Western Crab Orchard Creek Watershed

Planning Committee

November 16, 2021
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. Remaining Meeting Schedule
6. Adjourn

Review of Previous Meetings

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

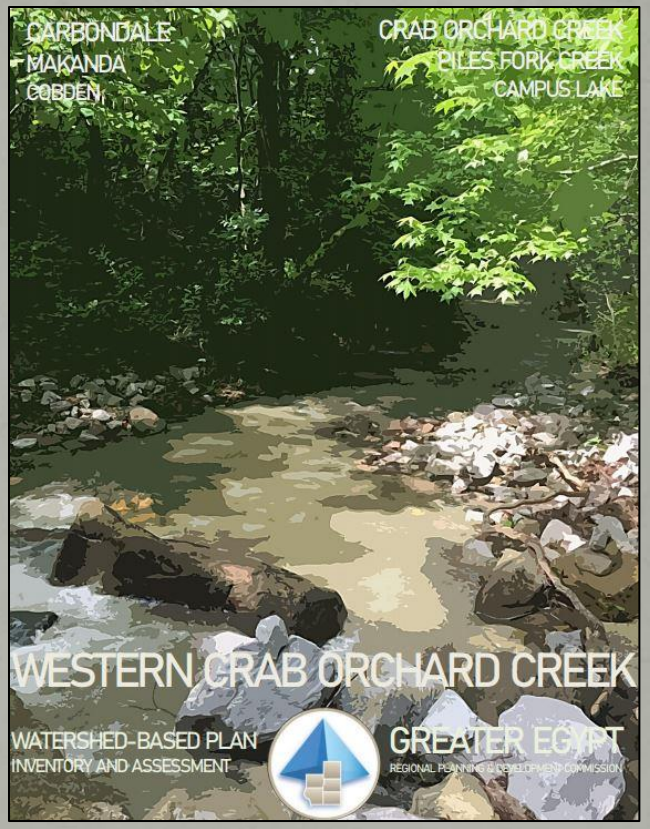
WCOC Watershed-based Plan Draft

- Submitted October 29, 2021
- No Comments from IEPA/EPA
- Final Draft- November 30, 2021
- Planning Partners
  - Review Document
  - Management Measures
  - Education/Outreach
  - Applications
- New Sections: Climate Change, Environmental Justice
- New Draft Release with notes : November 18

