

Kinkaid Creek Watershed Planning Committee

June 9, 2022
10:00 AM



Agenda

1. Welcome and Introductions
2. Review of Previous Meetings
3. Watershed-based Plan Draft
4. Review of Watershed-based Plan – Elements of Plan
 - A. Identification of Causes and Impairments
 - B. Estimate Load Reductions from Management Measures
 - C. Nonpoint Source Measures
 - D. Technical and Financial Assistance
 - E. Education/Outreach Component
 - F. Implementation Schedule
 - G. Interim Milestones
 - H. Measuring Progress
 - I. Monitoring Component
5. Future Planning Schedule
6. Adjourn

Review of Previous Meetings

- **Nine Minimum Elements of a Watershed-based Plan**
- **Kinkaid Creek Watershed Inventory & Assessment**
- **Concerns within the watershed**
 - 303(d) waterbodies
 - Impairments
 - Pollutant Loads
- **Preliminary Goals**
- **Load Reduction Targets**
- **Best Management Practices**
- **Public Meetings**

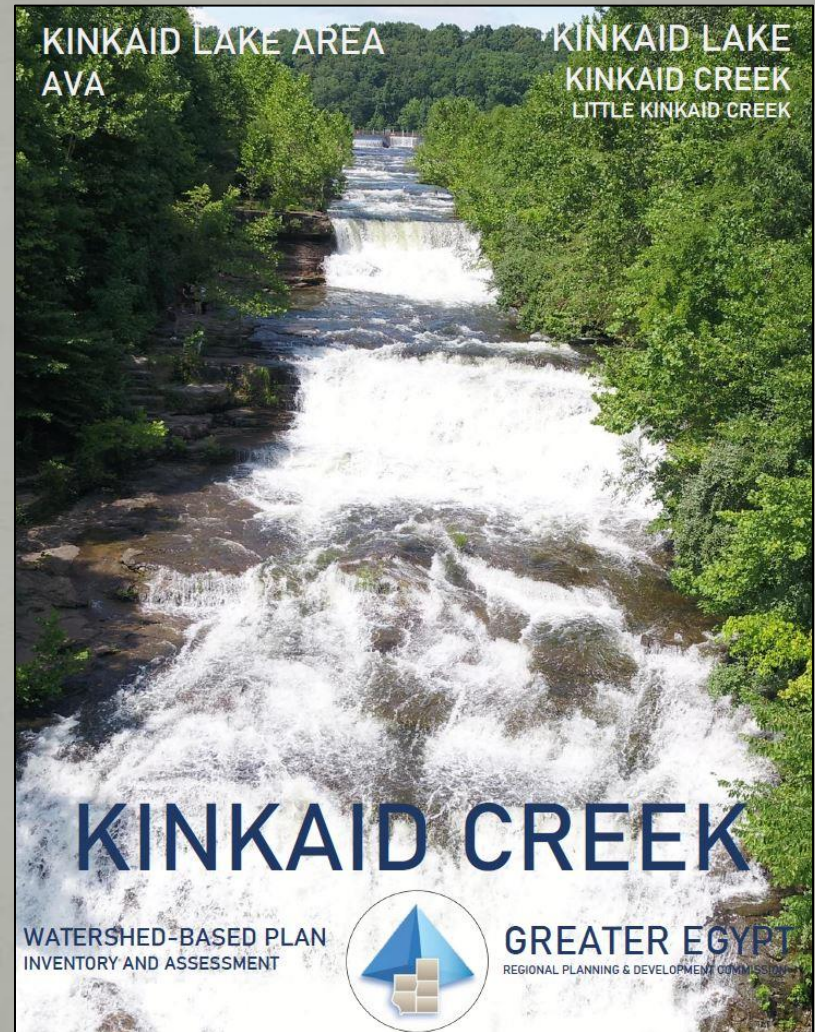
Kinkaid Creek Watershed-based Plan Draft

- Estimated IEPA Submission: June 30, 2022
- Draft Plan for Planning Team: June 10, 2022
- Planning Partners
 - Review Document
 - Management Measures
 - Education/Outreach
 - Applications
- New Sections: Climate Change, Dam Safety, Past and Ongoing projects

