

# Pond Creek Watershed Management Planning Meeting

August 20, 2019  
10:00 AM



# Agenda

- I. Welcome and Introductions
- II. Review of Planning Meetings
- III. Watershed-based Plan Draft- IEPA Comments
- IV. Nine Minimum Elements Review
- V. Projected Schedule & Future Events



# Watershed-based Plan Draft

- **Draft Submission: August 1, 2019**
- **Final Submission: September 1, 2019**
  
- **Draft Notes to IEPA**
  - Additional photos
  - General formatting
  - Update Table/Figure references in lists & text
  - Add appendices of various datasets
  - Additional BMP suggestions
  
- **IEPA Comments for Revision**
  - Make reference to manuals that further explain recommended BMPs
  - Further discuss various funding sources for recommended BMPs

## IV. Element A-B: Watershed Resource Inventory

### **Additions:**

- **Pond Creek Mine Information**
  - NPDES Permit (modifications)
  - Three new discharges (map)
  - Chloride exceedance (map)
  - Refuse Disposal Area (mixing stations)
  - Pipeline to Big Muddy River



# Pond Creek Mine (Mach Mine)- NPDES Outfalls



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



## 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
<b>Pond Creek</b>	<b>Chloride</b>	Channelization, <b>Impacts from Mines (abandoned, active), Streambank modifications/destabilization</b> , unknowns sources, <b>crop production, agriculture</b> , urban runoff/sewers	NPDES Permit reviews for Mines, Future reclamation projects, other mining BMP?
	<b>Dissolved Oxygen</b>		Minimize water flow, wetland creation, riparian areas, streambank stabilization, others in plan
	<b>Sedimentation/ Siltation</b>		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 Stabilization

## IV. Element C: Best Management Practices

### **BMP Additions**

- Contour Farming
- Critical Area Planting
- Crop Rotation
- Drainage Water Management
- Nutrient Management Planning
- Water and Sediment Control Basin
- Wetland Creation

## IV. Element C: Best Management Practices

### Site-specific BMP totals

- Agricultural Filter Strips: 22
- Grassed Waterways: 121
- Riparian Buffers: 37
- Streambank Stabilization (total feet): 105,993