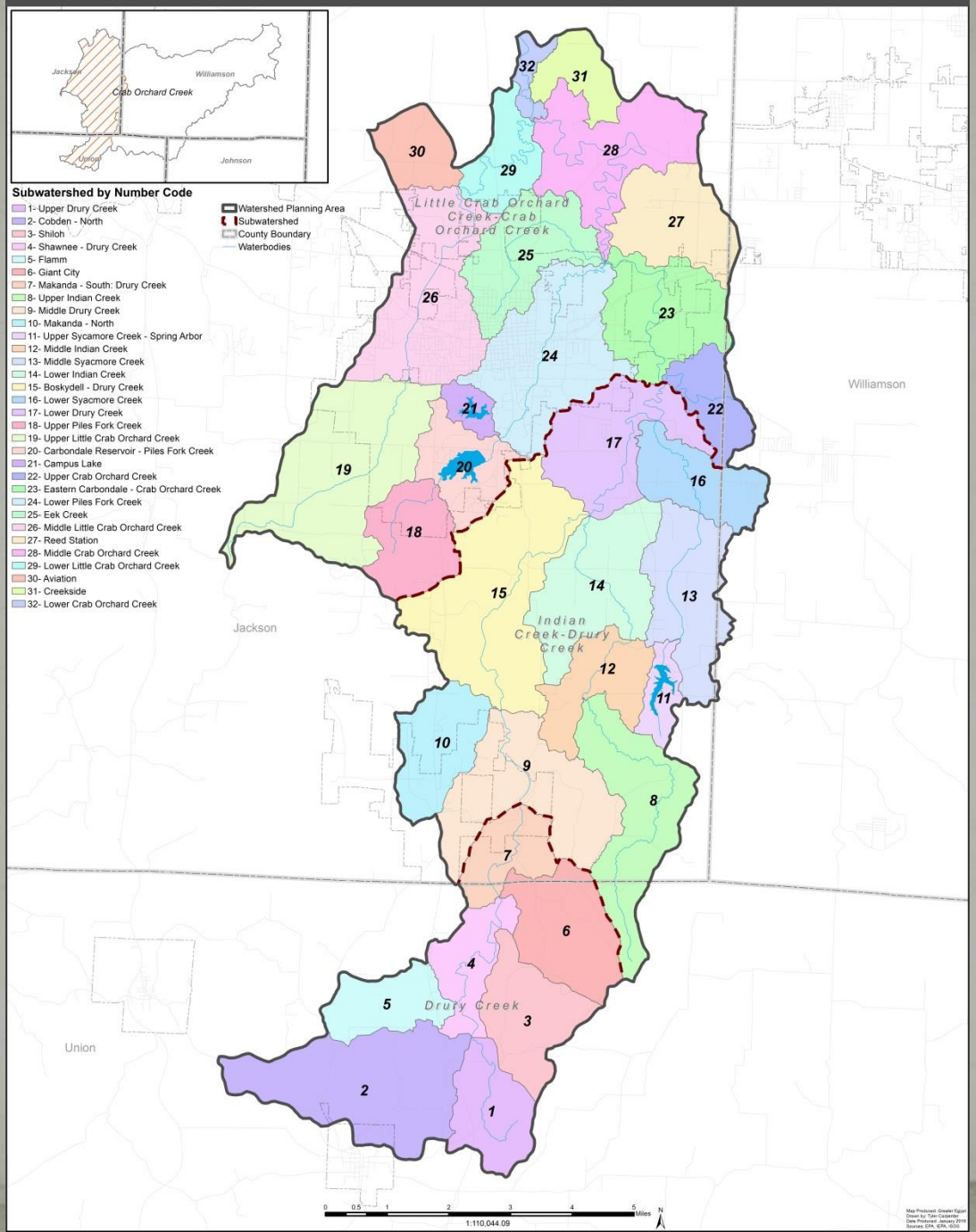
Element A – Causes and Impairments

Watershed Resource Inventory

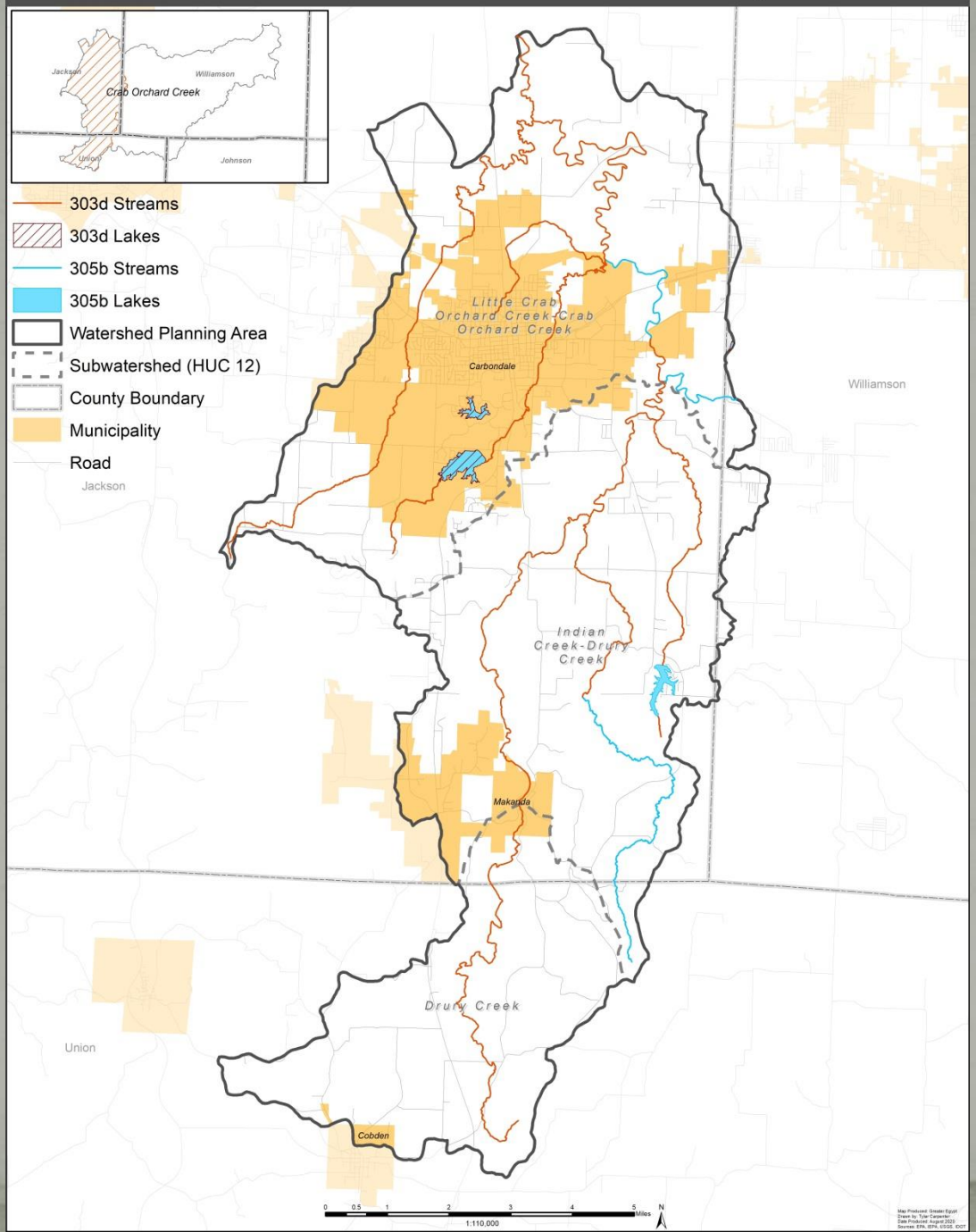
- Documentation of existing conditions in the watershed and subwatersheds
- Inventory and assessment of components such as: geographic boundaries, land use, and drainage
- Field assessment of erosion, riparian areas, and channelization



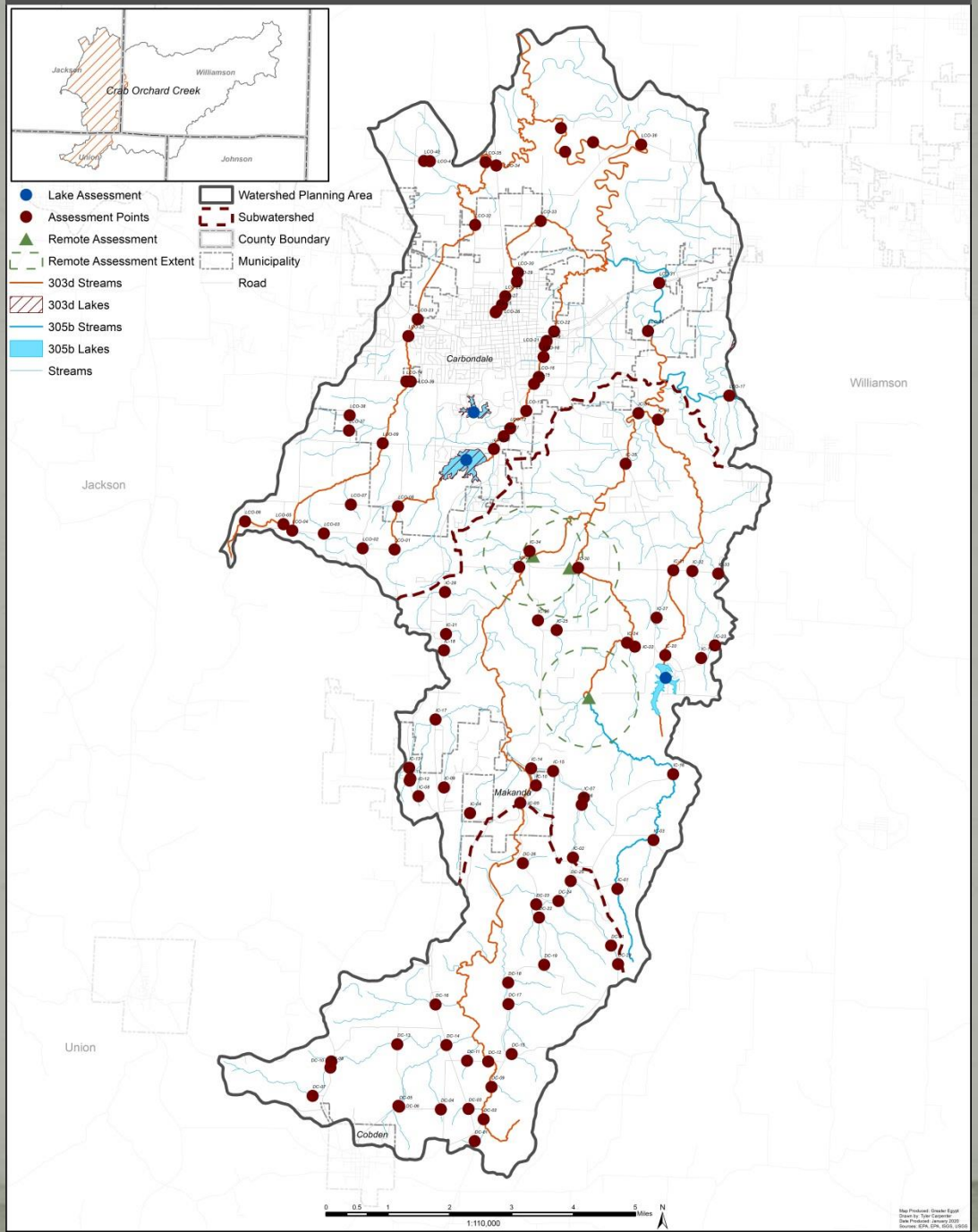
Western Crab Orchard Creek - Subwatersheds