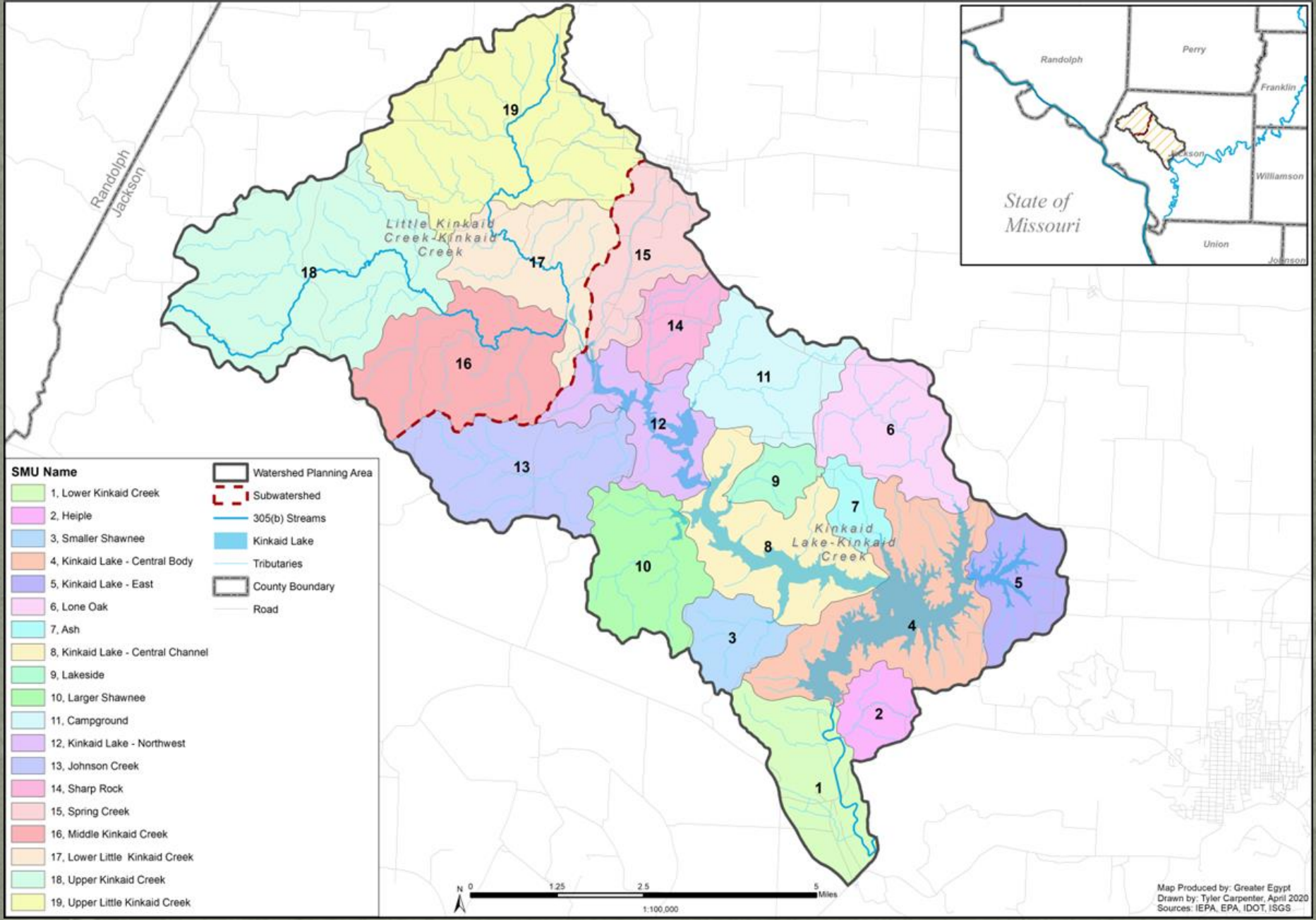
Element A – Causes and Impairments

Watershed Resource Inventory

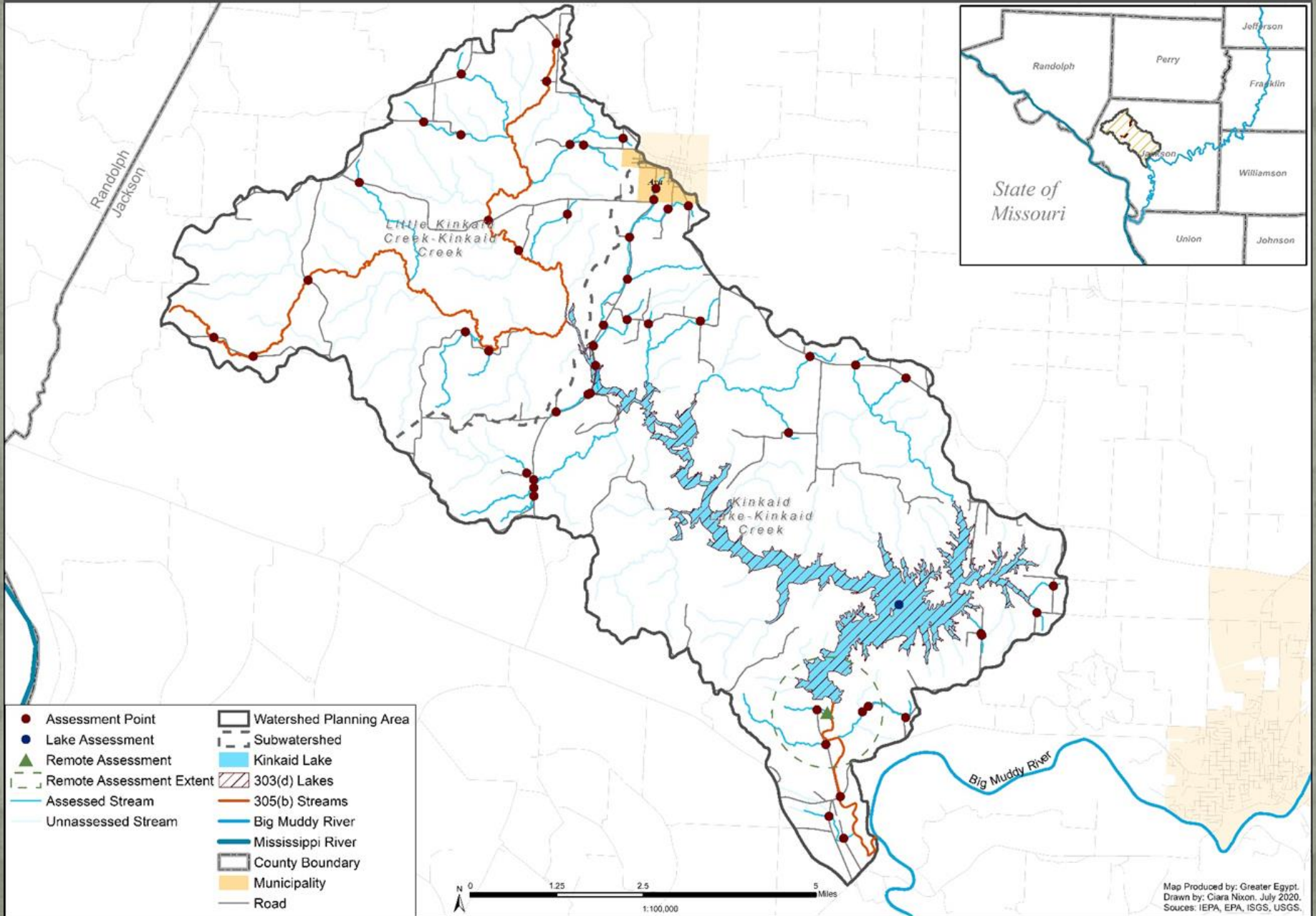
- Documentation of existing conditions in the watershed and subwatersheds
- Inventory and assessment of components such as: geographic boundaries, land use, and drainage
- Field assessment of erosion, riparian areas, and channelization