## IV. Element C: Best Management Practices

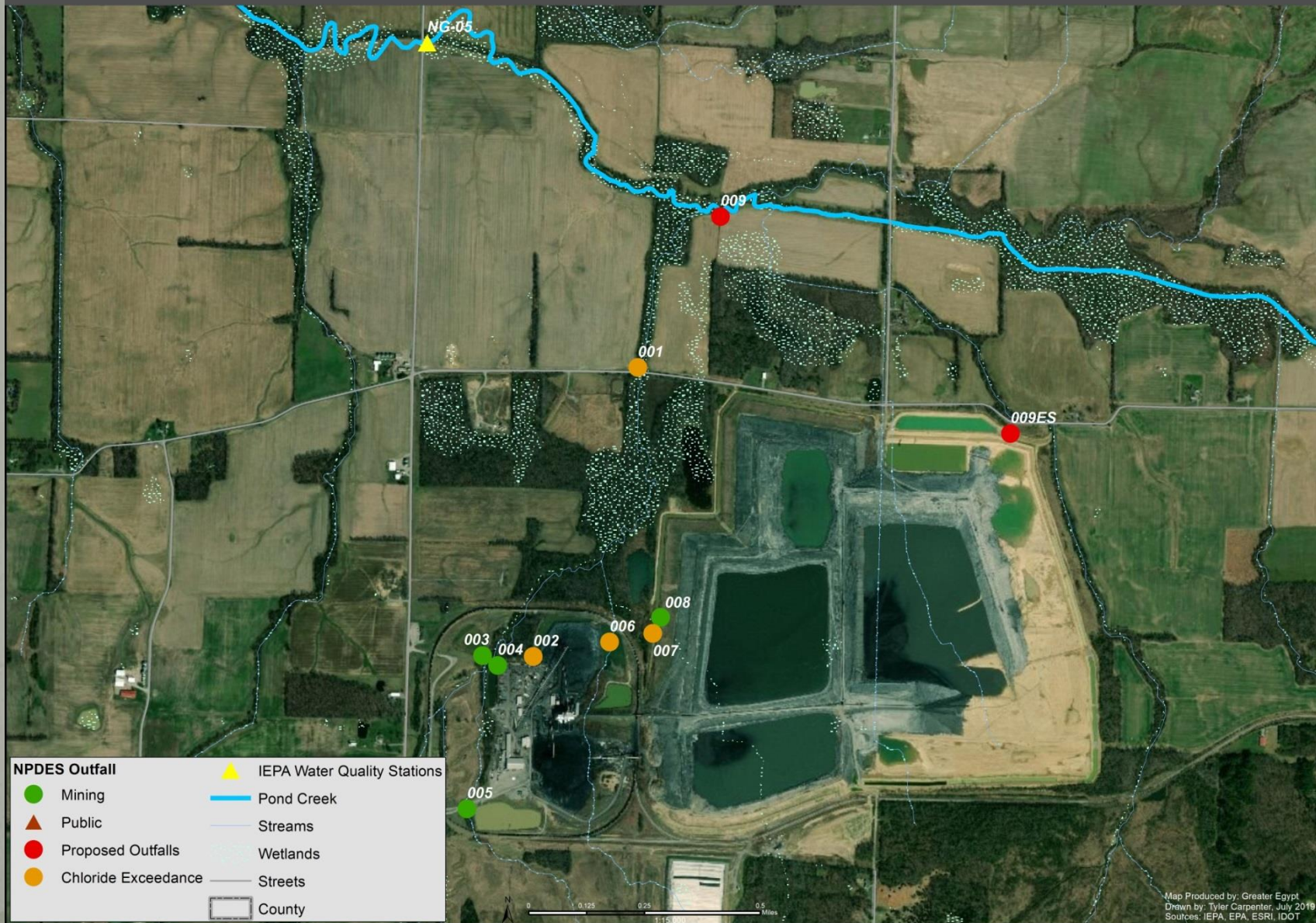
### Additional Photos for BMP Section





# Chloride: Mach Mine

## Pond Creek Mine (Mach Mine)- NPDES Outfalls



## IV. Element C: Best Management Practices

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

### Site-Specific BMP

BMP Type	Total Sediment Load Reduction (ton/year)	Total Phosphorus Load Reduction (lb/year)	Total Nitrogen Load Reductions (lb/year)
<b>Agricultural Filters</b>	3,772	4,294	8,018
<b>Grassed Waterways</b>	2,685	2,685	5,370
<b>Riparian Buffers</b>	7,727	8,861	16,538
<b>Streambank Stabilization</b>	5,120	5,120	10,239
<b>Total Load Reductions</b>	<b>19,304</b>	<b>20,960</b>	<b>40,165</b>



## IV. Element C: Best Management Practices

### Watershed Wide BMP

Watershed Wide BMPs	Amount	Unit	Load Reductions- lbs/ yr (N, P) ton/yr- (Sediment)		
			N	P	Sediment
Contour Farming	321	acre	270	135	161
Cover Crops	642	acre	504	252	295
Critical Area Planting	321	acre	270	135	161
Crop Rotation	321	acre	270	135	161
Debris Removal	-	-	-	-	-
Dikes	-	-	-	-	-
Drainage Water Management	1,285	acre	918	459	528
Livestock Crossing	-	-	-	-	-
No-Till	642	acre	504	252	295
Nutrient Management Plan	1,285	acre	918	459	528
Pasture/Hayland Planting	321	acre	270	135	161
Streambank Stabilization*	105,652	feet	10,239	5,120	5,120
Strip Cropping	321	acre	270	135	161
Strip-Till	642	acre	504	252	295
Terrace	321	acre	270	135	161
Water and Sediment Control Basin	25	unit	833	833	1,665
Wetland Creation	-	-	-	-	-
		<b>TOTALS:</b>	<b>16,040</b>	<b>8,436</b>	<b>9,692</b>
			N	P	Sediment