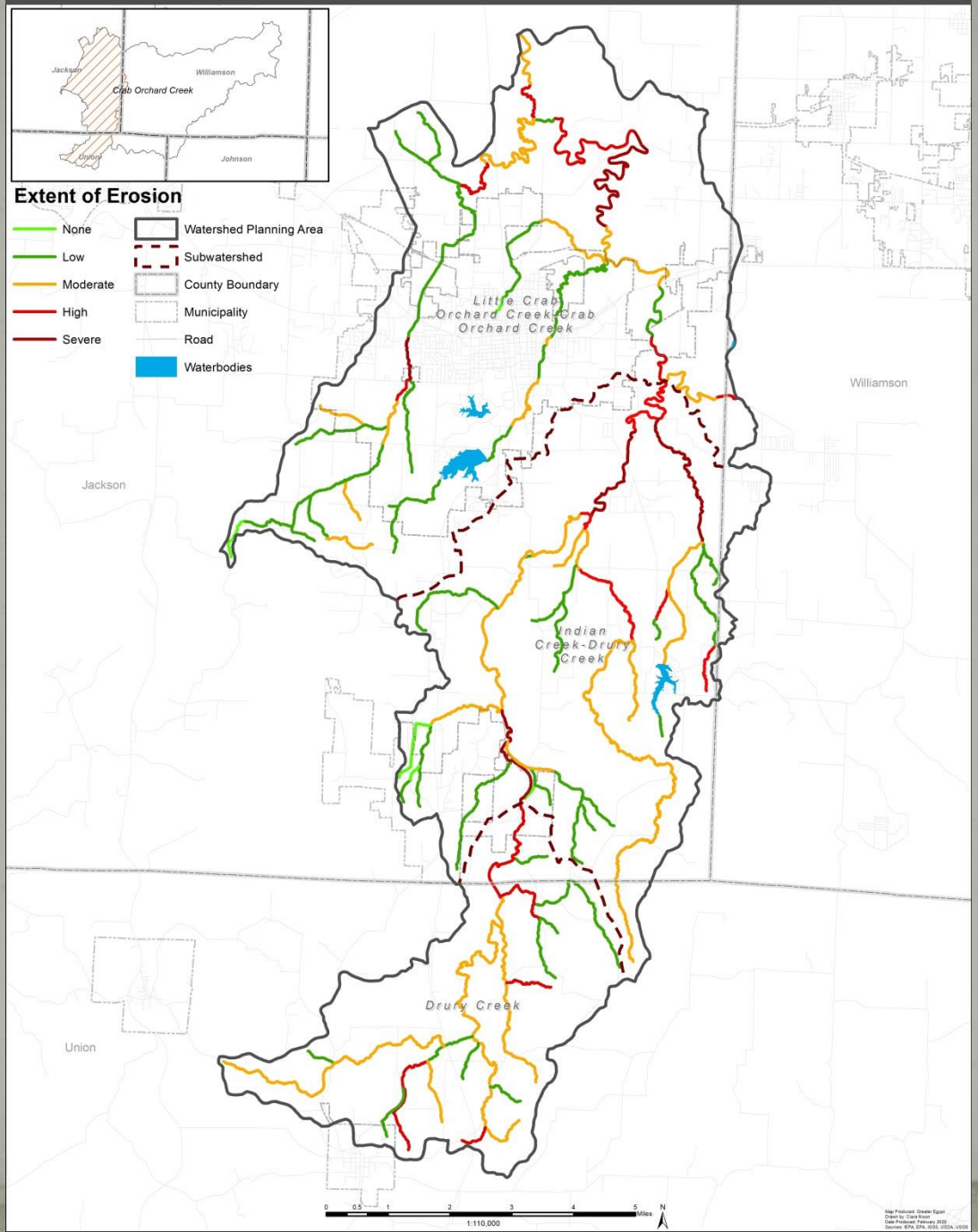
Western Crab Orchard Creek - Planning Area



