

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

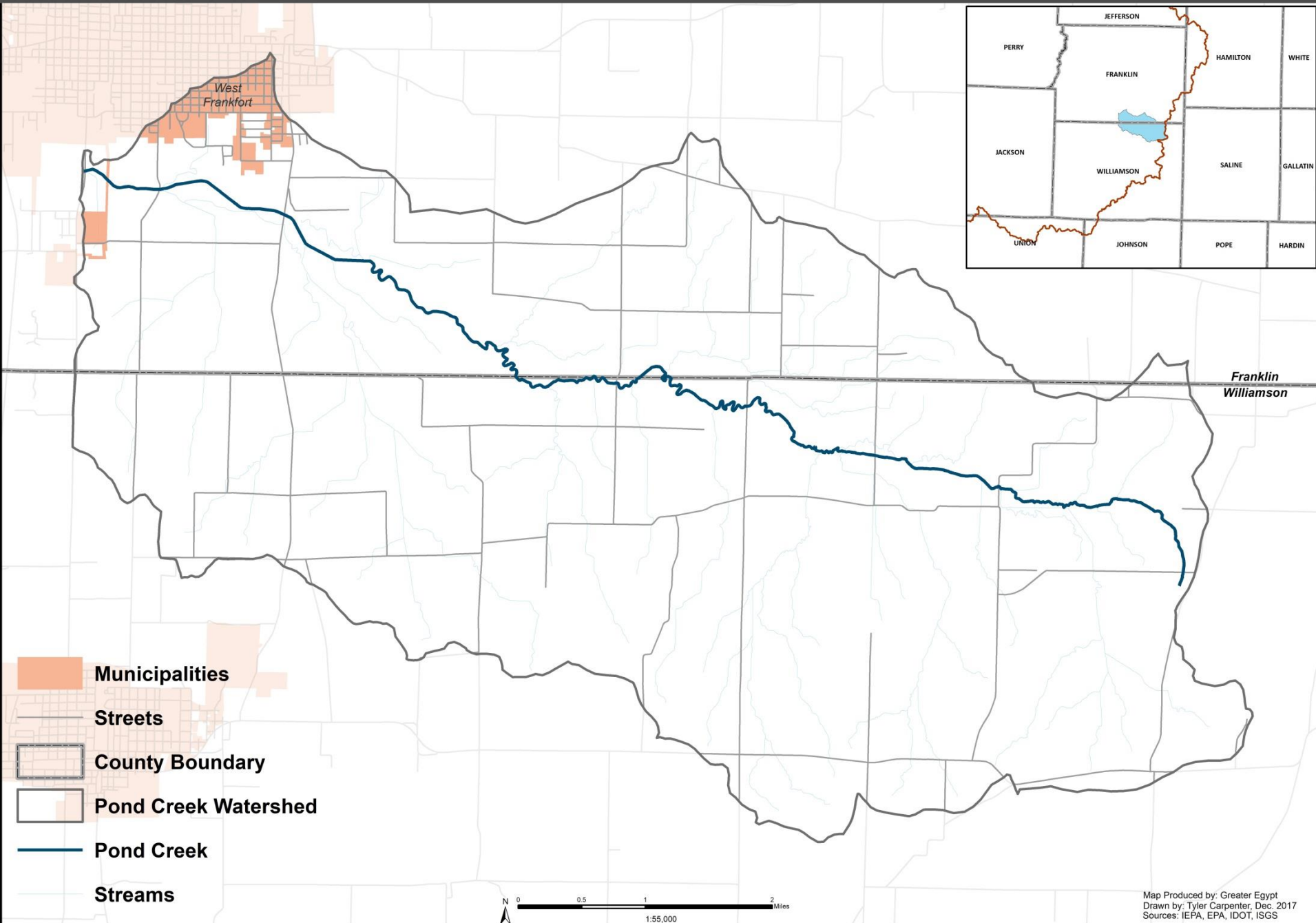
- Water Quality Management Planning Grant
- Greater Egypt's 604(b) grants include:
 - watershed-based planning
 - stormwater management educational materials







Pond Creek Watershed

Quick Facts:

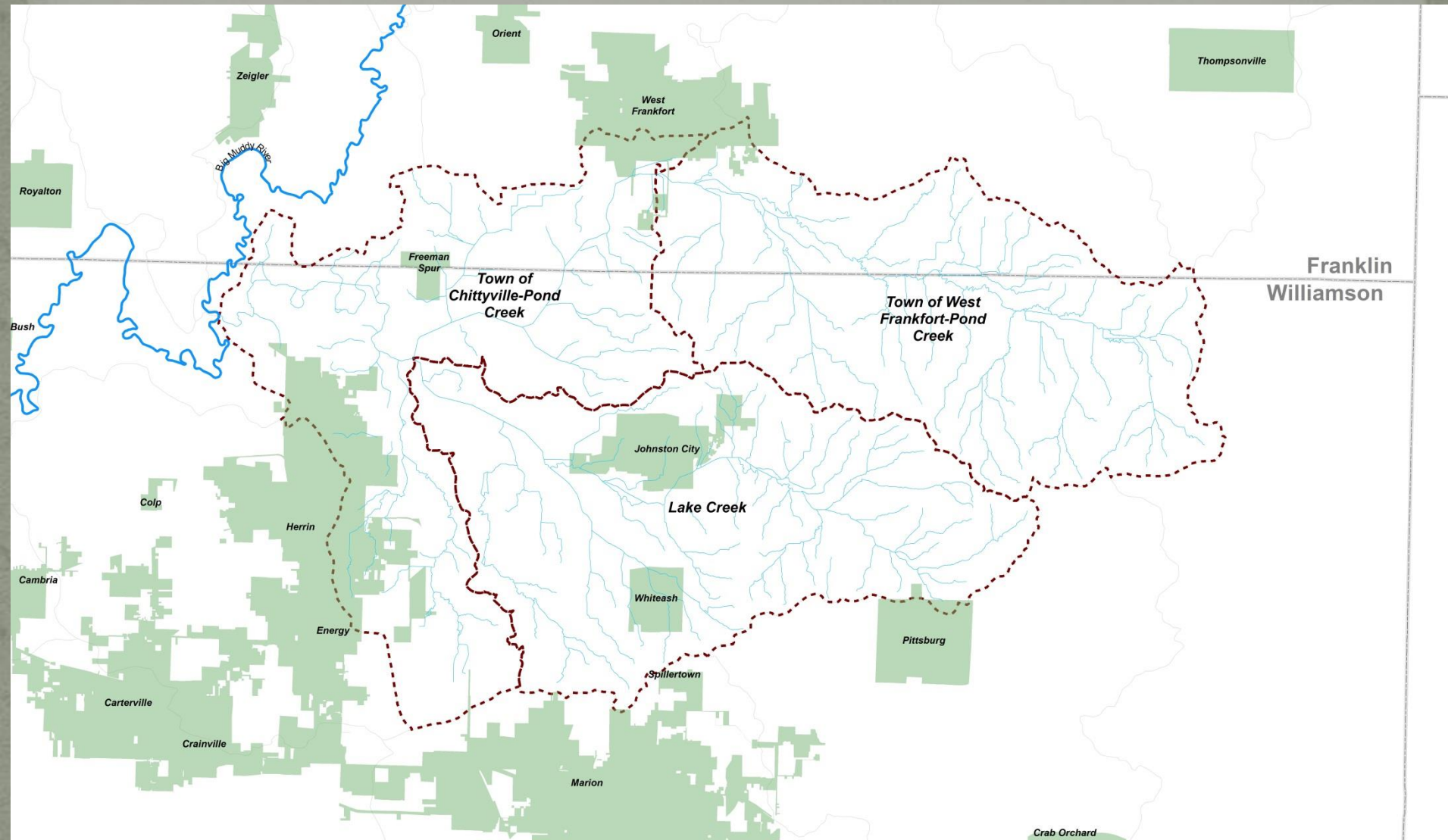
- 21,192 acres, or 33 square miles
- Located in Franklin and Williamson Counties
 - 32.7 % Franklin County
 - 67.3 % Williamson County
- Pond Creek runs 12.04 miles in a northwesterly direction
- West Frankfort is the only municipality in the watershed
- Detailed information can be found in the watershed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

Pond Creek Watershed - Planning Area

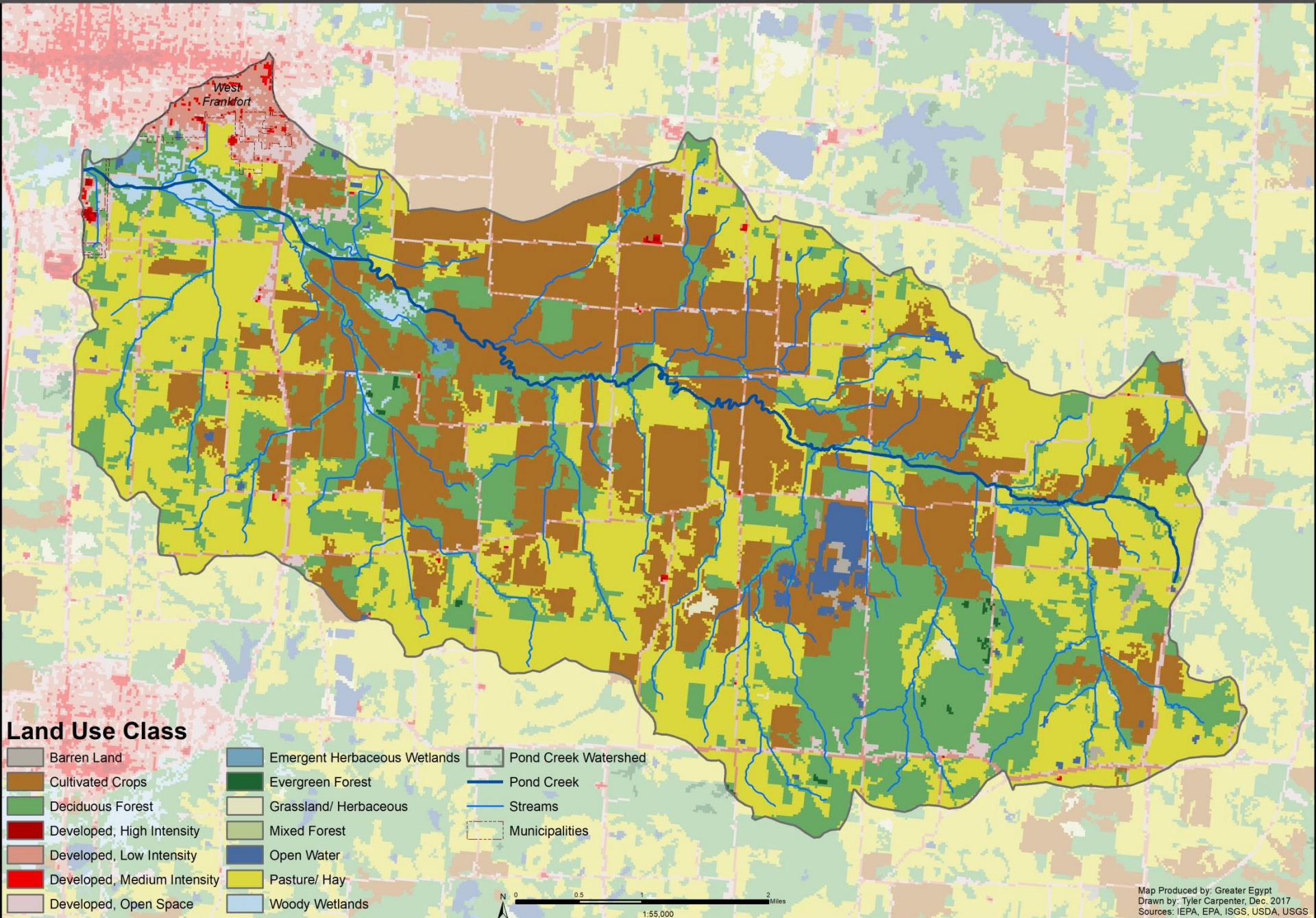


-  Municipalities
-  Streets
-  County Boundary
-  Pond Creek Watershed
-  Pond Creek
-  Streams





