

Pond Creek Watershed Management Planning Meeting

June 13, 2019
10:00 AM



Agenda

- I. Welcome and Introductions
- II. Review of Planning Meetings
- III. Pollutant Load Reduction Target Summary
- IV. Element C: BMP for Load Reductions
- V. Element D: Technical and Financial Assistance
- VI. Element E: Education/ Outreach
- VII. Elements F-I: Implementation and Monitoring Strategy
- VIII. Projected Meeting Schedule & Other Planning Efforts

IL Nutrient Loss Reduction Strategy (NLRS)

- 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

Watershed	SMU ID	Nitrogen (percent reduction)	Nitrogen Load Reduction Target (lbs)	Phosphorus (percent reduction)	Phosphorus Load Reduction Target (lbs)	Sediment (percent reduction)	Sediment Load Reduction Target (tons)
Pond Creek	-	15.00%	33712.68	25.00%	10948.46	25.00%	6640.47
Sub-watershed Load Reduction Targets							
Upper Pond Creek	1	4.37%	1474.39	3.48%	381.16	2.69%	178.57
Lincoln	2	6.66%	2246.18	5.42%	593.72	4.44%	294.70
Jordan's Fort	3	7.41%	2497.36	7.41%	811.34	6.82%	452.98
Mach-East	4	3.78%	1272.73	3.88%	425.07	3.51%	232.98
Mach-West	5	8.12%	2736.07	8.27%	905.94	9.57%	635.65
Davis	6	12.21%	4114.96	12.28%	1344.40	11.21%	744.70
Prairie	7	10.23%	3448.48	11.82%	1294.57	14.75%	979.29
Nielson	8	8.06%	2717.83	10.20%	1117.18	10.33%	685.91
Dean	9	5.83%	1965.55	5.92%	647.88	6.82%	452.95
Poor Farm	10	16.10%	5426.16	15.61%	1708.58	15.25%	1012.74
Harmony	11	2.26%	762.30	2.78%	304.23	2.68%	177.88
Frankfort	12	5.11%	1723.35	5.77%	631.95	6.34%	420.79
Monroe	13	7.36%	2480.60	5.15%	563.86	4.00%	265.92
Lower Pond Creek	14	2.51%	846.70	2.00%	218.56	1.59%	105.41
TOTAL			33712.68		10948.46		6640.47

IV. Element C: Best Management Practices

BMP in plan should address:

- **Impairments to waterbodies through nonpoint sources**
- **Drainage/Flooding issues**
- **Agricultural Areas**
- **Site-specific areas and watershed-wide practices**

IV. Element C: Best Management Practices

IEPA 303(d) List:

Waterbody	Assessment Unit ID	Size	Impaired Designated Use(s)	Causes of Impairment(s)
Pond Creek	IL_NG-02	23.53 miles	Aquatic Life	Chloride
				Dissolved Oxygen
				Sedimentation/ Siltation

IV. Element C: Best Management Practices

BMP Suggestions for Specific Impaired Streams:

Waterbody	Causes of Impairment(s)	Sources of impairments	General BMP Suggestions
Pond Creek	Chloride	Channelization, Impacts from Mines (abandoned, active), Streambank modifications/destabilization , unknowns sources, crop production, agriculture , urban runoff/sewers	NPDES Permit reviews for Mines, Future reclamation projects, other mining BMP?
	Dissolved Oxygen		Minimize water flow, wetland creation, riparian areas, streambank stabilization, others in plan
	Sedimentation/ Siltation		Streambank stabilization, agricultural BMP

IV. Element C: Best Management Practices

BMP: Watershed-wide & Site-specific

- Agricultural Filters/ Buffers
- Cover Crops
- Debris Removal
- Grassed Waterways
- Livestock Crossings
- Riparian Buffer
- Streambank/Shoreline Stabilization

IV. Element C: Best Management Practices

Agricultural Filters/Buffers Criteria



- Adjacent to waterbody
- Nutrient runoff reduction

BMP Type	Total Sediment Load Reduction (ton/year)	Total Phosphorous Load Reduction (lb/year)	Total Nitrogen Load Reductions (lb/year)
Agricultural Filters	7,739	8,840	16,504

IV. Element C: Best Management Practices

Debris Removal Criteria



- Limiting flow
- Areas with existing drainage issues
- Organic vs. Synthetic



IV. Element C: Best Management Practices

Grassed Waterways Criteria



- Proximity to waterbody
- Priority given to areas exceeding five years of observed erosion
- Reduction of sediment
- Reduction of nutrient runoff