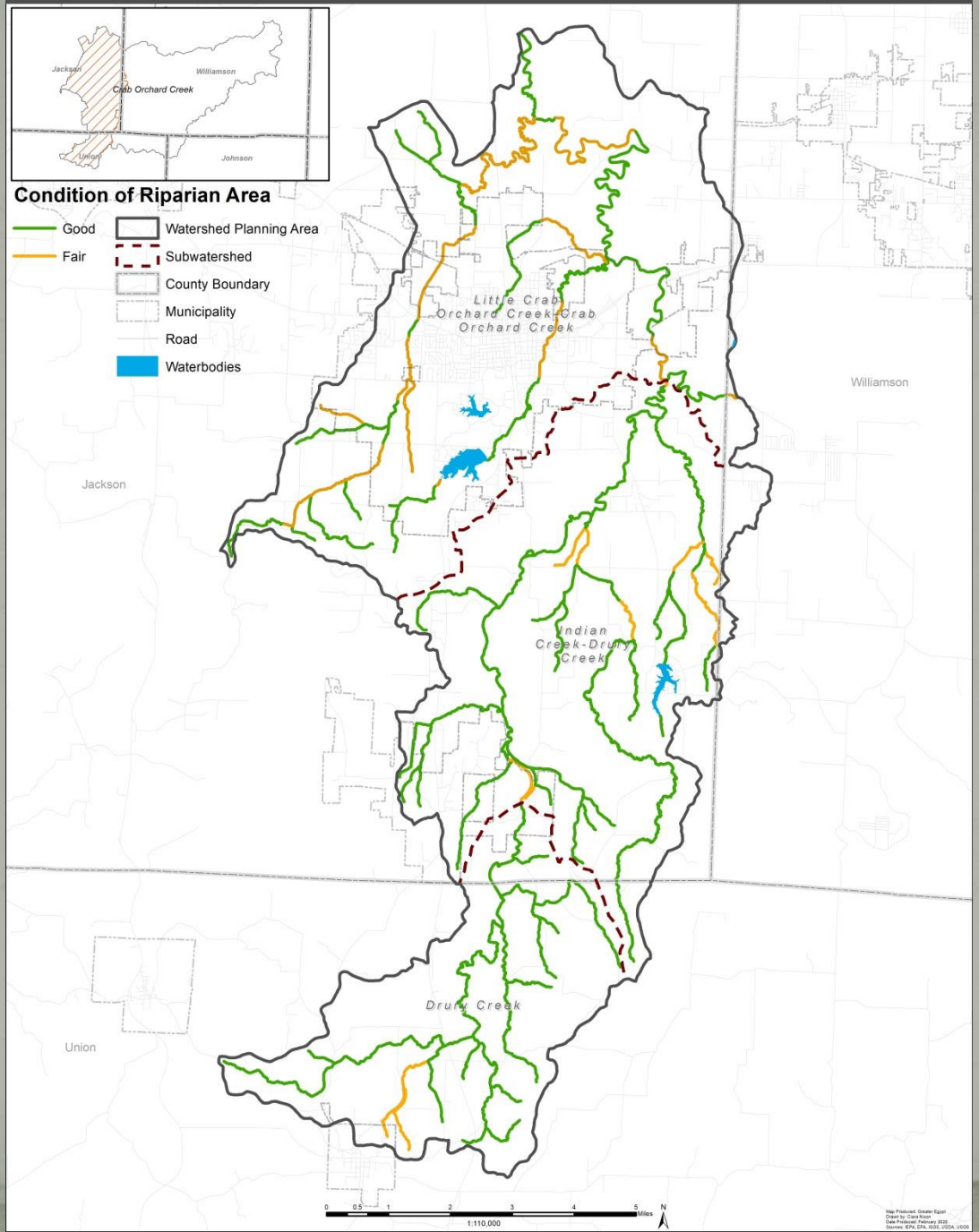
Western Crab Orchard Creek – Assessed Waterbodies



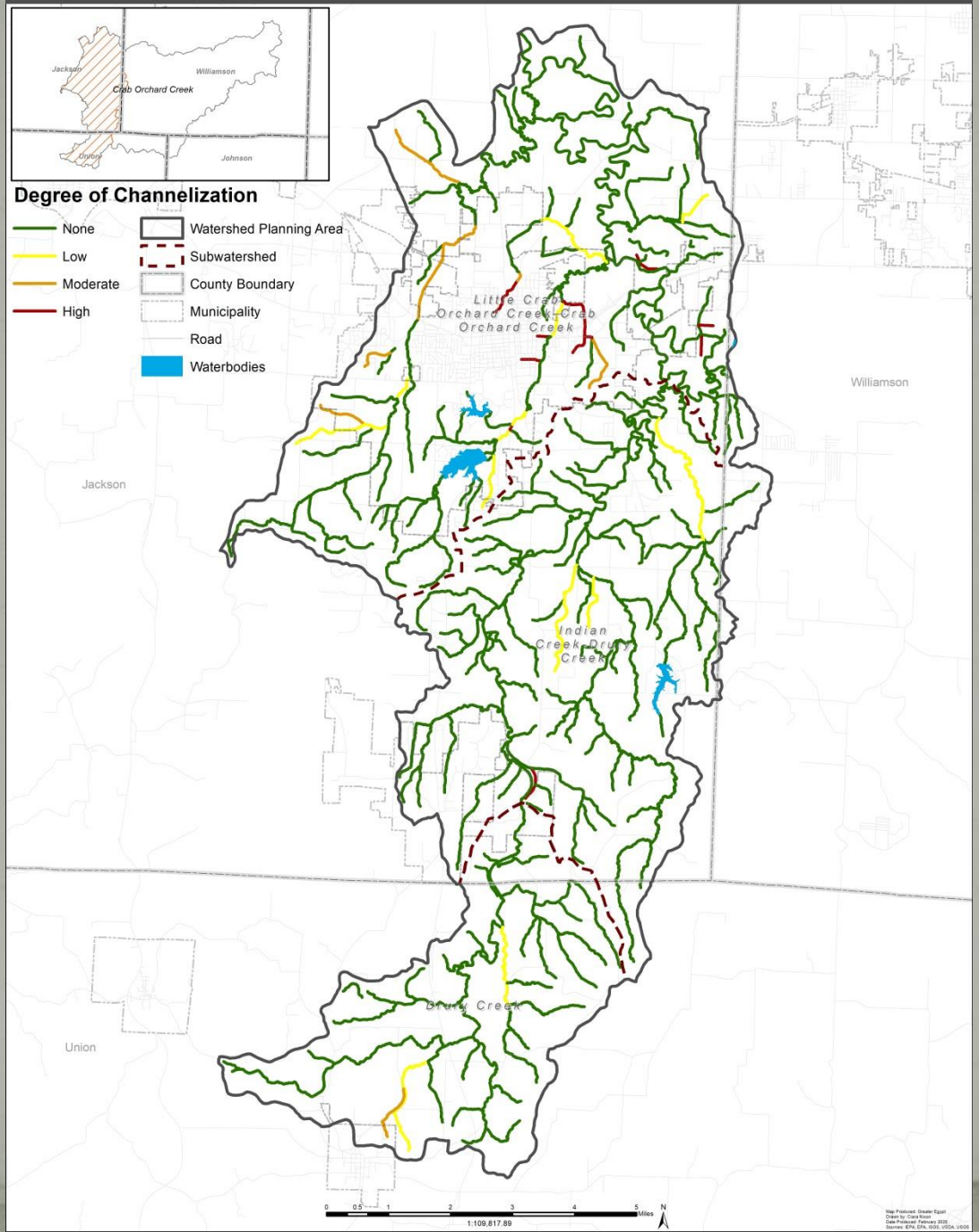
Western Crab Orchard Creek - Erosion Assessment