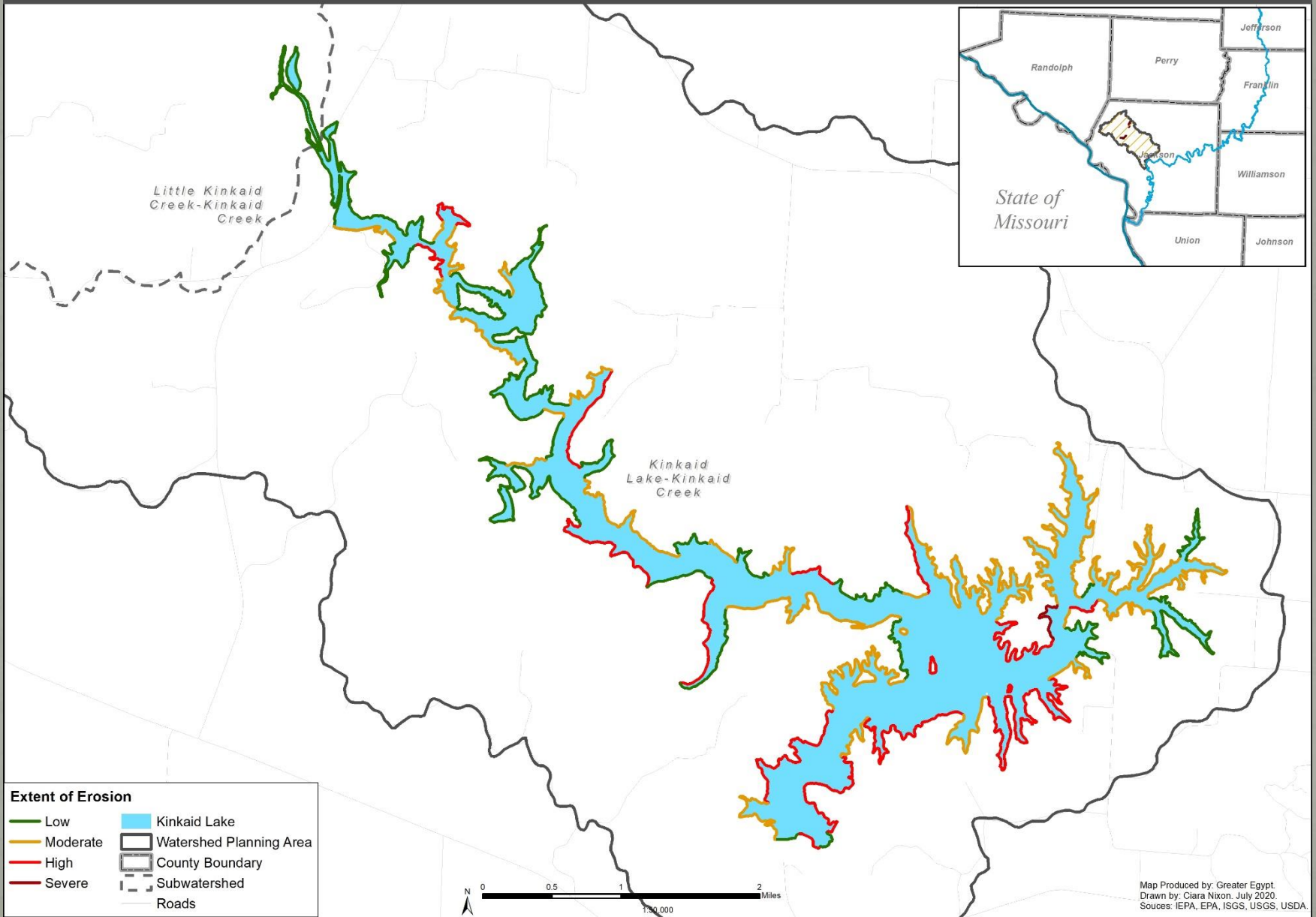
Kinkaid Creek Watershed - Subwatershed Management Units



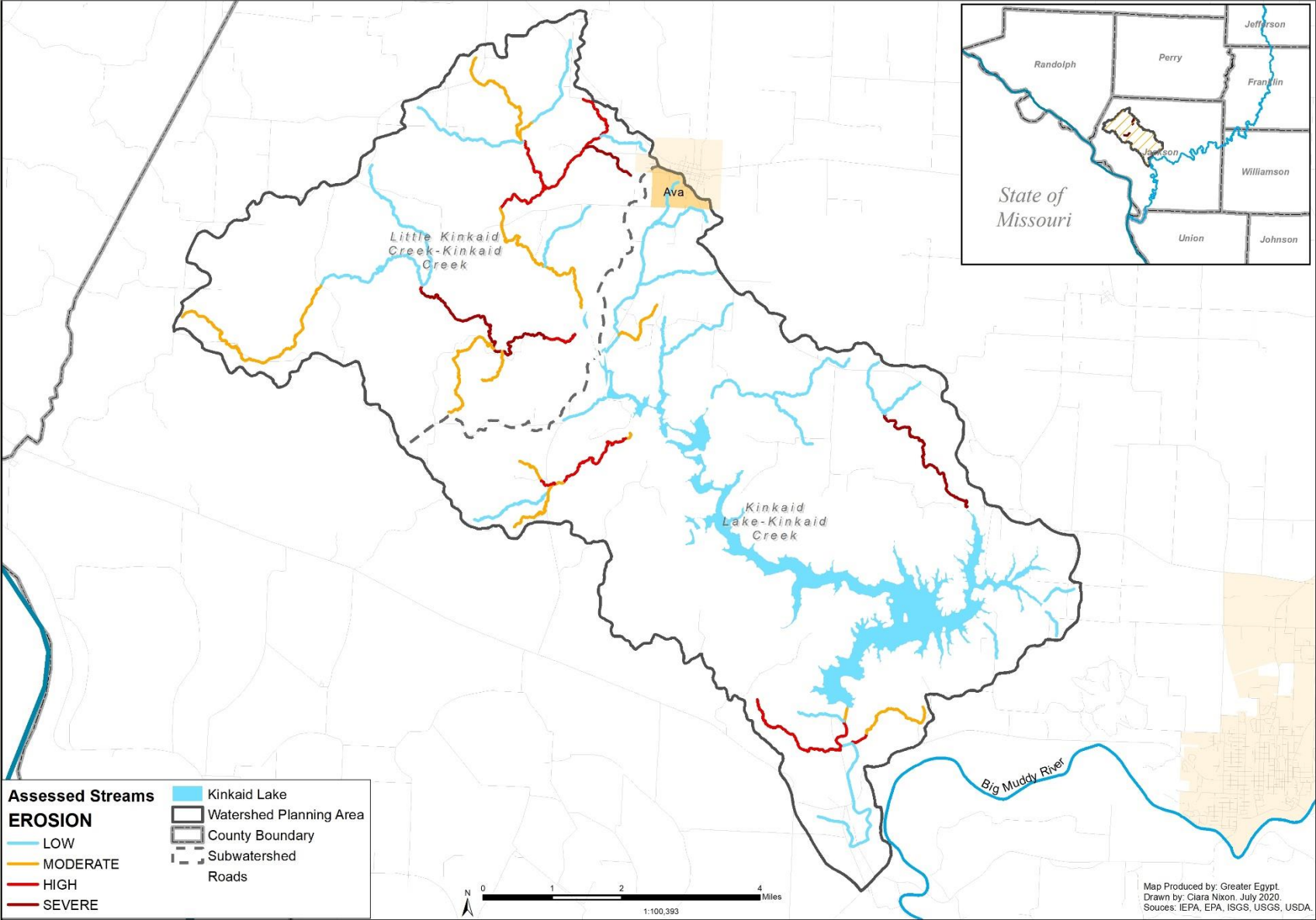
Kinkaid Creek Watershed Planning Area - Assessed Waterbodies