BMP Type	Total Sediment Load Reduction (ton/year)	Total Phosphorous Load Reduction (lb/year)	Total Nitrogen Load Reductions (lb/year)
Grassed Waterways	1,973	1,973	3,945

IV. Element C: Best Management Practices

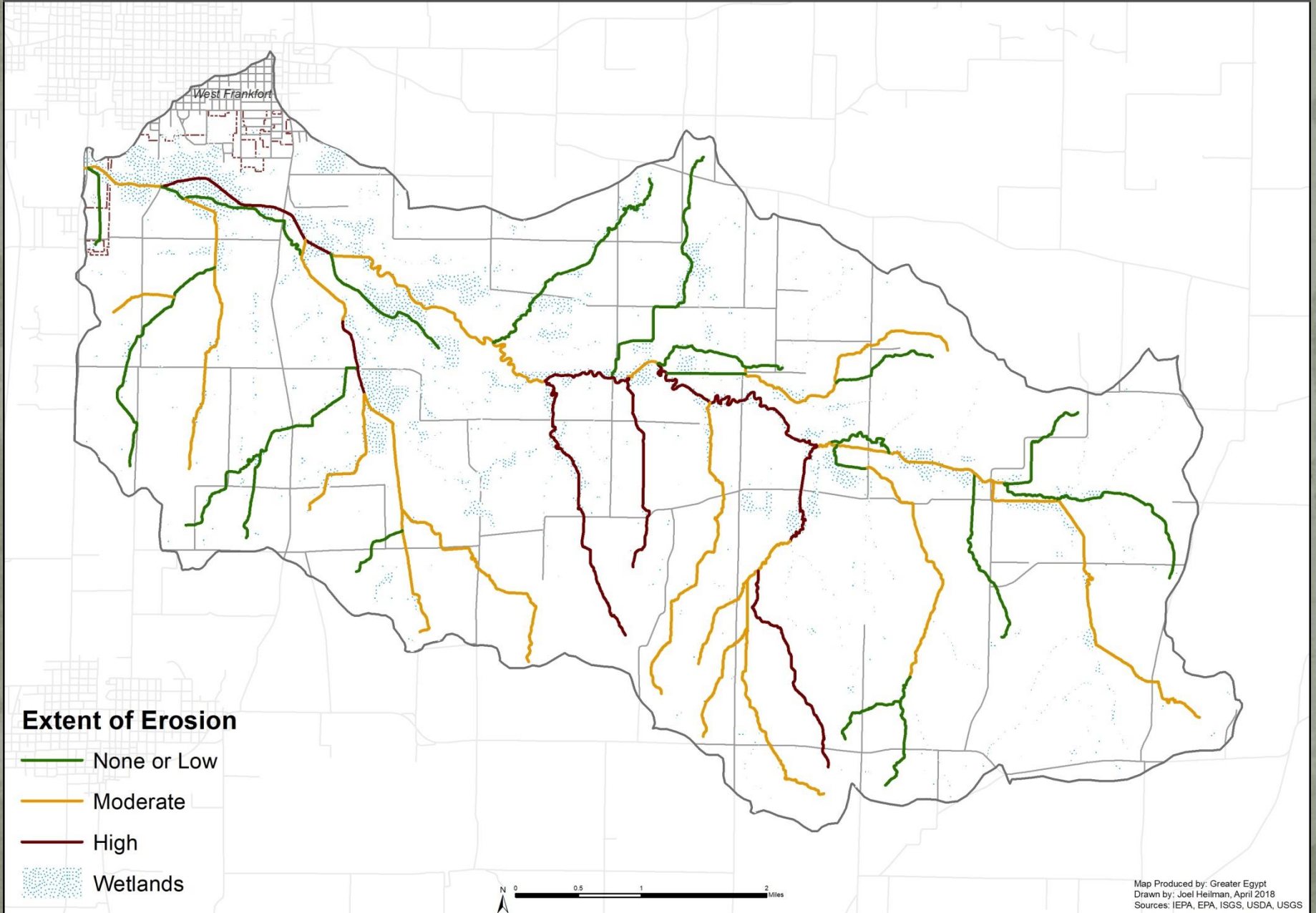
Streambank/Shoreline Stabilization Criteria



- Based on assessment (LRR)
- High Level: 50%
- Moderate Level- 25%
- None or Low- 10%
- Sediment reduction