Western Crab Orchard Creek - Riparian Assessment

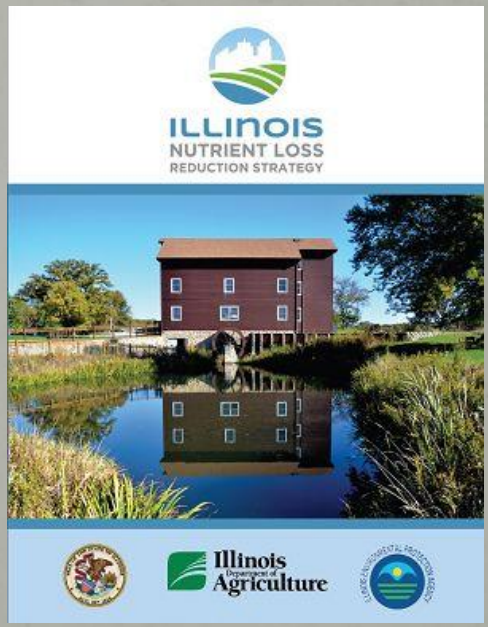


Western Crab Orchard Creek - Channelization Assessment



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 (tons/yr)	Percent of Total Load
Urban	81,390.36	24.88%	12,527.90	20.79%	1,870.49	3.91%
Cropland	31,256.72	9.56%	9,009.52	14.95%	5,606.23	11.71%
Pastureland	70,201.03	21.46%	8,968.51	14.88%	3,733.30	7.80%
Forest and Grassland	8,619.41	2.64%	3,998.50	6.63%	845.65	1.77%
Groundwater	78,323.21	23.94%	3,696.34	6.13%	0.00	0.00%
Streambank	57,308.84	17.52%	22,063.91	36.61%	35,818.03	74.82%
Total	**327,099.55**		**60,264.68**		**47,873.69**	

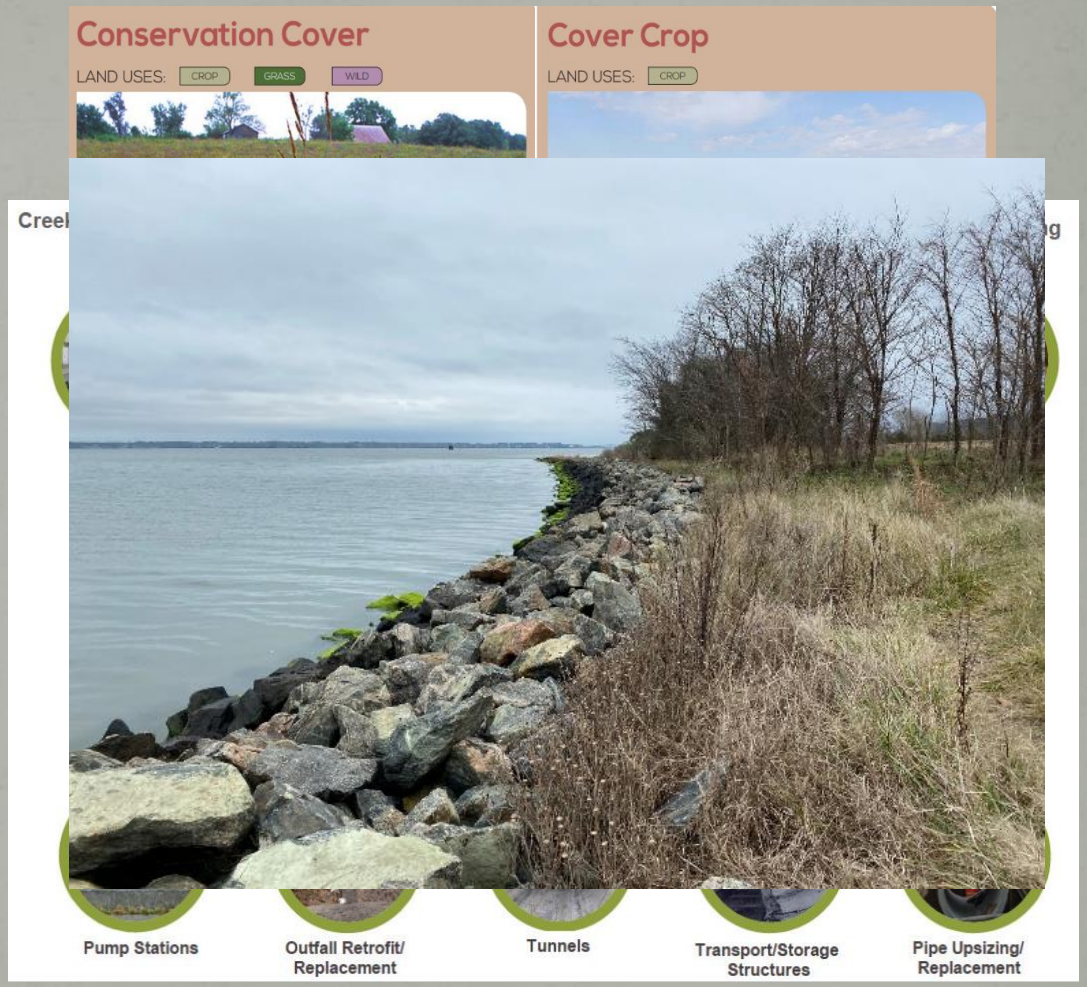
Element B – Estimate Load Reductions

Watershed	SMU ID	Nitrogen (percent of total)	Nitrogen Load Reduction Target (lbs)	Phosphorus (percent of total)	Phosphorus Load Reduction Target (lbs)	Sediment (percent of total)	Sediment Load Reduction Target (tons)
Western Crab Orchard Creek	**-**	**0.15**	**49,064.93**	**0.25**	**15,066.17**	**0.25**	**11,968.42**
Subwatershed Load Reduction Targets							
Drury Creek	**1.00**	0.15	7,204.97	0.15	2,214.49	0.15	1,766.64
Indian Creek- Drury Creek	**2.00**	0.30	14,495.91	0.34	5,061.37	0.41	4,877.80
Little Crab Orchard Creek	**3.00**	0.56	27,364.06	0.52	7,790.31	0.44	5,323.98
TOTAL			**49,064.93**		**15,066.17**		**11,968.42**

