



Central South Branch Kishwaukee Watershed-Based Plan Kickoff Meeting

Cecily Cunz, AICP – Senior Environmental Planner

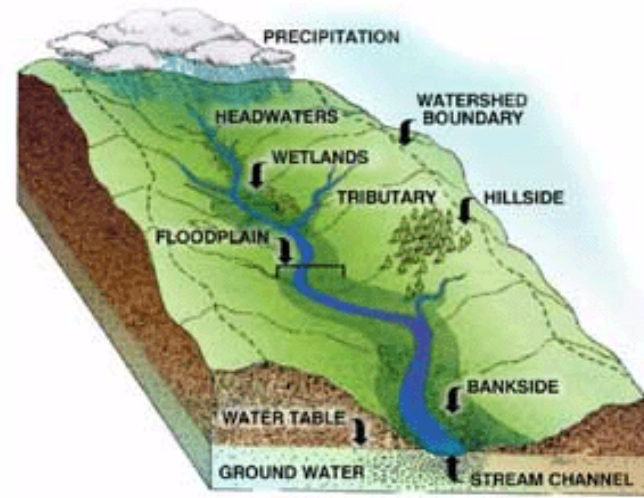
Steve Zimmerman – Senior Restoration Ecologist

Watershed Steering Committee

- **Teri Spartz - DeKalb County Community Foundation**
- **Derek Hiland - DeKalb County Community Development**
- **Nathan Schwartz - DeKalb County Highway**
- **Michael Haines - Landowner, Kingston Township**
- **Paul Kuhn - Landowner, Genoa Township Board**
- **Maureen Little - DeKalb County Board**
- **John Lynch/ Timothy Gualandri (alt.) - Village of Kingston**
- **Ryan Block - Village of Kirkland**
- **Janice Melton - City of Genoa**
- **Josh Clark - DeKalb County Forest Preserve District**
- **Paul Bafia - Genoa Township Park District**
- **Dean Johnson - DeKalb County SWCD**