BMP Type	Total Sediment Load Reduction (ton/year)	Total Phosphorous Load Reduction (lb/year)	Total Nitrogen Load Reductions (lb/year)
Streambank Stabilization	5,120	5,120	10,239

Pond Creek Watershed - Extent of Erosion



IV. Element C: Best Management Practices

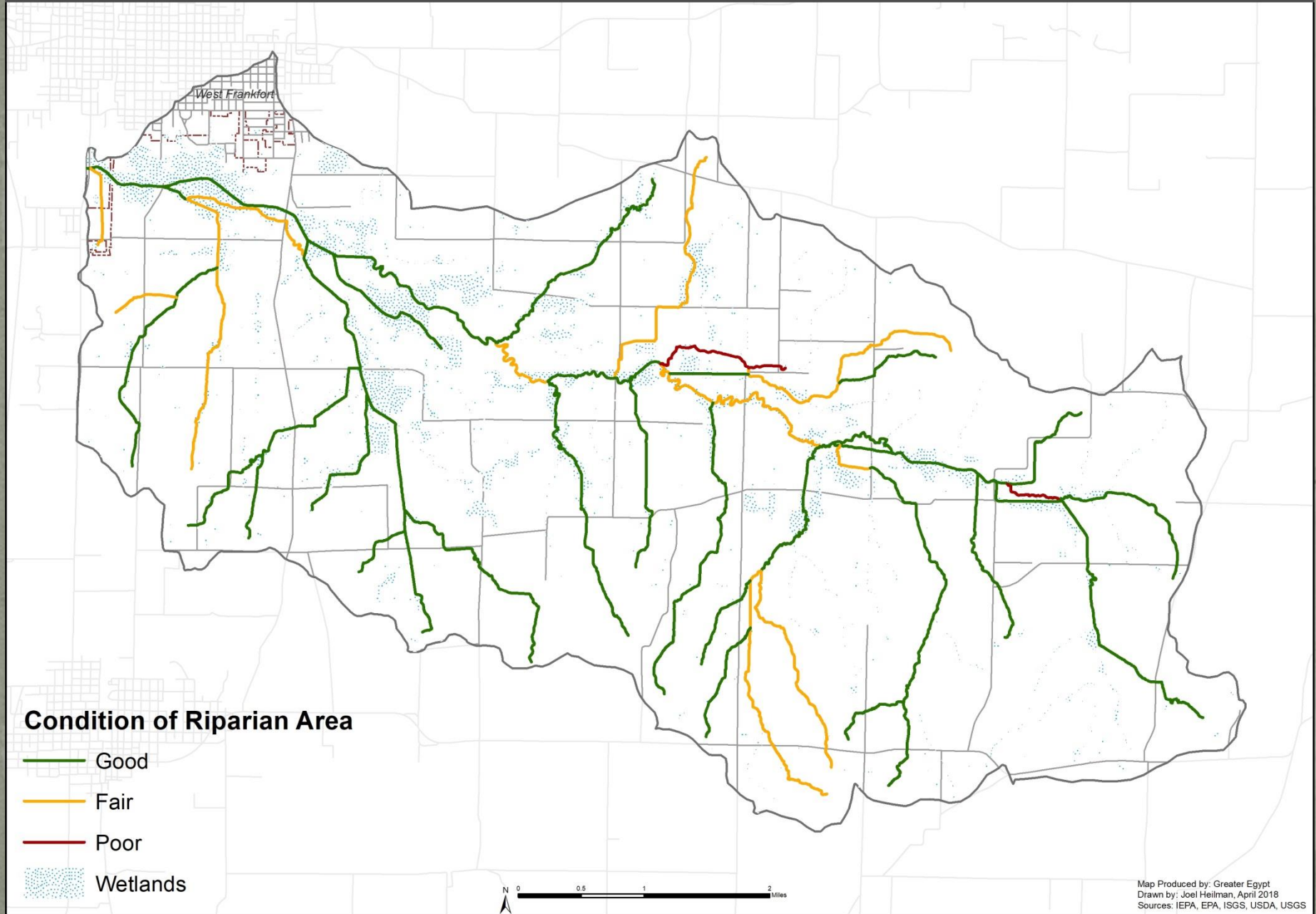
Riparian Buffer Criteria



- Based on assessment
- No tree cover
- Linked to other areas with canopy
- Intercepts nutrient runoff

BMP Type	Total Sediment Load Reduction (ton/year)	Total Phosphorous Load Reduction (lb/year)	Total Nitrogen Load Reductions (lb/year)
Riparian Buffers	10,142	11,645	21,735

