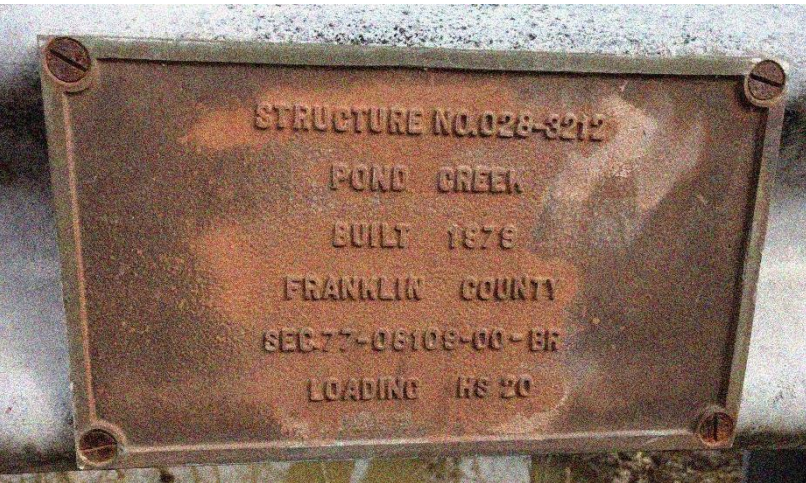


Pond Creek

Watershed-based Plan

Executive Summary



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Pictured on cover (clockwise from top): Watershed Wetland, Pond Creek, Mach Mine, Pond Creek Farm, Pond Creek Bridge Identification Plate (photos by Greater Egypt)

Executive Summary

Beginning in the latter part 2017, the Greater Egypt Regional Planning and Development Commission (Greater Egypt) was contracted by the Illinois Environmental Protection Agency (IEPA) to develop a watershed-based plan for the Pond Creek Watershed (071401060501) under Clean Water Act Section 604(b) funding.

The Pond Creek watershed encompasses 21,192 acres, or roughly 33 square miles, and is located in Franklin and Williamson counties in Illinois. It is part of the larger Big Muddy River watershed. The only municipality in the planning area is the City of West Frankfort; which lies entirely in Franklin County (Figure 1).

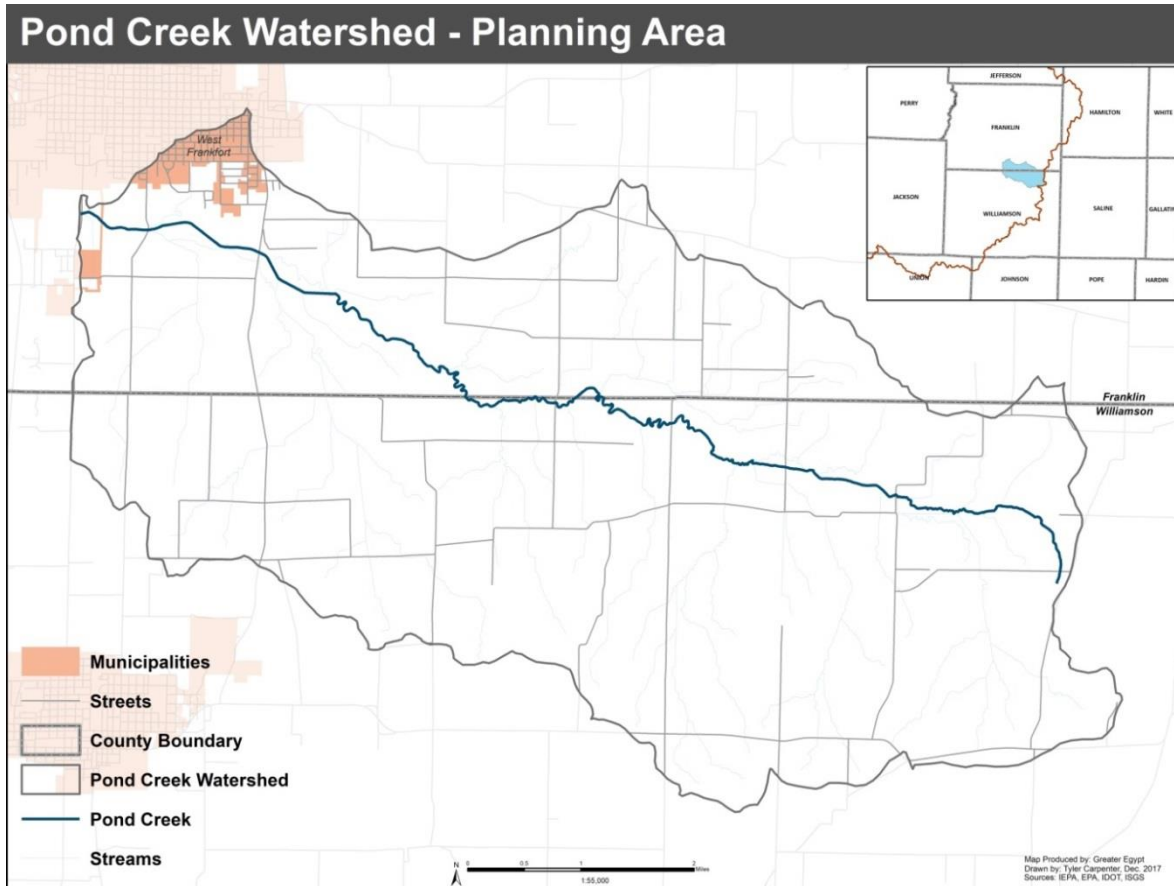
One waterbody in the watershed has been placed on the Illinois Environmental Protection Agency's 303(d) List of Impaired Waters. This list is comprised of waterbodies that do not meet water quality standards. Pond Creek (IL_NG-02) has been placed on the list for impairments of: chloride, dissolved oxygen and sedimentation/siltation. The impaired designated use for all three causes is aquatic life.