Pond Creek Watershed - Land Use



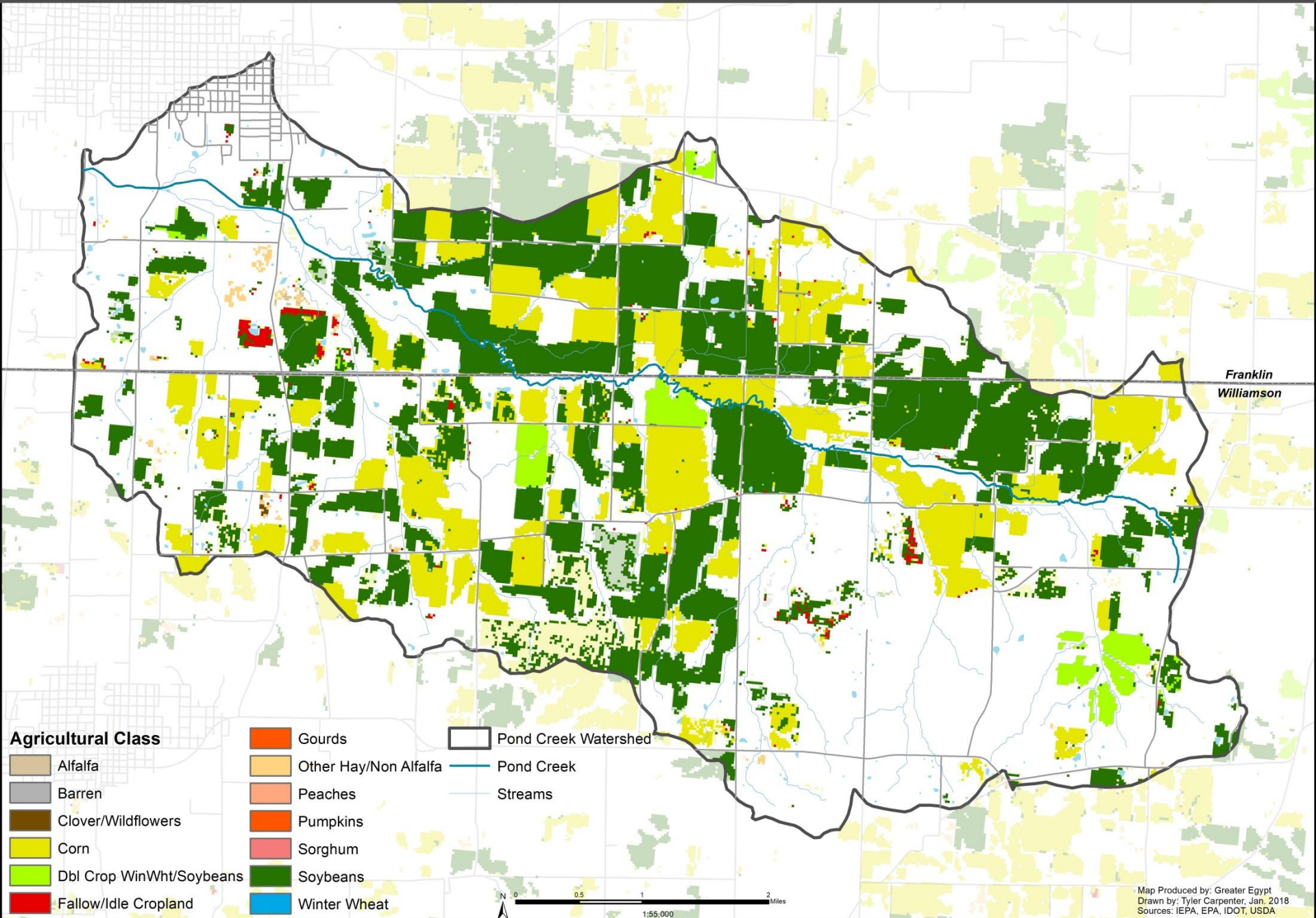
West Frankfort

Land Use Class

- | | | |
|-----------------------------|------------------------------|----------------------|
| Barren Land | Emergent Herbaceous Wetlands | Pond Creek Watershed |
| Cultivated Crops | Evergreen Forest | Pond Creek |
| Deciduous Forest | Grassland/Herbaceous | Streams |
| Developed, High Intensity | Mixed Forest | Municipalities |
| Developed, Low Intensity | Open Water | |
| Developed, Medium Intensity | Pasture/Hay | |
| Developed, Open Space | Woody Wetlands | |



Pond Creek Watershed - Agriculture



Franklin
Williamson

Agricultural Class

- Alfalfa
- Barren
- Clover/Wildflowers
- Corn
- Dbl Crop WinWht/Soybeans
- Fallow/Idle Cropland
- Gourds
- Other Hay/Non Alfalfa
- Peaches
- Pumpkins
- Sorghum
- Soybeans
- Winter Wheat