Kinkaid Lake - Erosion Assessment



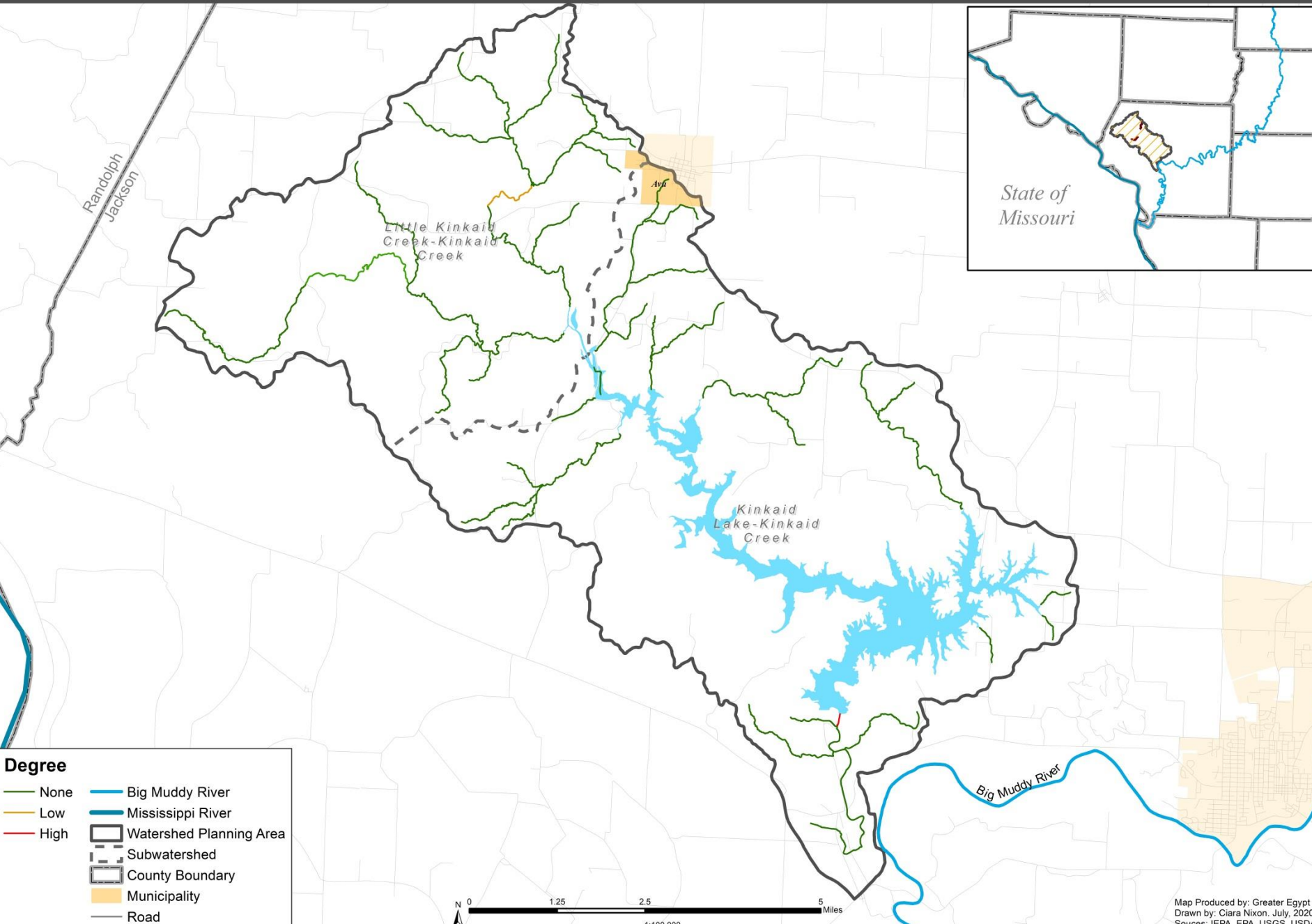
Kinkaid Creek Watershed - Stream Erosion Assessment



