



**GREATER EGYPT**

REGIONAL PLANNING & DEVELOPMENT COMMISSION

# **KINKAID CREEK**

**WATERSHED-BASED PLAN**

**Executive Summary**

## Executive Summary

Beginning in the latter part 2019, 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 Kinkaid Creek Watershed (0714010611) under Clean Water Act Section 604(b) funding.

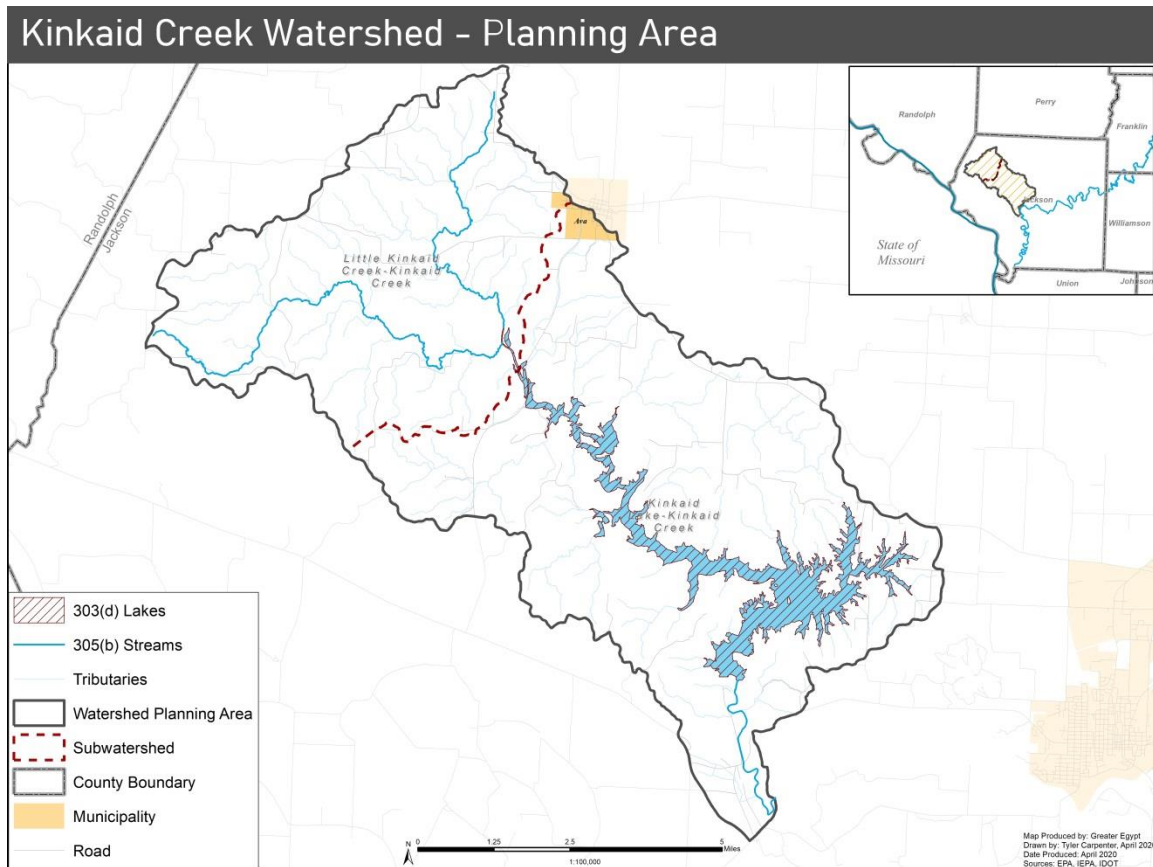
The Kinkaid Creek watershed encompasses nearly 41,225 acres, or roughly sixty-four square miles, and is located in Jackson County, Illinois. It is part of the larger Big Muddy River watershed. The only municipality in the planning area is a small portion of the Village of Ava.

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. Kinkaid Lake (IL\_RNC) has been placed on the list for impairments from mercury. The impaired designated use for mercury is fish consumption.

Following the submission of the *Kinkaid Creek Watershed Inventory and Assessment*, an initial stakeholder meeting was held in 2020 to gain awareness of planning efforts, and to garner membership for the Kinkaid 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. Forested areas in the watershed compose over sixty percent of the total land cover (25,300 acres). Pasture/Hay represents 17.6 percent of the land area (7,260 acres) while Cultivated Crops makes up nearly ten percent at 4,050 acres. Open water in the watershed comprises six percent of the land area (2,500 acres).

Figure 1-Planning Area



While impervious surfaces in the watershed are low, the Ava and marina areas constitute the largest portion of the watershed’s impervious network. The watershed exhibits around four percent of imperviousness features (10 % or more impervious surface).

The Spreadsheet Tool for Estimating Pollutant Loads (STEPL) was utilized to generate existing pollutant loads for the Kinkaid 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 Kinkaid Creek Watershed, estimated pollutant loads are influenced heavily by agricultural areas (see *Table 1*).



Table 1- Existing Pollutant Loads

Sources	N Load (lb/yr)	Percent of Total N Load	P Load (lb/yr)	Percent of Total P Load	Sediment Load (t/yr)	Percent of Total Sediment Load
Urban	11832.9	5.95%	1820.9	4.39%	272.0	0.77%
Cropland	43772.4	22.02%	13645.4	32.90%	9266.0	26.36%
Pastureland	46777.5	23.54%	6789.5	16.37%	3307.7	9.41%
Forest	7371.0	3.71%	3353.0	8.08%	903.6	2.57%
Streambank	34245.3	17.23%	13184.4	31.79%	21405.9	60.89%
Groundwater	54740.8	27.54%	2681.4	6.47%	0.0	0.00%
<b>Total</b>	<b>198739.8</b>	-	<b>41474.6</b>	-	<b>35155.1</b>	-

Pollutant load reduction targets were also generated for major pollutants. A reduction of nitrogen at fifteen percent, phosphorus at twenty-five percent, and sediment reduction of twenty-five 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 Kinkaid 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 the reduction of 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 Targets					
	Nitrogen (percent)	Nitrogen (lbs)	Phosphorus (percent)	Phosphorus (lbs)	Sediment (percent)	Sediment (tons)
<b>2 Year (Phase I)</b>	-	-	-	-	-	-
<b>6 Year (Phase II)</b>	7	139,118	10	41,475	10	35,155
<b>10 Year (Phase III)</b>	15	298,110	25	103,688	25	87,888

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.