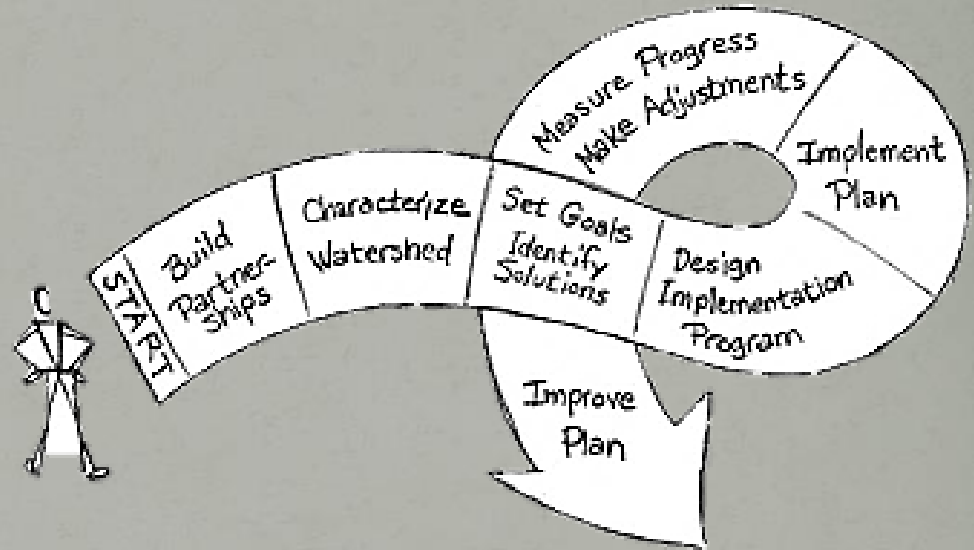
- Pond Creek Watershed
- Pond Creek
- Streams



Map Produced by: Greater Egypt
 Drawn by: Tyler Carpenter, Jan, 2018
 Sources: IEPA, EPA, IDOT, USDA

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

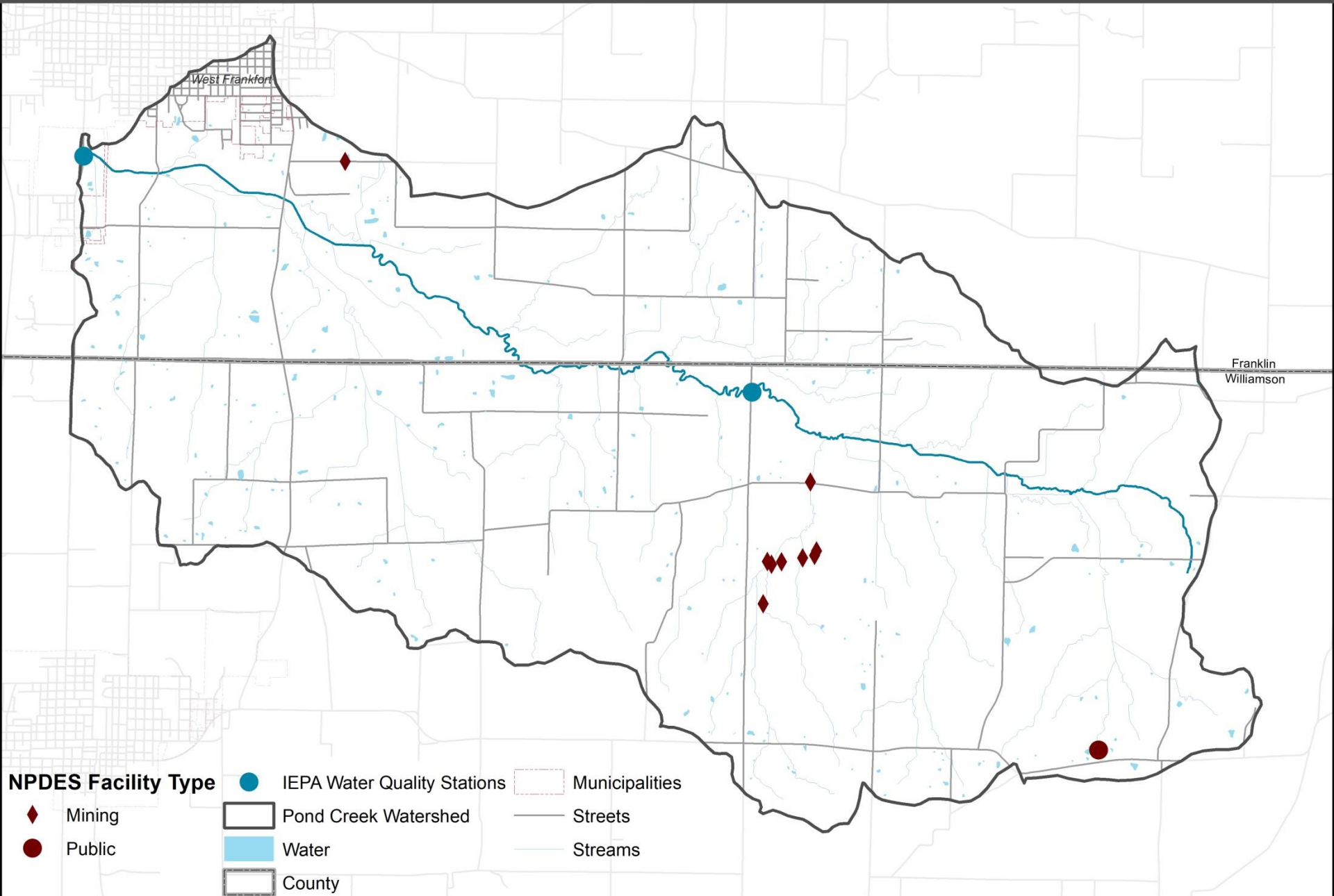


Nonpoint Source

- 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
- Partnerships and collaboration among stakeholders
- Restoration of water bodies to a healthy state
- Support of sustainable communities and economic growth
- Conservation of farmland
- 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