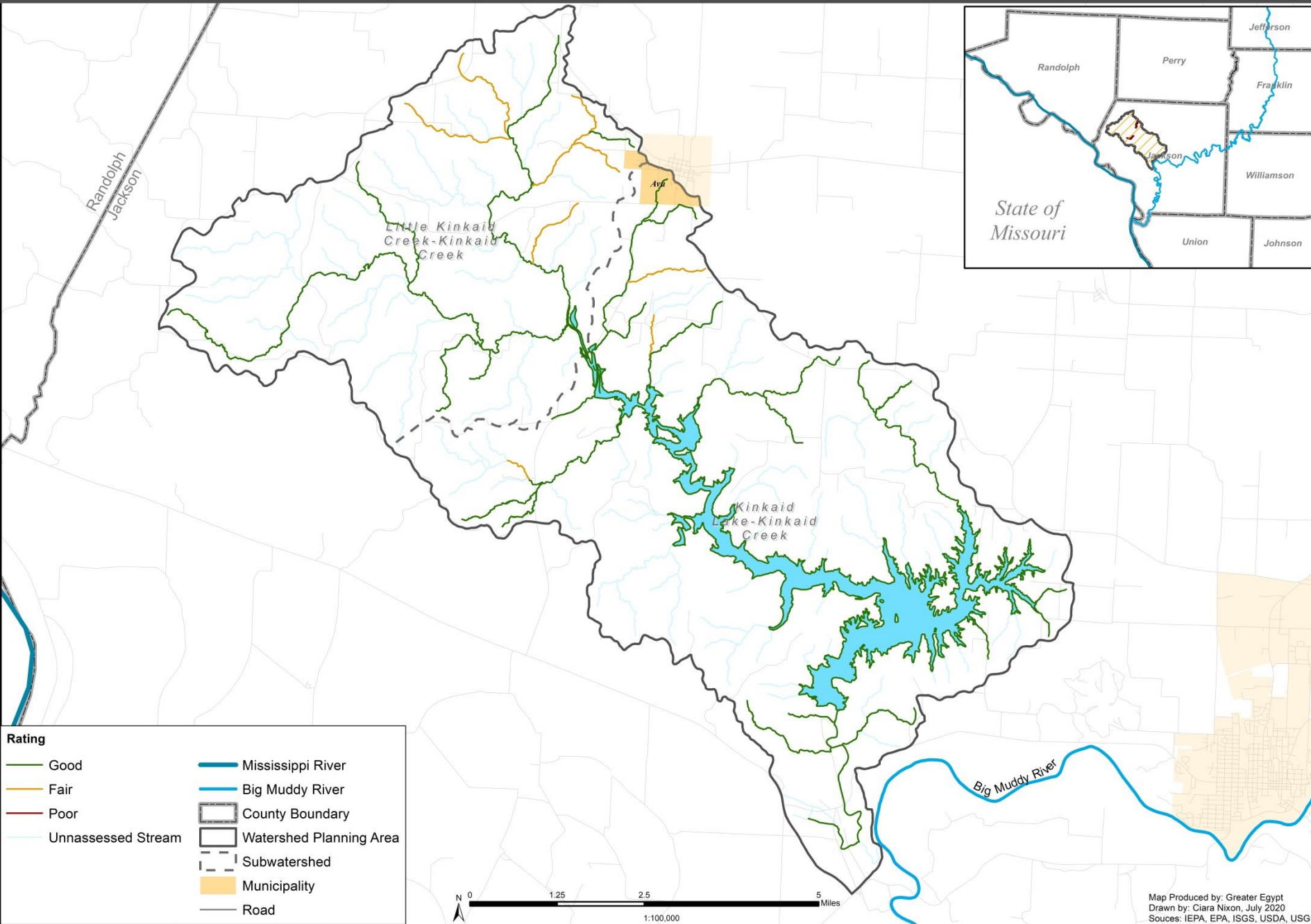




Kinkaid Creek Watershed Planning Area - Degree of Channelization



Kinkaid Creek Watershed Planning Area - Riparian and Littoral Condition



Rating

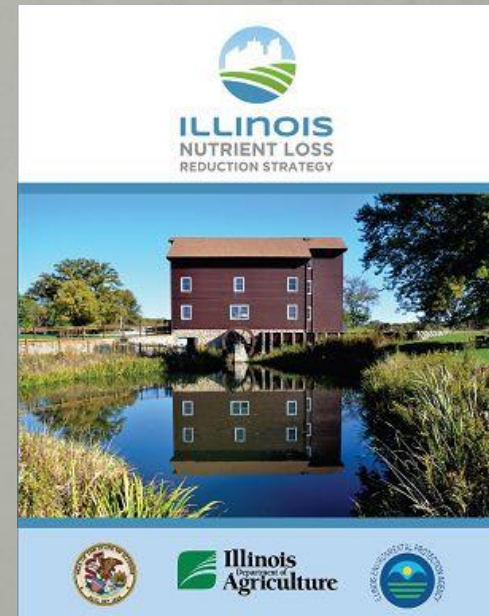
- Good
- Fair
- Poor
- Unassessed Stream
- Mississippi River
- Big Muddy River
- County Boundary
- Watershed Planning Area
- Subwatershed
- Municipality
- Road



Element A – Causes and Impairments

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
- 25% reduction in phosphorus load (2025)
- 15% reduction in nitrate-nitrogen load (2025)
- Eventual goal is 45% for both nutrients



Element A – Causes and Impairments

Estimated Pollutant Loads

Source	N Load (lb/yr)	Percent of Total Load	P Load (lb/yr)	Percent of Total Load	Sediment Load (t/yr)	Percent of Total Load
Urban	11,832.90	6.0%	1,820.90	4.4%	272	0.8%
Cropland	43,772.40	22.0%	13,645.40	32.9%	9,266.00	26.4%
Pastureland	46,777.50	23.5%	6,789.50	16.4%	3,307.70	9.4%
Forest	7,371.00	3.7%	3,353.00	8.1%	903.6	2.6%
Streambank	34,245.30	17.2%	13,184.40	31.8%	21,405.90	60.9%
Groundwater	54,740.80	27.5%	2,681.40	6.5%	0	0.0%
Total	198,739.8	-	414,74.6	-	35,155.1	-

Subwatershed	N Load	Percent of Total N Load	P Load	Percent of Total P Load	Sediment Load	Percent of Total Sediment Load
Little Kinkaid Creek- Kinkaid Creek	87,549.9	44.1%	16,604.6	40.0%	13,176.0	37.5%
Kinkaid Lake- Kinkaid Creek	111,189.9	55.9%	24,870.0	60.0%	21,979.1	62.5%
Total	198,739.8	-	41,474.6	-	35,155.1	-

Element B – Estimate Load Reductions

	Nitrogen (percent of total)	Nitrogen Load Reduction Target	Phosphorus (percent of total)	Phosphorus Load Reduction Target	Sediment (percent of total)	Sediment Load Reduction Target
Kinkaid Creek	15%	29,811.0	25%	10,368.7	25%	8,788.8
Subwatershed Load Reduction Targets						
Little Kinkaid Creek- Kinkaid Creek	44.05%	13,132.5	40.04%	4,151.1	37.48%	3,294.0
Kinkaid Lake- Kinkaid Creek	55.95%	16,678.5	59.96%	6,217.5	62.52%	5,494.8
Total	-	29,811.0	-	10,368.7	-	8,788.8

Element C – Nonpoint Source Measures

Watershed-wide Practices

- Agriculture

- Conservation Cover
- Cover Crops
- Filter Strips
- Nutrient Management
- No Till
- Strip Till

- Forest (USFS)