Element C – Nonpoint Source Measures

Watershed-wide Practices

- Agriculture
  - Conservation Cover
  - Cover Crops
  - Filter Strips
  - Nutrient Management
  - No Till
  - Strip Till
- Forest
  - Riparian Buffers
  - Forest Management
- Hydrologic
  - Streambank Stabilization
  - Shoreline Stabilization
  - Gully Stabilization
- Urban
  - Green Infrastructure
  - Stormwater



Element B – Estimate Load Reductions from Measures

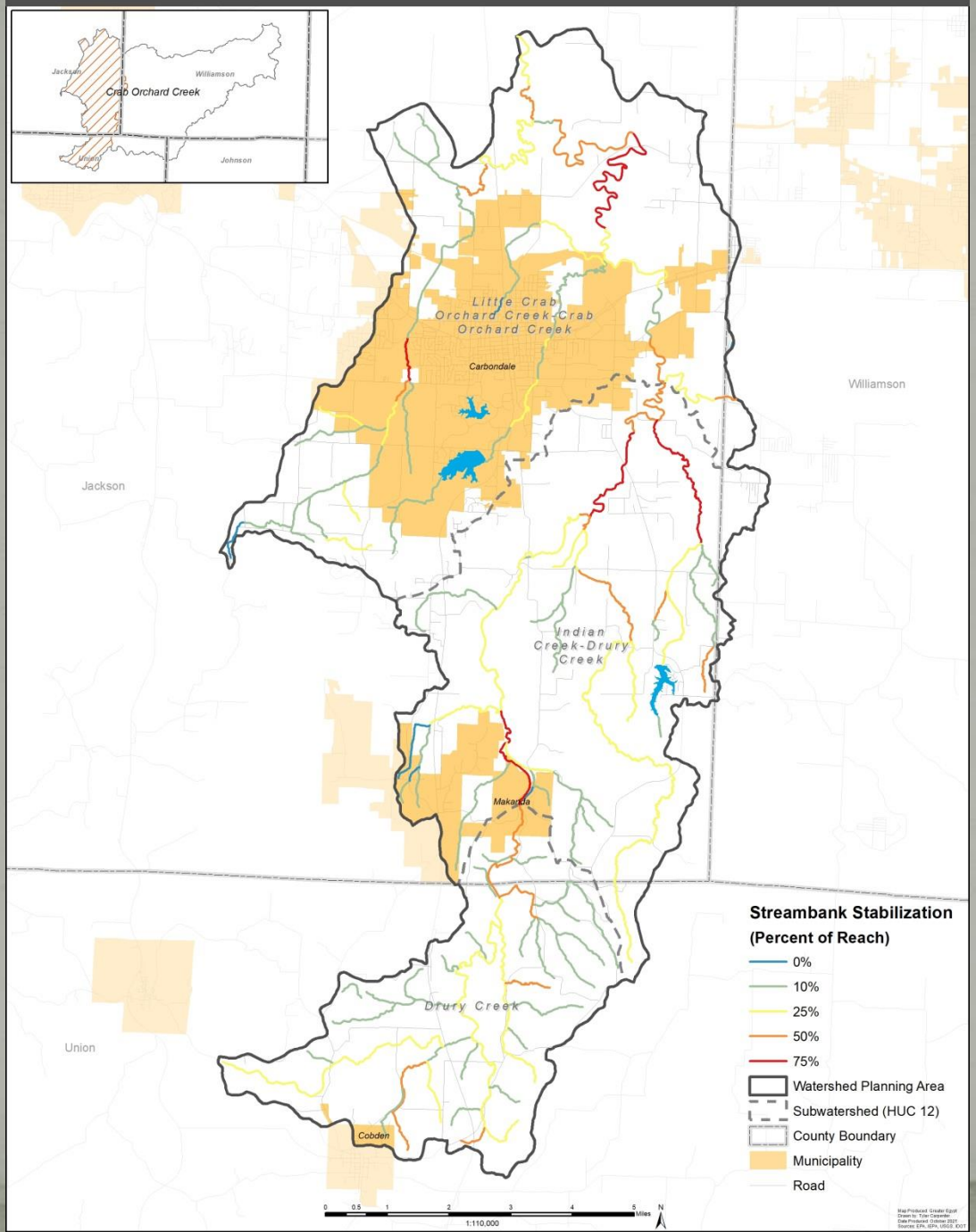
BMP	Unit	Amount	Load Reductions- lbs/ yr (N, P) ton/yr-(Sediment)		
			Sediment	P	N
Streambank Stabilization	feet	200,084	33,100	33,100	65,810
Shoreline Stabilization	feet	9,339	527	527	1,055
Gully Stabilization	feet	125,106	5,966	5,966	11,934
	TOTALS:	**334,529**	**39,594**	**39,594**	**78,798**
			Sediment	**P**	**N**

BMP	Amount	Unit	Load Reductions- lbs/ yr (N, P) ton/yr-(Sediment)		
			N	P	Sediment
Conservation Cover	762	acre	4,661	2,490	2,131
Cover Crops	762	acre	4,661	2,490	2,131
Critical Planting	572	acre	3,600	1,924	1,658
Debris Removal	-				
Drainage Water Management	381	acre	2,498	1,335	1,162
Livestock Crossing	-				
No-Till	762	acre	4,661	2,490	2,131
Nutrient Management Plan	1,144	acre	6,719	3,589	3,041
Pasture/Hayland Planting	191	acre	1,341	717	635
Streambank Stabilization*	105,500	feet	4,430	2,215	2,215
Strip-Till	762	acre	4,661	2,490	2,131
Terrace	381	acre	2,498	1,335	1,162
		TOTALS:	**39,730**	**21,075**	**18,397**
			N	**P**	**Sediment**