Nine Elements of a Watershed-based Plan

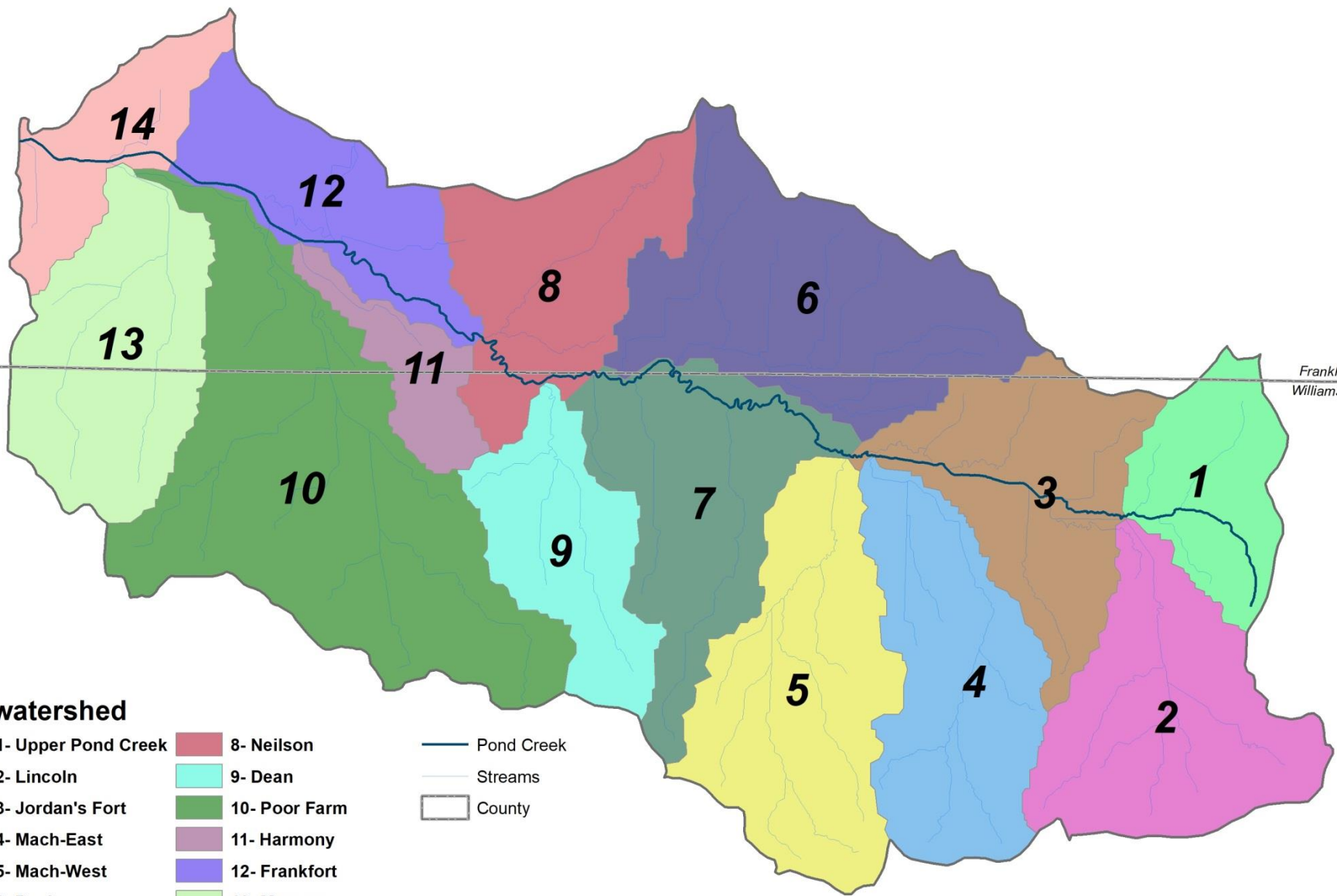
A.) Identify Causes and Sources of Water Pollution and Estimate Existing Pollutant Loads