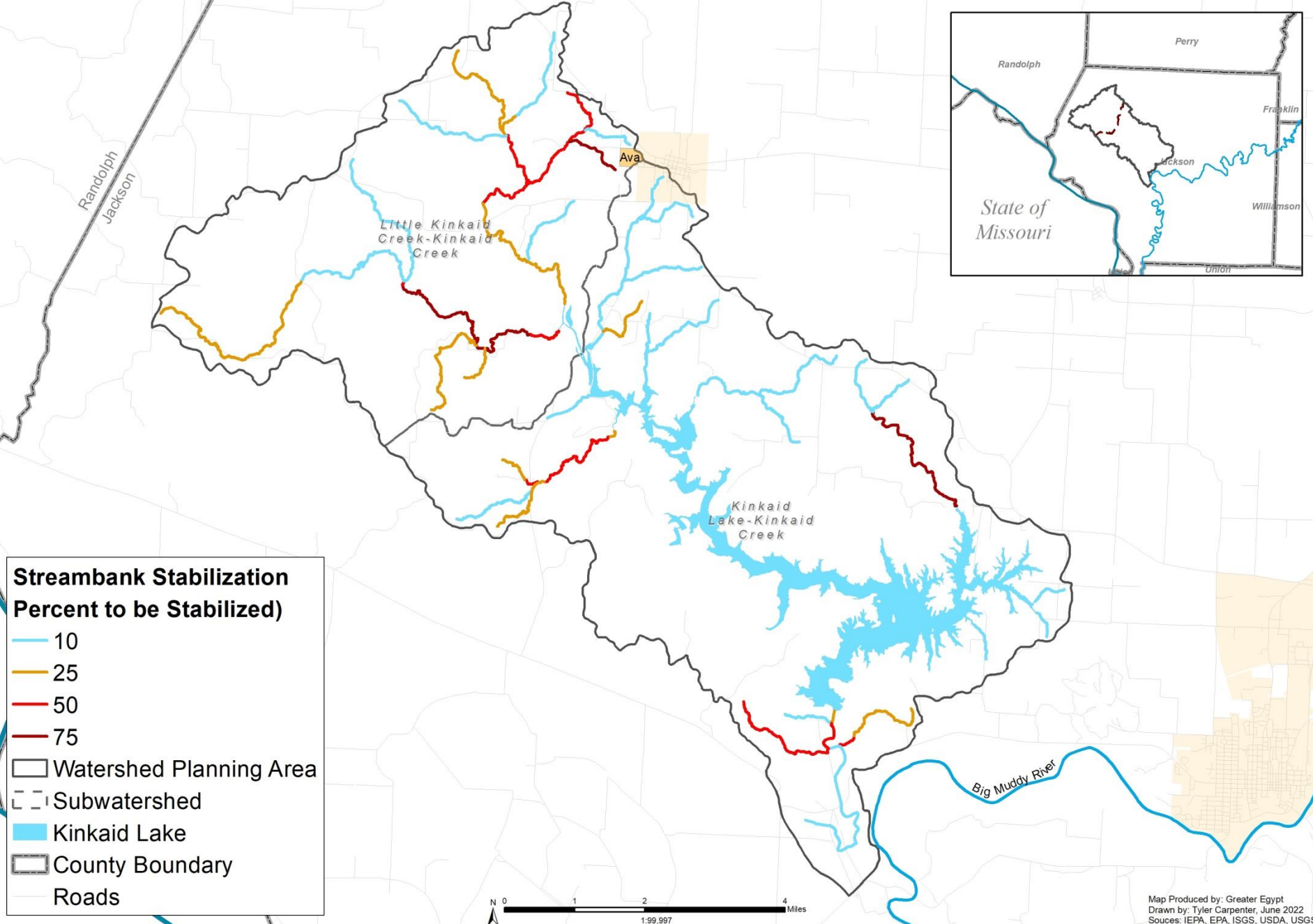
- Forest Management
- Harvest
- Prescribed Burning
- Planting
- Seeding
- Road Work