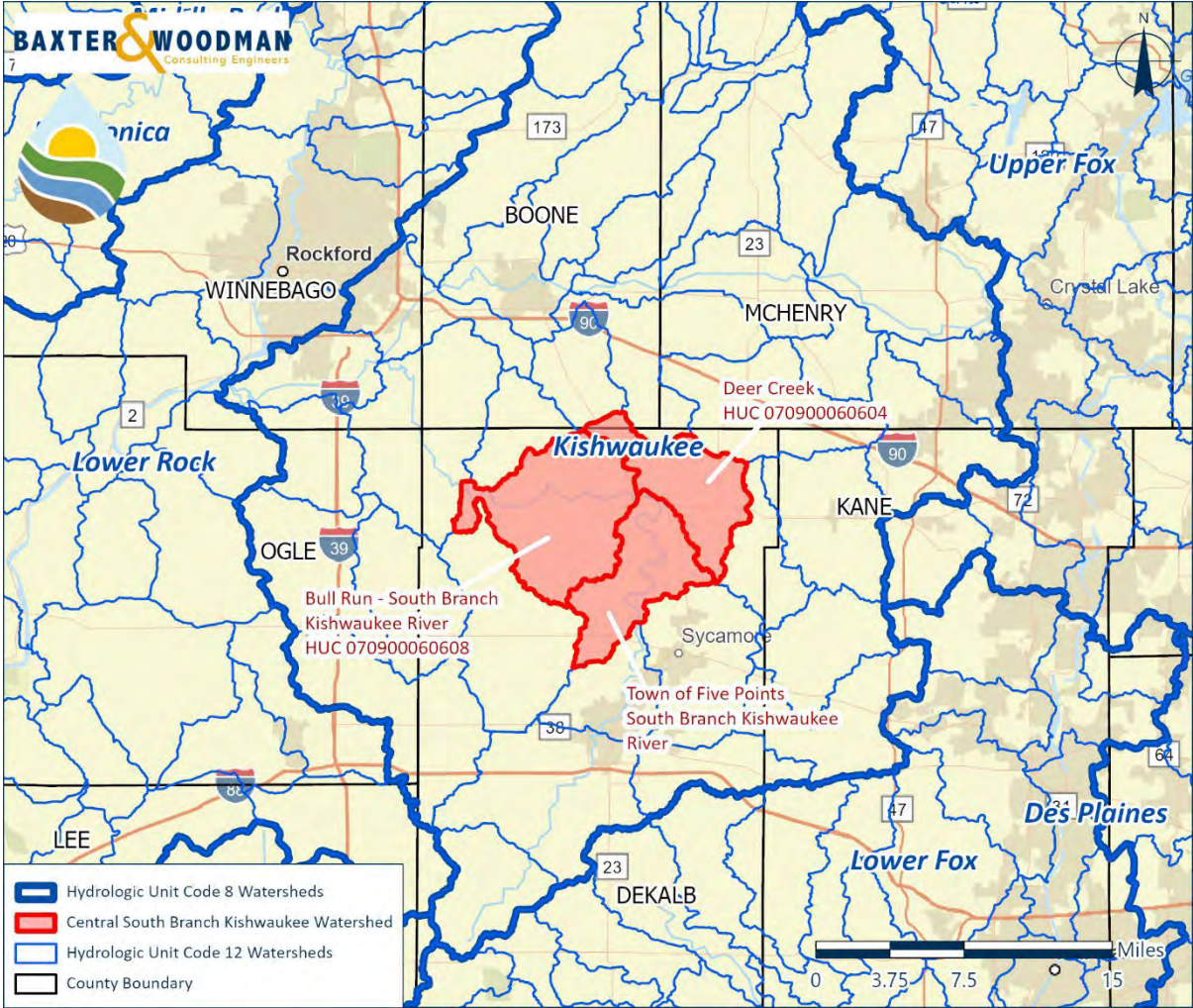
What is a watershed?

- A watershed is best described as an area of land where surface water drains to a common location such as a stream, river, or lake.
- Watersheds do not follow political boundaries.
- Groundwater is not linked directly to a watershed boundary.



Central South Branch Kishwaukee River

- 103 square miles
- 3 HUC 12 watersheds



What is watershed planning?

Voluntary, community supported approach to protecting and improving water quality in streams, lakes, and wetlands, protecting groundwater resources, restoring habitat, reducing flood damage, providing recreational & educational opportunities, and improving quality of life for people.