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



Franklin
Williamson

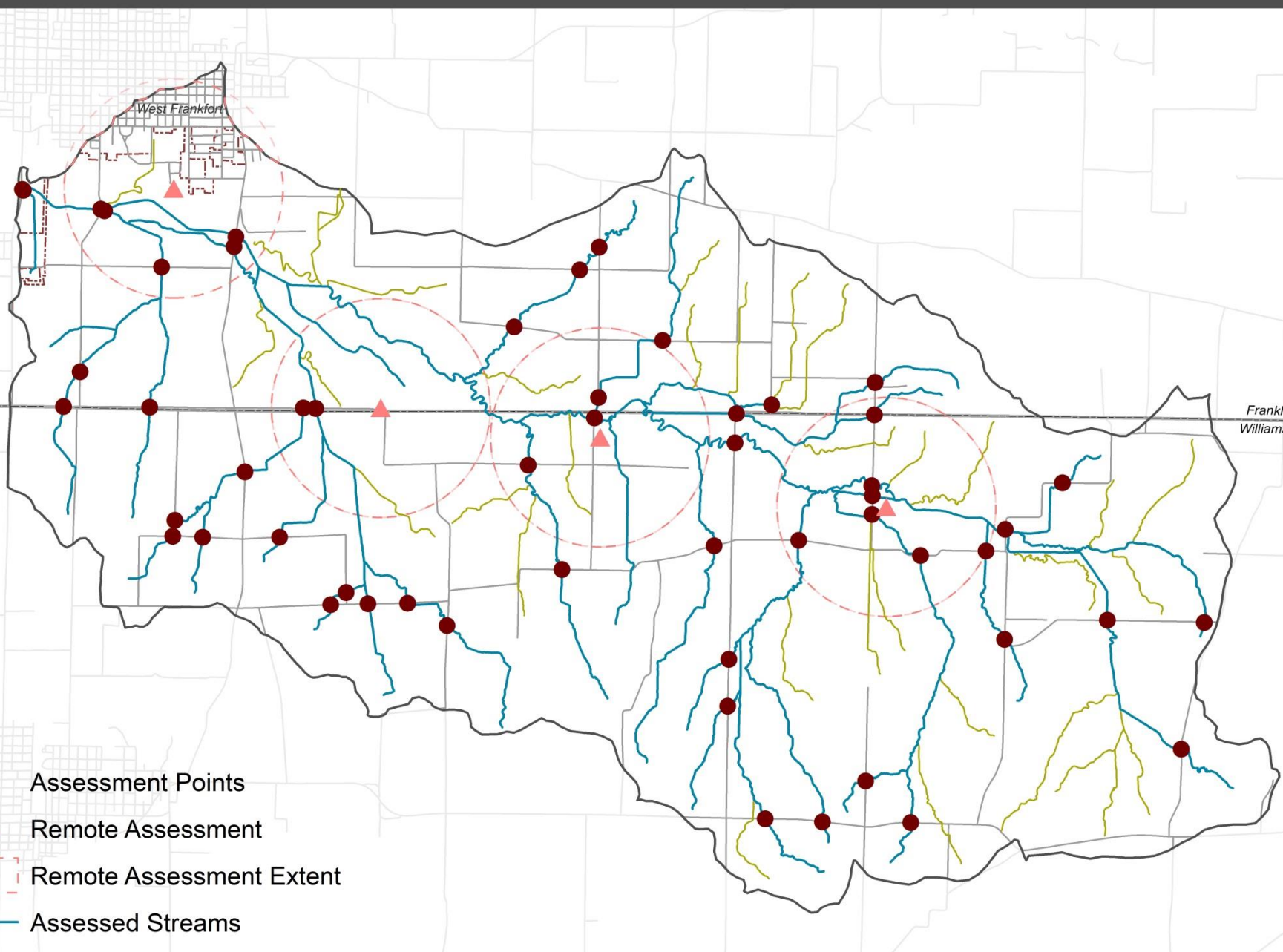
Subwatershed

- | | |
|---------------------|----------------------|
| 1- Upper Pond Creek | 8- Neilson |
| 2- Lincoln | 9- Dean |
| 3- Jordan's Fort | 10- Poor Farm |
| 4- Mach-East | 11- Harmony |
| 5- Mach-West | 12- Frankfort |
| 6- Davis | 13- Monroe |
| 7- Prairie | 14- Lower Pond Creek |

- Pond Creek
- Streams
- County



Pond Creek Watershed - Assessed Streams

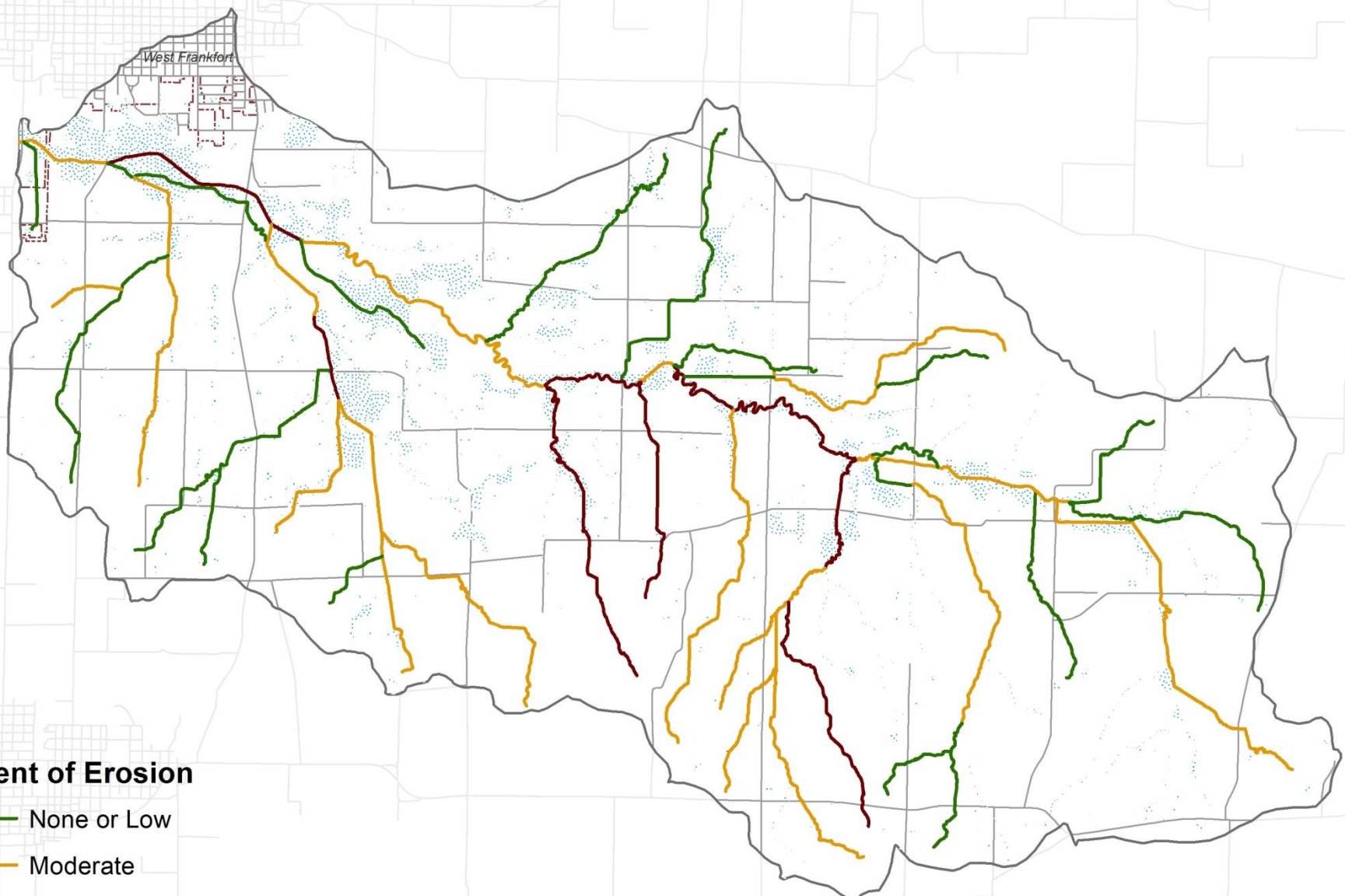


- Assessment Points
- ▲ Remote Assessment
- - - Remote Assessment Extent
- Assessed Streams
- Other Streams