- Hydrologic

- Streambank Stabilization
- Shoreline Stabilization
- Gully Stabilization



Kinkaid Creek Watershed - Streambank Stabilization



**Streambank Stabilization
Percent to be Stabilized)**

- 10
- 25
- 50
- 75

Watershed Planning Area

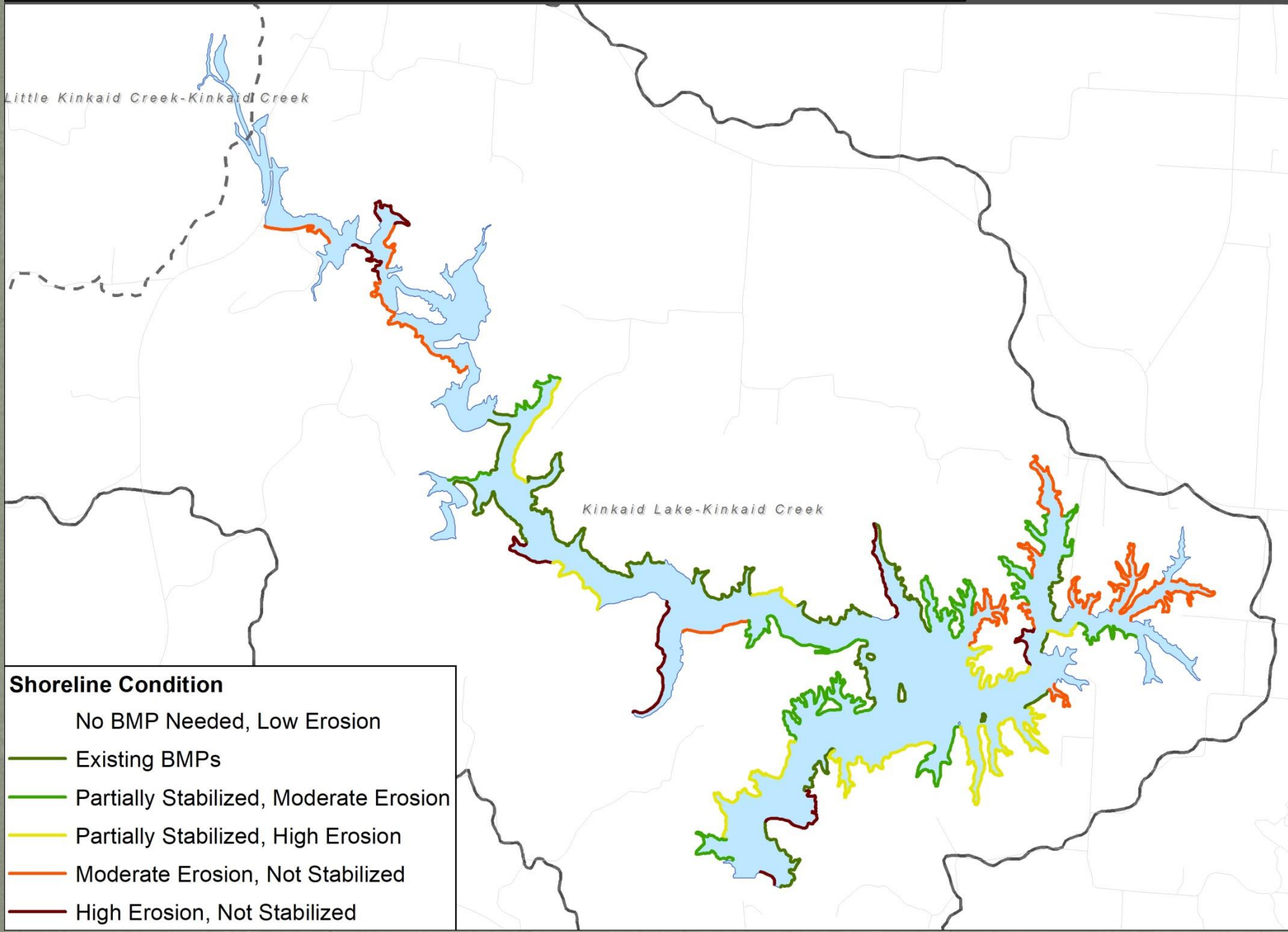
Subwatershed

Kinkaid Lake

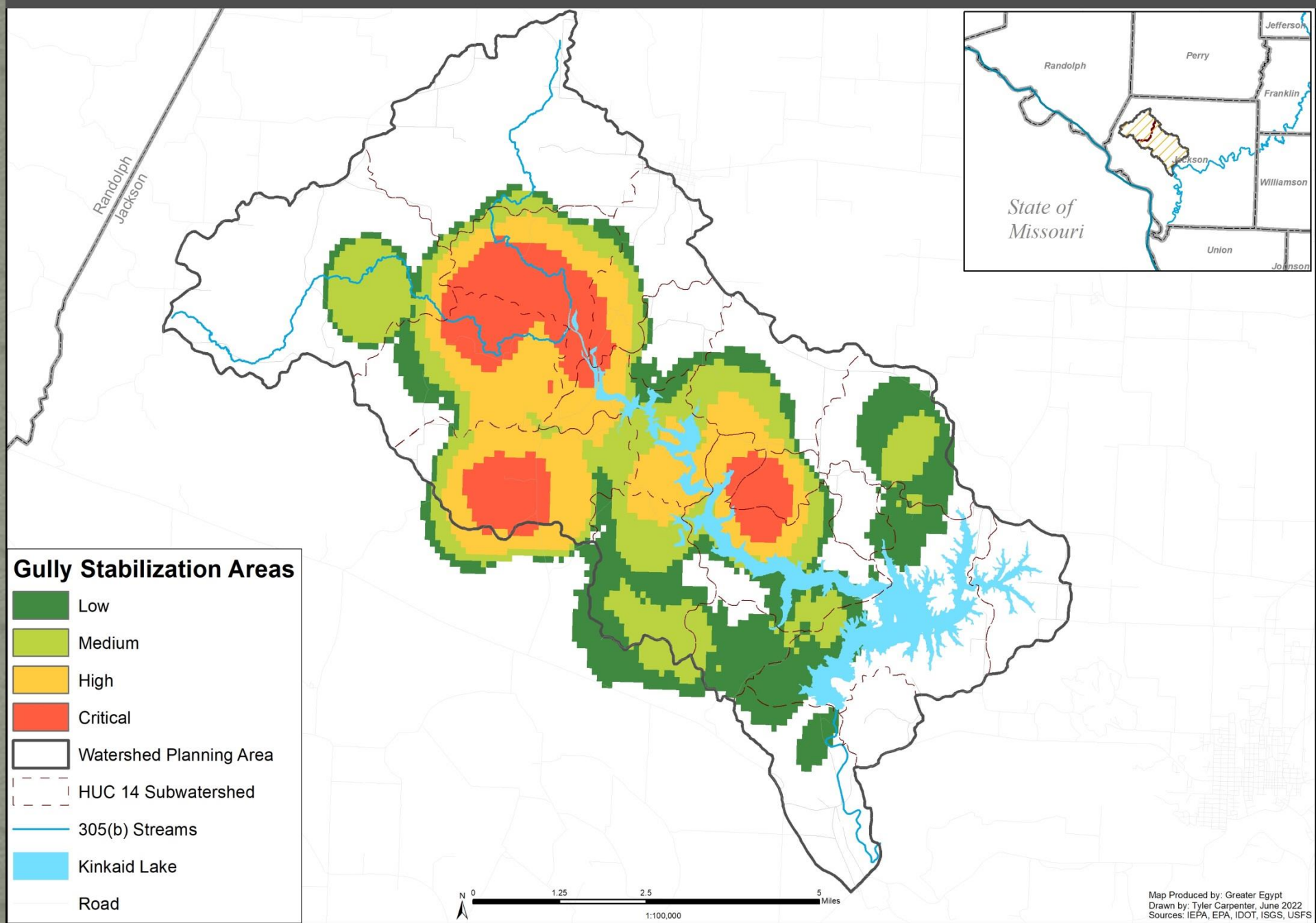
County Boundary

Roads

Kinkaid Lake - Shoreline Stabilization



Kinkaid Creek Watershed - Potential Gully Stabilization Areas



Element B – Estimate Load Reductions from Measures

BMP : Site-Specific	Amount	Unit	Load Reductions- lbs/ yr (N, P) ton/yr-(Sediment)		
			N	P	Sediment
Streambank Stabilization	86,186	foot	17,411	8,706	876
Shoreline Stabilization	84,558	foot	6,223	3112	3112
Gully Stabilization	125,106	foot	6,053	3,024	3,024
TOTALS:			29,687	14,842	7,012

BMP : Watershed-wide	Amount	Unit	Load Reductions- lbs/ yr (N, P) ton/yr-(Sediment)		
			N	P	Sediment
Conservation Cover	738	acre	6,469	3,226	3,188
Cover Crops	738	acre	6,469	3,226	3,188
Critical Planting	554	acre	4,998	2,492	2,480
Debris Removal	-				
Drainage Water Management	369	acre	3,467	1,729	1,738
Trail/Livestock Crossing	-				
No-Till	738	acre	6,469	3,226	3,188
Nutrient Management Plan	1,107	acre	9,319	4,646	4,545
Pasture/Hayland Planting	185	acre	1,862	929	950
Streambank Stabilization*	611,674	feet	3,705	1,852	1,852
Strip-Till	738	acre	6,469	3,226	3,188
TOTALS:			49,227	24,552	24,317