## IV. 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	\$176.23	acre	Farm Bureau, Landowner, NRCS, SWCD	IEPA 319, NRCS, USDA
Agricultural Management Workshop	\$1,950.00	workshop	Planning Commission, Farm Bureau, NRCS, USDA, SWCD	IEPA 319
Contour Farming	\$7.44	acre	NRCS, USDA	IEPA 319, NRCS, USDA
Cover Crops	\$85.24	acre	Farm Bureau, NRCS, USDA, SWCD	IEPA 319, NRCS, USDA
Critical Area Planting	\$184.95	acre	NRCS, USDA	IEPA 319, NRCS, USDA
Crop Rotation	\$14.90	acre	Farm Bureau, NRCS, USDA	NRCS, USDA
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

## IV. Element E: Technical and Financial Assistance

### Additions:

#### USDA

- Agricultural Conservation Easement program (ACEP)
- Conservation Stewardship Program
- Farmable Wetlands Program (Formerly Wetland Reserve Program)

#### Illinois Department of Agriculture

- Conservation Practices Program (CPP)
- Well Decommissioning Program (WDP)
- Streambank Stabilization and Restoration (SSRP)
- Nutrient Management Program (NMP)
- Vegetative Filter Strip Assessment Law



## IV. Element E: Technical and Financial Assistance

### Additions:

#### IDNR

- Open Space Lands Acquisition & Development (OSLAD)
- Land & Water Conservation Programs

#### IEPA

- Water Pollution Control Loan Program (WPCLP)

## IV. Element E: 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**
- **Post Pond Creek watershed signs**
- **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**
  - Agricultural workshops

## IV. 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



## IV. Elements F-I of the Watershed-based Plan

### Element F: Implementation Schedule

Implementation Schedule										
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							
Submit grant applications based on BMP in plan		X	X	X	X	X	X	X		
Meet with landowners to review BMP in plan	X	X	X	X	X	X	X	X		
Implement and execute BMP			X	X	X	X	X	X	X	X
Monitor BMP implementation				X	X	X	X	X	X	X
Announce success of plan implementation					X	X	X	X	X	X

## IV. 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)
<b>Outreach and Education</b>	Educational Brochures for Stormwater Management	500	1000	1500
	Educational Brochures for Agricultural Management	500	1000	1500
	Electronics Drive	1	2	3
	Number of Litter Cleanup Days	3	6	9
	Public Meetings Held	4	10	14
	Agricultural Management Workshops Held	1	3	5
<b>Reduce/Mitigate Flooding</b>	Detention Basin	-	-	1
	Infiltration Basins	-	1	1

## IV. 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)	Phosphorus (percent)	Phosphorus (lbs)	Sediment (percent)	Sediment (tons)
<b>2 Year (Phase I)</b>	-	-	-	-	-	-
<b>6 Year (Phase II)</b>	6	134,850	10	43,794	10	26,562
<b>10 Year (Phase III)</b>	15	337,127	25	109,484	25	66,405





## V. Projected Schedule & Future Events

- **September 1, 2019**
  - **Final Draft Due**
- **Approval Process**
- **Grant Administration**

# IEPA #604172 Grant Components

- **Pond Creek Watershed-based Plan**
  - Pond Creek Watershed Resource Inventory
  - Pond Creek Watershed-based Plan
  - Executive Summary
- **Stormwater Management Education Materials**
  - Carbondale Urbanized Area Stormwater Management Brochure/  
Poster
  - Stormwater Management Workshop
    - Rain Garden Workshop (September 14, 2019)
  - Stormwater Management Webpage and Mapping Service



# Questions/Comments

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