Pond Creek Watershed - Condition of Riparian Area



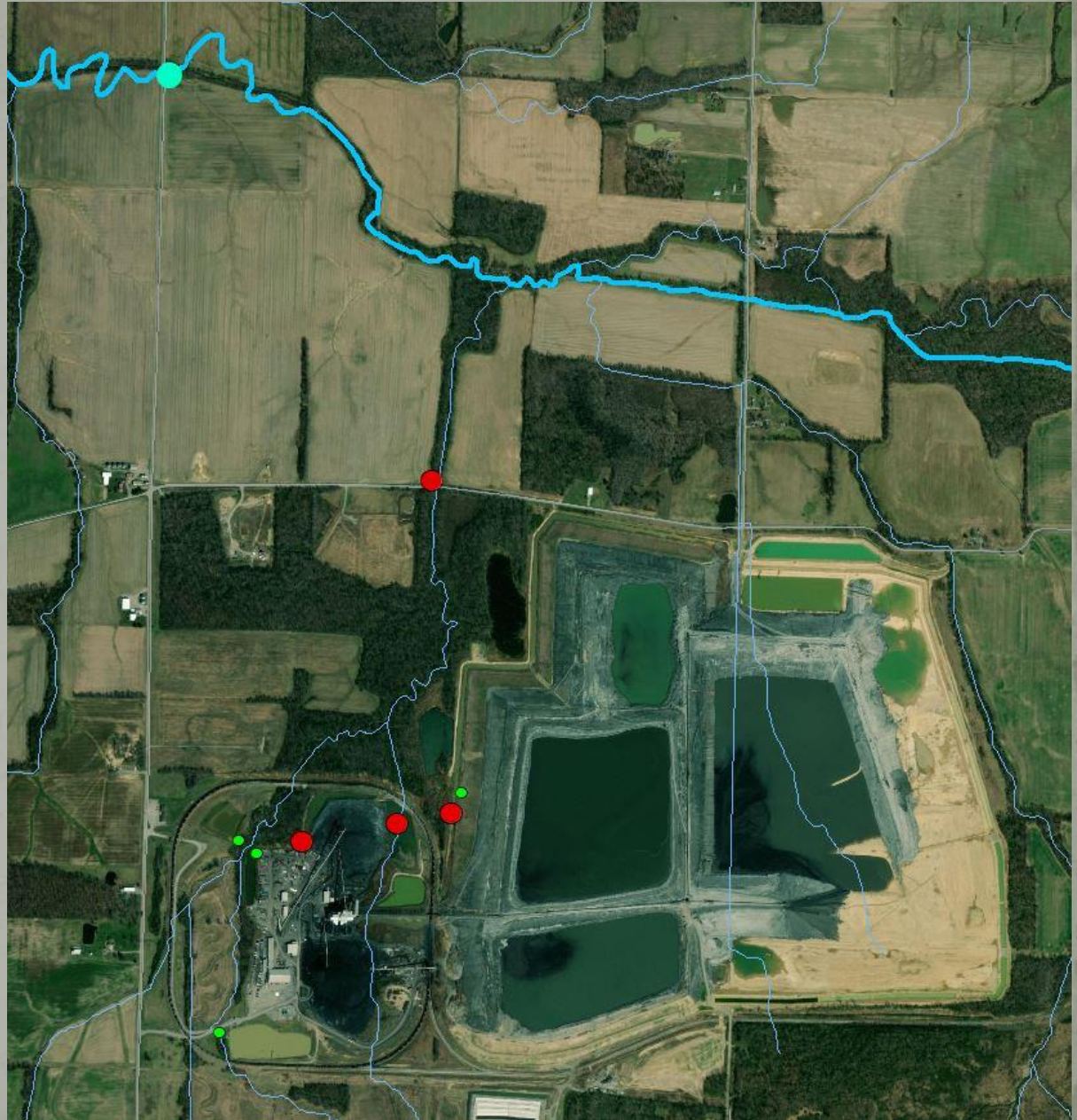
Livestock Crossings


- Limit nutrients
- Other contaminants




Chloride: Mach Mine

- IDNR Suggestion
- NPDES Permitting



 IEPA Water Quality Stations

 Chloride NPDES

NPDES Facility Type

 Mining

IV. Element C: Best Management Practices

Watershed-wide BMP

BMP Type	Total Sediment Load Reduction (ton/year)	Total Phosphorous Load Reduction (lb/year)	Total Nitrogen Load Reductions (lb/year)
Agricultural Filters	7,739	8,840	16,504
Grassed Waterways	1,973	1,973	3,945
Riparian Buffers	10,142	11,645	21,735
Streambank Stabalization	5,120	5,120	10,239
Total Load Reductions	24,974	27,578	52,423