Element B – Estimate Load Reductions from Measures

Total Watershed Reductions	N	P	Sediment
	78,914	39,394	31,329
<i>Percent of Annual Pollutant Load</i>	39.7%	19.8%	15.8%
<i>Load Reduction Target</i>	15%	25%	25%

Element D – 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	Funding Source(s)
Agricultural Filter Strip	Farm Bureau, Landowner, NRCS, SWCD	IEPA 319, NRCS, USDA
Agricultural Management Workshop	Planning Commission, Farm Bureau, NRCS, USDA, SWCD	IEPA 319
Cover Crops	Farm Bureau, NRCS, USDA, SWCD	IEPA 319, NRCS, USDA
Critical Area Planting	NRCS, USDA	IEPA 319, NRCS, USDA
Debris Removal	Volunteers, landowners, public works, contractor	Volunteers, landowners, public works, contractor
Detention Basin	Landowner, IDOT, contractor, municipality, public works	Landowners, municipality
Drainage Water Management	Farm Bureau, NRCS, USDA	NRCS, USDA
Gully Stabilization	Farm Bureau, Landowner, NRCS, SWCD	IEPA 319, NRCS, USDA
Litter Cleanup	Volunteers	-
No-Till Farming	NRCS, USDA	IEPA 319, NRCS, USDA
Nutrient Management Planning	Farm Bureau, NRCS, USDA, SWCD	IEPA, NRCS, USDA
Pasture and Hayland Planting	Farm Bureau, NRCS, USDA	NRCS, USDA
Public Education on Stormwater/Agricultural Management	Planning Commission	IEPA 319 Grant, Planning Commission
Streambank/Shoreline Stabilization	Landowner, volunteer, contractor	IEPA 319 Grant
Strip-Till Farming	NRCS, USDA	IEPA 319, NRCS, USDA

Element D – Technical and Financial Assistance

BMP	Cost	Unit	Total Units	Total Cost per BMP
Agricultural Filter Strip	\$194.70	acre	45	\$8,761.50
Agricultural Management Workshop	\$2,145.00	workshop	2	\$4,290.00
Cover Crops	\$94.60	acre	738	\$69,814.80
Critical Area Planting	\$203.50	acre	554	\$112,739.00
Debris Removal	-	site	-	-
Detention Basin	-	cubic foot	-	-
Drainage Water Management	\$110.00	acre	369	\$40,590.00
Gully Stabilization	\$185.00	linear foot	125,106	\$23,144,610.00
Litter Cleanup Events	-	acre	-	-
No-Till Farming	\$23.10	acre	738	\$17,047.80
Nutrient Management Planning	\$4.40	acre	1,107	\$4,870.80
Pasture and Hayland Planting	\$432.30	acre	185	\$79,975.50
Public Education on Water Quality	\$0.50	flyer/brochure	2,500	\$1,250.00
Public Education on Stormwater/Agricultural Management	\$0.50	flyer/brochure	2,500	\$1,250.00
Streambank Stabilization	\$95.00	linear foot	86,186	\$8,187,670.00
Shoreline Stabilization	\$105.00	linear foot	84,558	\$8,878,590.00
Strip-Till Farming	\$23.10	acre	738	\$17,047.80
			Total Cost:	\$40,568,507.20

Element E – Education and Outreach

- Public meetings
- Watershed Events
 - Watershed tours
 - BMP Demonstration Sites
 - Litter cleanup events
- Informational pamphlets regarding watershed planning efforts
 - Construct one for planning area
- Workshops
 - Variety of Topics
 - Water Quality
 - Agriculture
 - Forestry
 - Biology



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								
Educational/Outreach Components	X	X	X	X	X	X	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

Element G – Interim Milestones

Interim Measurable Milestones				
Goal	Indicator	Short (2-year)	Mid (6-yr)	Long (10-yr)
Address Impairments from Urban & Agricultural Practices/ Improve Water Quality	Linear Feet of Streambank Stabilized	-	15,000	30,000
	Linear Feet of Shoreline Stabilized	-	15,000	30,000
	Agricultural Filter Strips Created	-	10	20
	Acres to Implement Critical Planting	-	150	300
	Acres Converting to Conservation Tillage	-	150	300
	Acres Converting to No-Till	-	200	400
	Pasture/Hayland Planting	-	100	200
	Acres Converting to Strip-Till	-	200	400
	Acres to Implement Cover Crops	-	150	300
	Nutrient Management Planning Partnerships	1	3	6
	Gullies Stabilized	-	20	60
	Drainage Water Management Partnerships	1	3	6
Interim Measurable Milestones				
Goal	Indicator	Short (2-year)	Mid (6-yr)	Long (10-yr)
Outreach and Education	Educational Brochures for Agricultural Management	500	1000	1500
	Number of Litter Cleanup Days	5	10	20
	Public Meetings Held	5	10	15
Reduce/Mitigate Flooding	Detention Basins	-	-	1

Element H – Benchmarks for Measuring Progress

- Benchmark Targets of:
 - Nitrogen
 - Phosphorus
 - Sediment

	Benchmark Reduction Targets					
Benchmark Period	Nitrogen (percent)	Nitrogen (lbs)	Phosphorus (percent)	Phosphorus (lbs)	Sediment (percent)	Sediment (tons)
2 Year (Phase I)	-	-	-	-	-	-
6 Year (Phase II)	7	139,118	10	41,475	10	35,155
10 Year (Phase III)	15	298,110	25	103,688	25	87,888

Element I – Monitoring Component

- Better identify potential causes and sources of pollution
- Assess BMP effectiveness
- Track and evaluate the effectiveness of plan implementation

Monitoring Schedule

Monitoring Component	Phase I		Phase II				Phase III			
	1	2	3	4	5	6	7	8	9	10
Ambient Water Quality Monitoring Network		X					X			
Dissolved Oxygen Monitoring			X	X	X	X	X	X	X	X
Intensive River Basin Surveys				X					X	
NPDES Permit Reviews	X	X	X	X	X	X	X	X	X	X
Sediment Monitoring (Big Muddy Stations)	X	X	X	X	X	X	X	X	X	X
*Volunteer Lake Monitoring Program (VLMP)	X	X	X	X	X	X	X	X	X	X

*Program has been suspended since 2019.

Future Planning Schedule

Following plan submission:

- IEPA / EPA Review
- IEPA / EPA Approval
- Continuation of Plan & Updates
- Future Role of Greater Egypt

Questions/Comments

Environmental Planning
Greater Egypt
618-997-9351