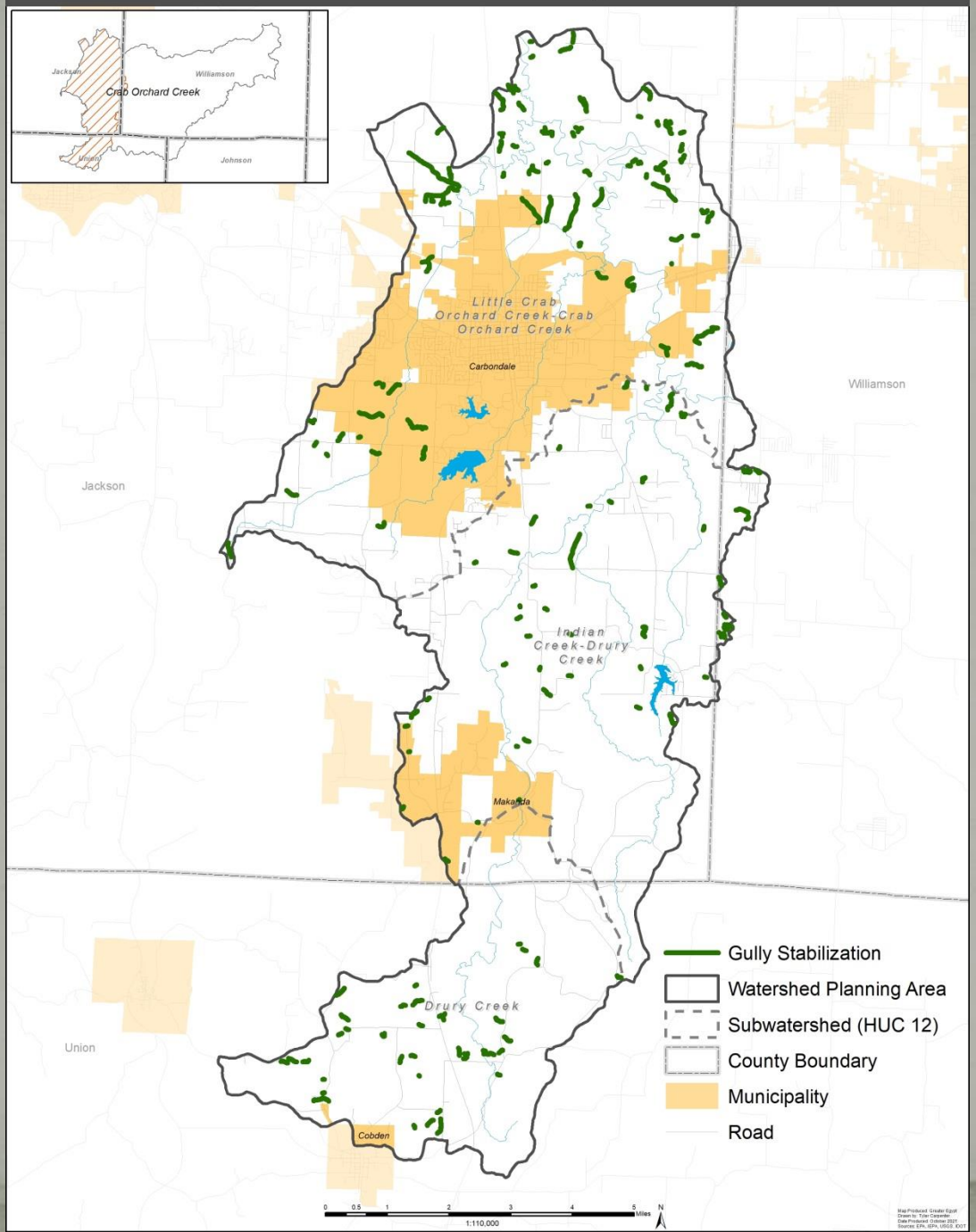
Site-specific Practices

- Streambank Stabilization
- Shoreline Stabilization
- Gully Stabilization

Western Crab Orchard Creek - Streambank Stabilization



Western Crab Orchard Creek - Gully Stabilization



Element D – Technical and Financial Assistance

BMP funding and technical assistance

- BMP Funding sources
  - EPA 319 Grants
  - USDA- CRP, CREP, EQIP
  - DOT
  - Landowners, Municipalities

