive or similar event**
    1. If not for this plan, it could still go forward through another effort
7. **Hold workshops for watershed activities**
    1. Stormwater management
    2. Agricultural workshops

F: Implementation Schedule

- Should reflect BMP, educational component, and general goals of plan

Target	Phase I		Phase II				Phase III			
	Short-term (2 yr)		Mid-term (3-6 yr)				Long-term (7-10 yr)			
	1	2	3	4	5	6	7	8	9	10
Establish watershed action committee	X									
Hold public meetings to gain input	X	X	X	X	X	X				
Post watershed signage for public awareness and BMP implementation	X	X	X	X	X	X	X	X	X	X
Create a website for watershed activities and key dates		X								
Enlist volunteers for litter cleanup days		X	X	X	X	X	X	X	X	X
Hold Electronic Recycling Drives			X			X			X	
Distribute educational brochures for stormwater and agricultural management	X		X		X		X		X	
Hold workshops to inform public on agricultural management		X		X		X		X		
Continue researching funding and technical assistance	X	X	X							
Select site-specific BMP for preliminary designs	X	X	X							

G.) Identify Milestones to Determine if Management Measure are Being Implemented on Schedule

Interim Measurable Milestones				
Goal	Indicator	Short (2-year)	Mid (6-yr)	Long (10-yr)
Address Impairments from Agricultural Practices/ Improve Water Quality	Linear Feet of Streambank Stabilized	-	6,500	12,500
	Agricultural Strips Created	-	8	16
	Acres to Implement Critical Planting	-	160	240
	Acres Converting to Conservation Tillage	-	320	480
	Acres Converting to No-Till	-	320	480
	Acres Converted to Pasture/Hay	-	160	240
	Acres Converting to Strip-Till	-	320	480
	Acres Converting to Terracing	-	160	240
	Acres to Implement Cover Crops	-	300	450
	Nutrient Management Planning Partnerships	2	5	10
	Grassed Waterways Created	-	12	24
	Drainage Water Management Partnerships	2	5	10
	Riparian Buffers Created	-	5	10

H.) Identify Interim Benchmarks to Measure Progress in Meeting Water Quality Goals

Benchmarks should include:

- Load Reduction Targets of:
  - Nitrogen
  - Phosphorus
  - Sediment

Benchmark Period	Benchmark Reduction Target					
	Nitrogen (percent)	Nitrogen (lbs/ yr)	Phosphorus (percent)	Phosphorus (lbs/yr)	Sediment (percent)	Sediment (tons/yr)
2 Year (Phase I)	-	-	-	-	-	-
6 Year (Phase II)	6	13485	10	4379	10	2656
10 Year (Phase III)	15	33713	25	10948	25	6641

I.) Describe a Monitoring Component

Recommends future assessment activities to be undertaken and can be designed to:

- Better identify potential causes and sources of pollution
- Assess BMP effectiveness
- Track and evaluate the effectiveness of plan implementation

Implementation Schedule										
Monitoring Component	Phase I		Phase II				Phase III			
	1	2	3	4	5	6	7	8	9	10
Ambient Water Quality Monitoring Network		X					X			
Dissolved Oxygen Monitoring			X	X	X	X	X	X	X	X
Intensive River Basin Surveys				X					X	
Litter Monitoring Reports	X	X	X	X	X	X	X	X	X	X
NPDES Permit Reviews	X	X	X	X	X	X	X	X	X	X

Planning Events

- Comments/ Suggestions for the plan by August 1, 2019
- Final Draft DUE September 1, 2019

Discussion

Questions/Comments

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