Pond Creek Watershed - Extent of Erosion

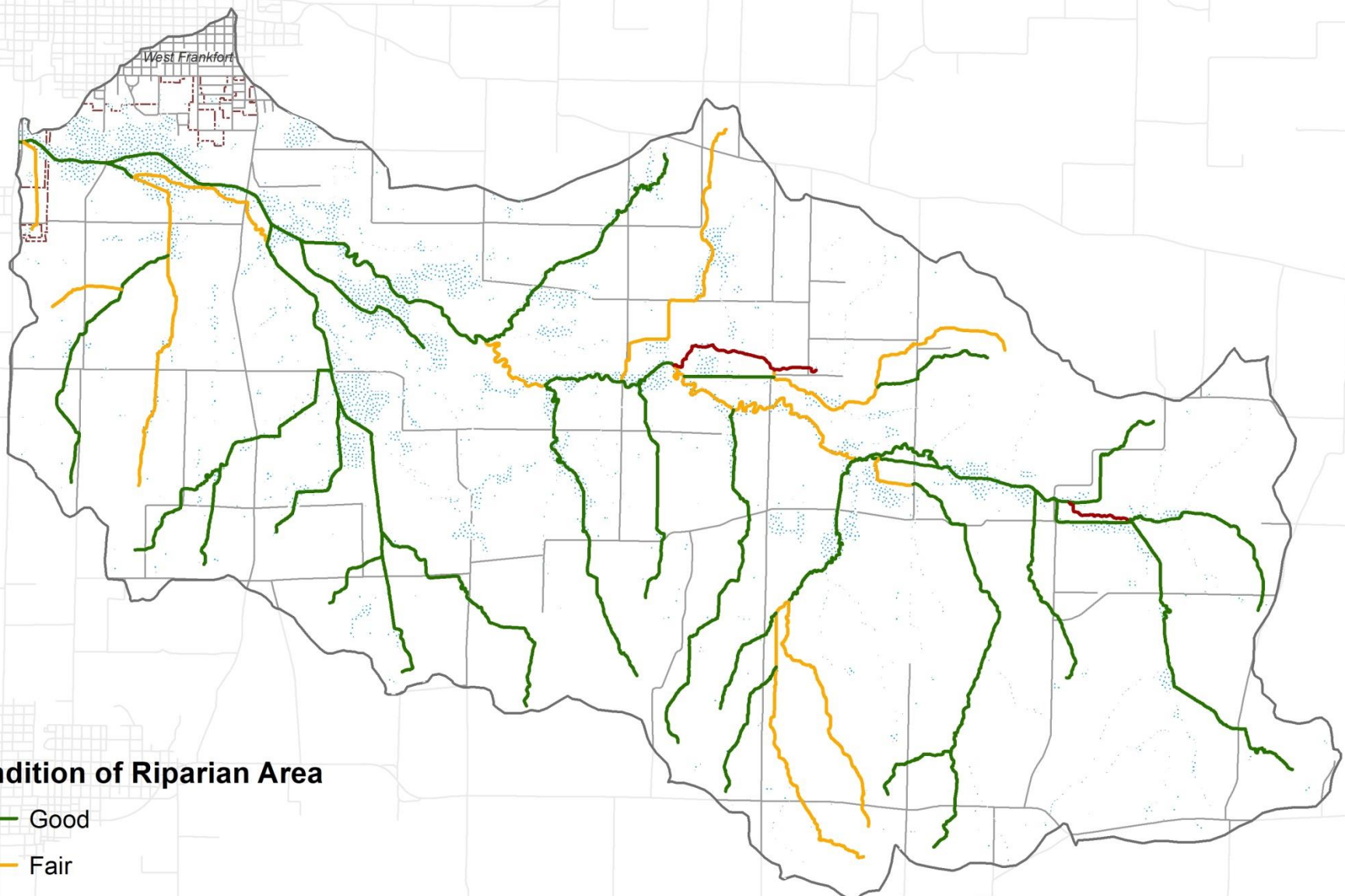


Extent of Erosion

- None or Low
- Moderate
- High
- Wetlands



Pond Creek Watershed - Condition of Riparian Area

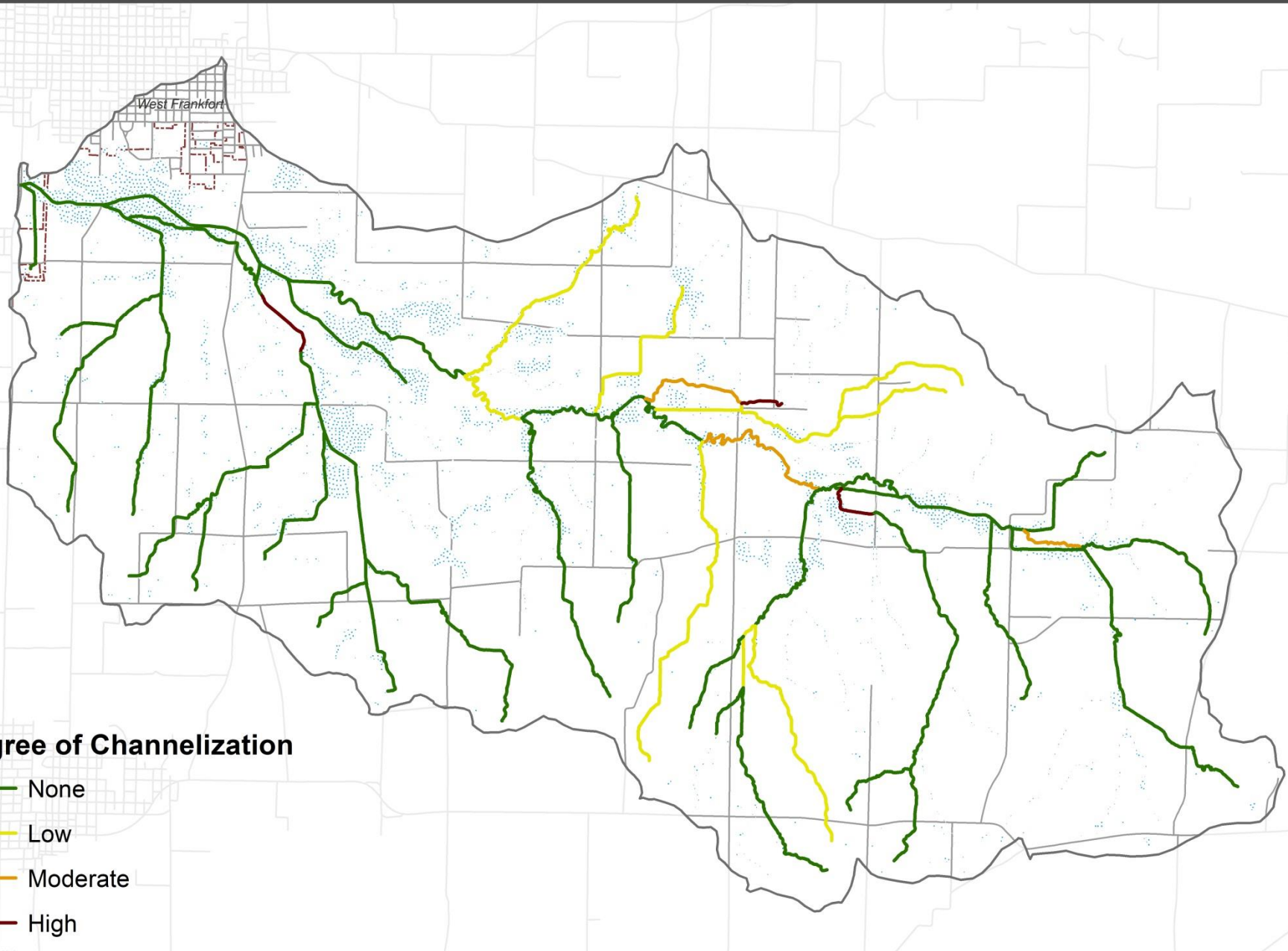


Condition of Riparian Area

- Good
- Fair
- Poor
- Wetlands



Pond Creek Watershed - Degree of Channelization



Degree of Channelization

- None
- Low
- Moderate
- High
- Wetlands



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	

Nine Elements of a Watershed-based Plan

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



Nine Elements of a Watershed-based Plan

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

Nine Elements of a Watershed-based Plan

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

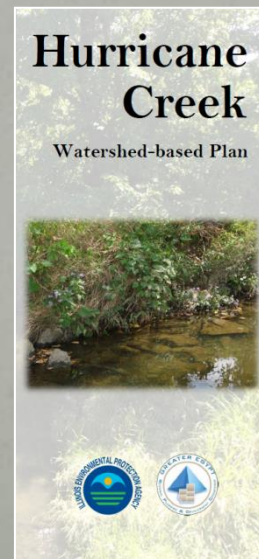
BMP	Technical Assistance	Funding Source(s)
Agricultural Filter Strip	Farm Bureau, Landowner, NRCS, SWCD	IEPA 319, USDA
Agricultural Management Workshop	Planning Commission, Farm Bureau, NRCS, USDA, SWCD	IEPA 319
Conservation Cover	Farm Bureau, NRCS, USDA, SWCD	IEPA 319, USDA
Cover Crops	Farm Bureau, 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

Nine Elements of a Watershed-based Plan

E.) Enhance Public Understanding Through Outreach Measures

Measures could include:

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



What is a Watershed-based Plan?

A watershed-based plan is a collaborative effort that addresses nonpoint source pollution to improve water quality. These plans are prepared to assess existing conditions, identify pollutants, develop best management practices (BMPs) to address pollutants, determine costs, and develop implementation and evaluation indicators.

Hurricane Creek Watershed-based Plan

Planning efforts began in 2015 with the development of a watershed inventory. This characterized the watershed by defining many components such as geographic, soils, demographics, land use, streambank and lake assessment, and water quality assessment.