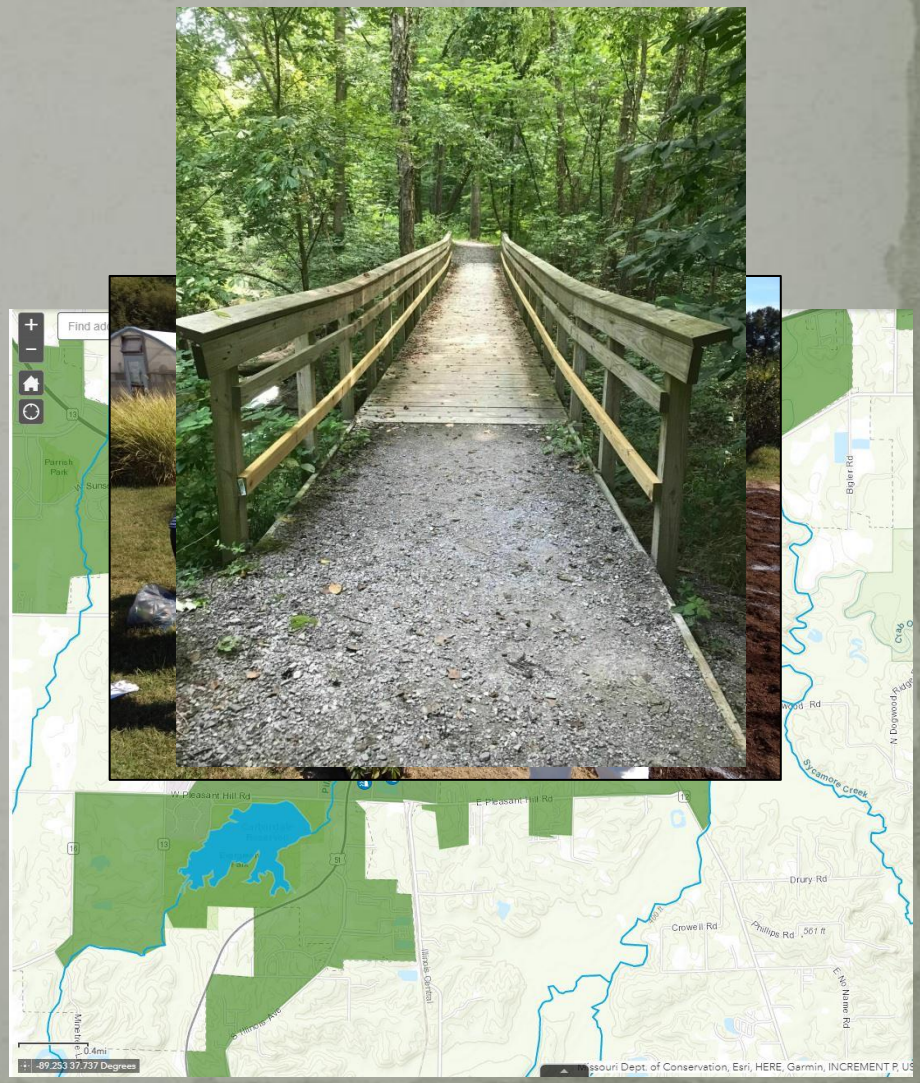
BMP	Cost	Unit	Technical Assistance	Funding Source(s)
Agricultural Filter Strip	$176.23	acre	Farm Bureau, Landowner, NRCS, SWCD	IEPA 319, NRCS, USDA
Agricultural Management Workshop	$1,950.00	workshop	Planning Commission, Farm Bureau, NRCS, USDA, SWCD	IEPA 319
Contour Farming	$7.44	acre	NRCS, USDA	IEPA 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	$500.00	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
Drainage Water Management	$9.55	acre	Farm Bureau, NRCS, USDA	NRCS, USDA

Element D – Technical and Financial Assistance

BMP	Cost	Unit	Total Units	Total Cost per BMP
Agricultural Filter Strip	$177.00	acre	45	$7,965.00
Agricultural Management Workshop	$1,950.00	workshop	2	$3,900.00
Cover Crops	$86.00	acre	762	$65,532.00
Critical Area Planting	$185.00	acre	572	$105,820.00
Debris Removal	$500.00	site	10	$5,000.00
Detention Basin	$0.74	cubic foot		$0.00
Drainage Water Management	$100.00	acre	381	$38,100.00
Gully Stabilization	$150.00	linear foot	125,106	$18,765,900.00
Litter Cleanup Events	$0.00	acre	-	-
No-Till Farming	$21.00	acre	762	$16,002.00
Nutrient Management Planning	$4.00	acre	1,144	$4,576.00
Pasture and Hayland Planting	$393.00	acre	191	$75,063.00
Public Education on Water Quality	$0.50 each / $150.00 per 300	flyer/brochure	2,500	$1,250.00
Public Education on Stormwater/AgriculturalManagement	$0.50 each / $150.00 per 300	flyer/brochure	2,500	$1,250.00
Streambank Stabilization	$75.00	linear foot	305,584	$22,918,800.00
Strip-Till Farming	$21.00	acre	762	$16,002.00
Terrace Farming	$4.00	linear feet	381	$1,524.00
			Total Cost:	$42,026,684.00

Element E – Education and Outreach

- Public meetings
- Demonstration Sites
  - Green Earth Trails
    - Watershed tours
    - Litter cleanup events
- Informational pamphlets regarding watershed planning efforts
  - Construct one for planning area
- Workshops
  - Stormwater Management
    - Rain Garden workshop
- Water Resources Survey
  - Survey complete
  - Report in December
- Stormwater Management BMP Map
  - Inventory of existing management measures
- Youth Involvement/Civic Engagement
  - Establish group to determine environmental problems



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
Distribute educational brochures for stormwater and agricultural management	X	X	X	X	X	X	X	X	X	X
Hold workshops to inform public on agricultural management		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

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

Element F: Implementation Schedule

- Should reflect BMP, educational component, and general goals of plan

Goal	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 council	X									
Hold public meetings to gain input	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 designs	X	X	X							
Submit grant applications based on BMPs in plan		X	X	X	X	X	X	X		
Meet with landowners to review BMPs in plan		X	X	X	X	X				
Implement and execute BMPs			X	X	X	X	X	X	X	X
Monitor progress of implementation				X	X	X	X	X	X	X
Announce success of plan implementation					X	X	X	X	X	X
Evaluate Accomplishments					X	X	X	X	X	X

Element G – Interim Milestones

Interim Measurable Milestones						
Goal	Indicator	Short (2-year)	Mid (6-yr)	Long (10-yr)	Mid (6-yr)	Long (10-yr)
Address Impairments from Agricultural Practices/ Improve Water Quality	Linear Feet of Streambank Stabilized	-	15,000	30,000		
	Agricultural Strips Created	-	10	20	1000	1500
	Acres to Implement Critical Planting	-	150	300	1000	1500
	Acres Converting to Conservation Tillage	-	150	300	10	20
	Acres Converting to No-Till	-	200	400	10	20
	Pasture/Hayland Planting	-	100	200	10	15
	Acres Converting to Strip-Till	-	200	400	4	10
	Acres to Implement Cover Crops	-	150	300	10	20
	Acres to Implement Field Borders	-	100	200	10	20
	Nutrient Management Planning Partnerships	1	3	6	-	1
	Gullies Stabilized	-	20	60	2	4
	Drainage Water Management Partnerships	1	3	6		
	Riparian Buffers Created	-	2	4		

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**	**228,970**	**10**	**60,265**	**10**	**47,880**
10 Year (Phase III)	**15**	**490,649**	**25**	**150,662**	**25**	**119,699**

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 Station)	X	X	X	X	X	X	X	X	X	X

Plan Schedule

MEETING 5	**Draft Plan Review – Final Meeting**	**November 16, 2021**
	Final Draft DUE	**November 30, 2021**
MEETING 6	**Final Meeting**	**December 2021**

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