Watershed Wide BMPs	Total Sediment Load Reduction (ton/year)	Total Phosphorous Load Reduction (lb/year)	Total Nitrogen Load Reductions (lb/year)
Conservation Tillage	4270	3420	6846
Cover Crops	4270	3420	6846
Total Load Reductions	12810	10260	20538

- Based on 10 percent of farmland

Watershed	SMU ID	Nitrogen (percent reduction)	Nitrogen Load Reduction Target (lbs)	Phosphorus (percent reduction)	Phosphorus Load Reduction Target (lbs)	Sediment (percent reduction)	Sediment Load Reduction Target (tons)
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IV. Element C: Best Management Practices

Watershed-wide BMP

Watershed Wide Ideas
Debris Removal
Livestock Exclusion/Access Zoning
Livestock Watering Facility
Rotational Grazing
Tree Planting
Wetland Construction
Live Staking

- Will be addressed in plan
- Other BMP will be included
 - Detention areas
 - Other AG BMP?

V. Element E: Technical and Financial Assistance

BMP funding and technical assistance

- BMP Funding sources
 - EPA 319 Grants
 - USDA- CRP, CREP, EQIP
 - DOT
 - Landowners, Municipalities
- BMP technical assistance
 - Contractors
 - Public Works
 - Landowners
 - Volunteers

BMP	Cost	Unit	Technical Assistance	Funding Source(s)
Agricultural Filter Strip	\$0.00-\$300	acre	Landowner, public works, NRCS	IEPA 319 Grant, FSA CRP (No cost assumes using existing vegetation, if any)
Animal Waste Control (Ordinance)	\$0.00*	site	Public Works Departments	Municipality
Bioswale	\$42.00	foot	IDOT, contractor, municipality, public works	IEPA 319 Grant
Conservation Tillage	\$33.33	acre	Landowner, public works, NRCS	NRCS EQIP, FSA CRP
Cover Crops	\$66.67	acre	Landowner, public works, NRCS	NRCS EQIP, FSA CRP
Debris Removal	\$486.00	site	Volunteers, landowners, public works, contractor	Volunteers, landowners, public works, contractor
Detention Basin	\$0.74	cubic foot	Landowner, IDOT, contractor, municipality, public works	Landowners, municipality

VI. Outreach/ Public Involvement

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

VI. Outreach/ Public Involvement

Informational Pamphlets

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.