Following the submission of the *Pond Creek Watershed Inventory and Assessment*, an initial stakeholder meeting was held in 2018 to gain awareness of planning efforts, and to garner membership for the Pond Creek Watershed Planning Committee. The group convened on a quarterly basis and provided guidance throughout the plan. This included discussing existing knowledge of the watershed and suggesting best management practices (BMP) for the plan. The success of the plan relies heavily on the continuation of public involvement. This includes overseeing implementation of the plan and monitoring progress.

Land use in the watershed is represented by large areas of agriculture and forest. Agriculture in the watershed is composed of 35.37 percent of pasture and hay and 30.32 percent of cultivated crops. Forested areas represent 24.72 of the watershed. Remaining land uses in the watershed include: various categories of developed land (6.93), open water (1.09 percent) and wetlands (1.08 percent). With almost 66 percent of the watershed being classified as agriculture, there is a

high potential for nutrient runoff. This is exemplified by areas of cropland that are adjacent to Pond Creek.

Figure 1-Planning Area



While impervious surfaces in the watershed are low, the West Frankfort area constitutes the largest portion of the watershed’s impervious network. The watershed exhibits around seven percent of imperviousness features (10 percent or more impervious surface).

The Spreadsheet Tool for Estimating Pollutant Loads (STEPL) was utilized to generate existing pollutant loads for the Pond Creek watershed and its subwatersheds. While the program produces general estimates, the baseline data was generated from multiple factors including: land use, climatic indicators, agriculture, septic rates, urban runoff, and streambank erosion using lateral recession rates. In the Pond Creek Watershed, estimated pollutant loads are influenced heavily by agricultural areas (see Table 1).

Table 1- Existing 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	2510.17	1.12%	1183.7	2.70%	193.97	0.73%
Groundwater	28589.45	12.72%	1278.18	2.92%	0	0.00%
Streambank	10415.9	4.63%	4010.12	9.16%	6509.94	24.51%
Total	224751.4		43793.88		26561.99	

Pollutant load reduction targets were also generated for major pollutants. A reduction of nitrogen at 15 percent, phosphorus at 25 percent, and sediment reduction of 25 percent were calculated for the plan. Target goals are consistent with the Illinois Nutrient Loss Reduction Strategy (ILNLRs).

To achieve the target goals, BMPs were suggested in regards to the major nutrient contributor in the watershed, agricultural practices. While the plan addresses watershed-wide practices, site-specific BMPs have also been established to manage agricultural pollutants and other impairments on a localized level.

These management efforts confront the impairments of the various waterbodies in the Pond Creek watershed. Some of the measures include: streambank stabilization, agricultural filter strips, and grassed waterways. They have also been categorized by priority based on feasibility, cost, and pollutant load reductions.

The plan incorporates the nine minimum elements required of a watershed-based plan. These elements include: a characterization of the watershed through a resource inventory and assessment to identify nonpoint source pollution, identification of management measures to address those pollutants, identifying funding and technical assistance, an educational component, and a monitoring and evaluation component to track progress and monitor accomplishments.

Funding will mainly come through EPA Clean Water Act Section 319 grants. Most of the BMPs in the plan are eligible to receive funding through these grants since their focus is reducing nonpoint source pollution.

Outreach and education of watershed-related activities are important in promoting awareness of the plan and progression of plan implementation. Some of the outreach components include: holding public meetings, distributing flyers about the plan and agricultural activities, and locating volunteers for litter and debris cleanups.

Implementation of the plan is divided into three phases. Phase I represents the first two years of the plan where most educational and outreach component are implemented; along with selecting site-specific BMPs for grant funding. Phase II will require the watershed action committee to continue submitting grants and starting implementation of BMPs. Phase III represents the last four years of the planning period in which BMP implementation will continue and evaluating the plan will begin.

Interim measurable milestones, water quality benchmarks, and a monitoring component have also been established to track progress and evaluate the success of the plan. Table 2 represents the water quality benchmarks in the plan which focuses on nitrogen, phosphorus, and sediment.

Table 2- Water Quality Benchmarks

Benchmark Period	Benchmark Reduction Target					
	Nitrogen (percent)	Nitrogen (lbs)	Phosphorus (percent)	Phosphorus (lbs)	Sediment (percent)	Sediment (tons)
2 Year (Phase I)	-	-	-	-	-	-
6 Year (Phase II)	6	134,850	10	43,794	10	26,562
10 Year (Phase III)	15	337,127	25	109,484	25	66,405

The monitoring component of the plan features programs offered by IEPA and the Illinois Department of Natural Resources (IDNR). The Ambient Water Quality Monitoring Network (AWQMN) and the Intensive River Basin Surveys are both ways in which water quality can be tested. Results will be analyzed by the watershed action committee to determine success of BMP implementation and the plan itself.