An initial stakeholders meeting was held to raise awareness of planning efforts and to garner membership of the Hurricane Creek Watershed Council. The Council provided guidance throughout the planning phase including recommending BMPs to address water quality impairments.

Two waterbodies in the watershed have been placed on the EPA's 303(d) list of Impaired Waters. Hurricane Creek has been placed on the list because of problems with sedimentation and siltation. Herin Old Lake exhibits many other impairments including: mercury, PCBs, total suspended solids, phosphorus, and algae. These impairments are largely due to agricultural practices and urban runoff.

To improve water quality in the waterbodies and the watershed, BMPs were suggested. Some of the proposed BMPs include streambank and shoreline stabilization, filter strips, and grassed waterways. BMP implementation is dependent on Section 319(b) funding under the Clean Water Act.

Hurricane Creek Watershed Quick Facts

- 26,300 Acres (99 square miles)
- Contains an unincorporated
- 24% agricultural, 50% Forested, 29% Developed
- Fair amount of runoff runoff from urban and agricultural uses

Applying for CWA Section 319(b) Funding:

Applications for grants that address nonpoint source pollution can be awarded through Section 319(b) of the Clean Water Act. Section 319(b) grants generally have a 60/40 match. This means that the EPA can cover up to 60 percent of the grant costs while the applicant is responsible for the remaining 40 percent.

If you are interested in plan implementation, CWA Section 319(b) funding, or would like more information, please contact Tyler Carpenter at the Greater Egypt Regional Planning and Development Commission. Contact information can be found on the back of this document.

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

Nine Elements of a Watershed-based Plan

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)
<p style="text-align: center;">Address Impairments from Agricultural Practices/ Improve Water Quality</p>	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

Planning Events

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

Discussion

Questions/Comments

Tyler Carpenter

Greater Egypt

618-997-9351

tylercarpenter@greateregypt.org