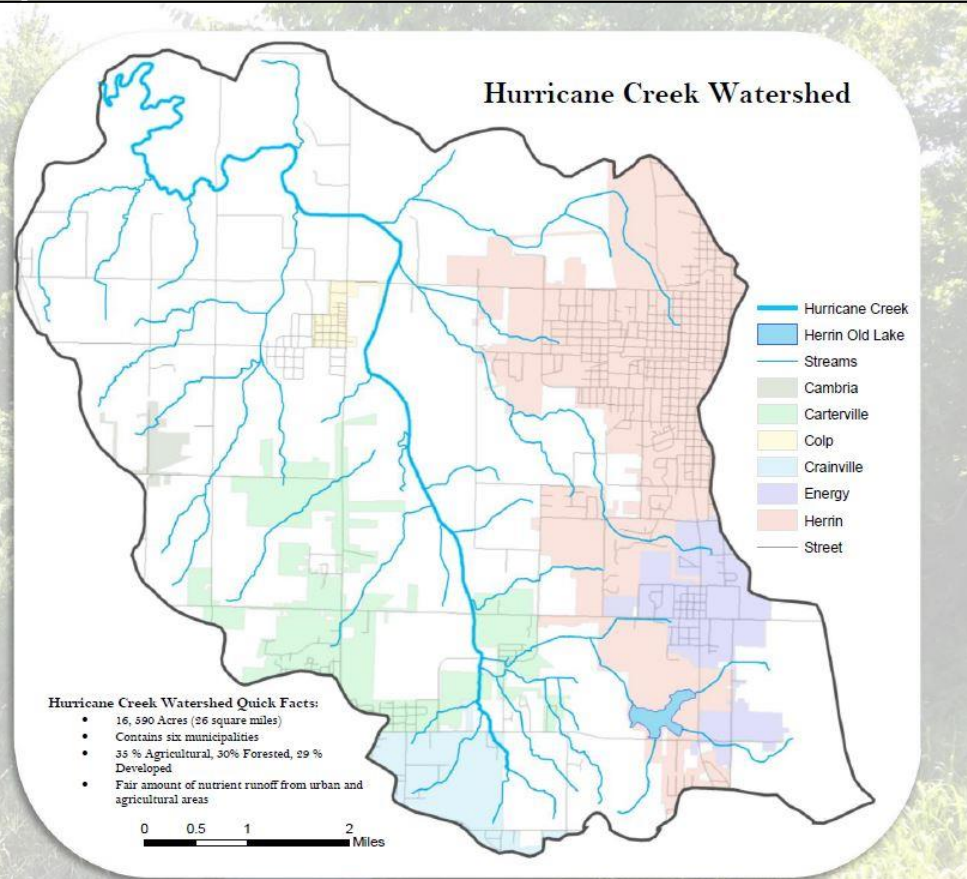
Hurricane Creek Watershed-based Plan

Planning efforts began in 2015 with the development of a watershed inventory. This characterized the watershed by defining many components such as: geography, 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 303d list of Impaired Waters. Hurricane Creek has been placed on the list because of problems with sedimentation and siltation. Herrin 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(h) funding under the Clean Water Act.



Applying for CWA Section 319(h) Funding:

Applications for grants that address nonpoint source pollution can be awarded through Section 319(h) of the Clean Water Act. Section 319(h) 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(h) 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.

VI. Outreach/ Public Involvement

Agricultural Workshops:

- Field Days/ Tours
- Workshop Focus:
 - Nutrient Management
 - Soil Health
 - Cover Crops
 - Other Practices
- Partnerships
 - Local Soil and Water Conservation Districts
 - Farm Bureaus
 - USDA- NRCS
 - Others



Source: SIU

VII. Elements F-I of the Watershed-based Plan

Remaining elements of the plan:

- Element F- Implementation schedule of BMP
- Element G- Interim measurable milestones
- Element H- Benchmarks for load reduction targets
- Element I- Monitoring strategy

VII. Elements F-I of the Watershed-based Plan

Element 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 watersheds sign 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	X
Distribute flyers for stormwater management and similar topics	X		X		X		X		X	
Hold workshops to inform public on stormwater management		X		X		X		X		
Continue researching funding and technical assistance	X	X	X							
Select site-specific BMPs for preliminary design	X	X	X							

VII. Elements F-I of the Watershed-based Plan

Element G: Interim Measurable Milestones

Interim Measurable Milestones				
Goal	Indicator	Short (2-year)	Mid (6-yr)	Long (10-yr)
Outreach and Education	Educational Brochures for Fertilizer Use	500	1000	1500
	Educational Brochures for Stormwater Management	500	1000	1500
	Lakes in Volunteer Lake Monitoring Program	1	3	-
	Number of Litter Cleanup Days	3	6	9
	Public Meetings Held	4	10	14
	Stormwater Management Workshops Held	1	3	5
Reduce/Mitigate Flooding	Detention Basins Installed	-	1	2
	Linear Feet of Stream Channel Debris Removal	150	300	600

VII. Elements F-I of the Watershed-based Plan

Element H: Benchmarks for load reduction targets

- Targets can be broken down into phases

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)	7	11527	10	2789	15	2359
10 Year (Phase III)	15	24701	25	6971	30	4718

VII. Elements F-I of the Watershed-based Plan

Element I: Monitoring strategy

- How successful are BMP?
- Should use existing federal, state, and regional programs
- Can collect data from other agencies

Monitoring Component	Phase I		Phase II				Phase III			
	1	2	3	4	5	6	7	8	9	10
Ambient Lakes Monitoring Program	X					X				
Sediment Monitoring	X		X		X		X		X	
Volunteer Lake Monitoring Program	X	X	X	X	X	X	X	X	X	X
Watershed Basin Surveys		X					X			

VIII. Projected Meeting Schedule & Other Planning Efforts

- **July 1, 2019**
 - **Pond Creek Watershed-based Plan Draft DUE**
- **July 2019**
 - **Last Public Meeting**
- **August 2019**
 - **Final Planning Meeting for Review**
- **September 1, 2019**
 - **Final Draft DUE**

Questions/Comments

Environmental Planning Department

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