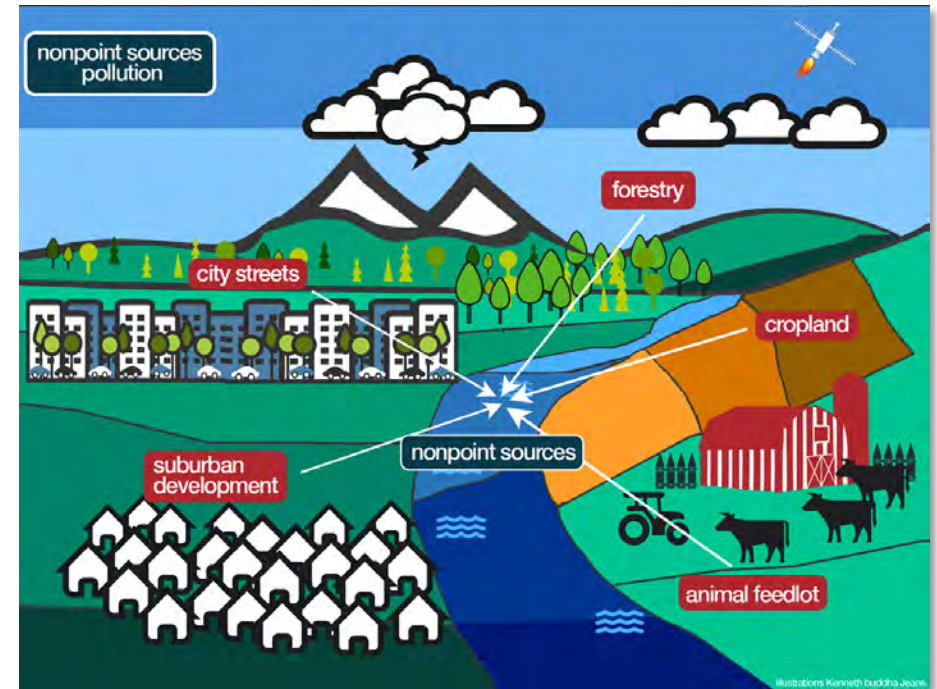
Clean Water Act – Section 319

Congress enacted Section 319 of the Clean Water Act in 1987, establishing a national program to control NPS pollution.

- **Addresses Nonpoint Source (NPS) pollution**
- **Delegated to states**
- **Encourages development of assessment reports; adoption of management programs; and implementation of those management programs.**
- **Promotes practices to protect watersheds**
- **Voluntary program – not enforceable**

Nonpoint Source (NPS) Pollution

- Caused by rainfall/snowmelt moving over and through the ground. Runoff picks up and carries away natural and human-made pollutants, depositing them into our waters.
- Any pollution that does NOT come from a pipe or discrete source (facility)
- Many diffuse sources
- Addressed via an EPA Nine Element Watershed Plan



USEPA Nine Elements

The 9 Elements aim to reduce non-point source pollution.

- **Element A: Identify causes and sources of impairment.**
- **Element B: Estimate pollutant load reductions from Management Measures/BMPs.**
- **Element C: Propose Management Measures/BMPs and identify “Critical Areas”**
- **Element D: Identify technical and financial assistance needs.**
- **Element E: Complete an information/education component.**
- **Element F: Prepare a plan implementation schedule.**
- **Element G: Describe interim, measurable milestones and project outcomes.**
- **Element H: Develop criteria to determine if load reductions are being achieved over time.**
- **Element I: Develop a monitoring plan to evaluate implementation efforts over time.**

Watershed Planning Process

Systematically address USEPA Nine Elements

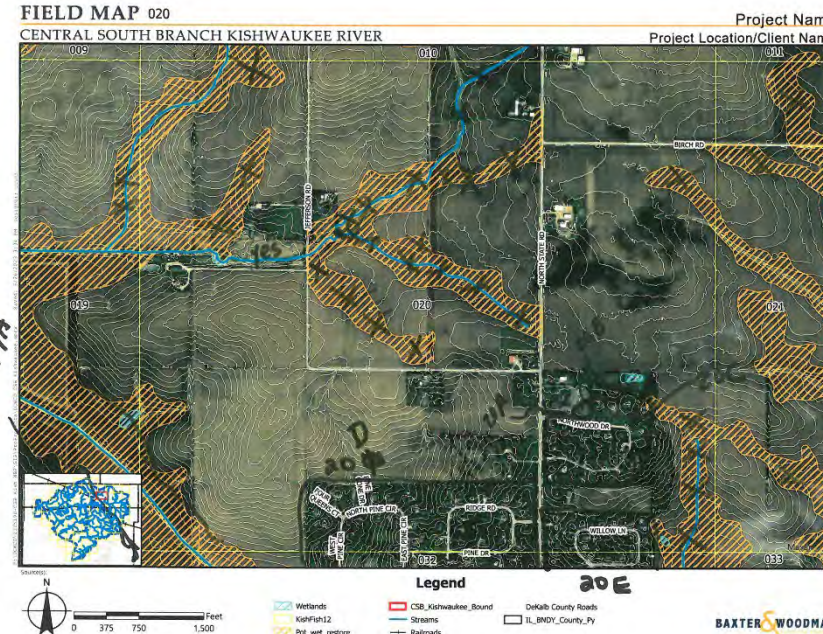
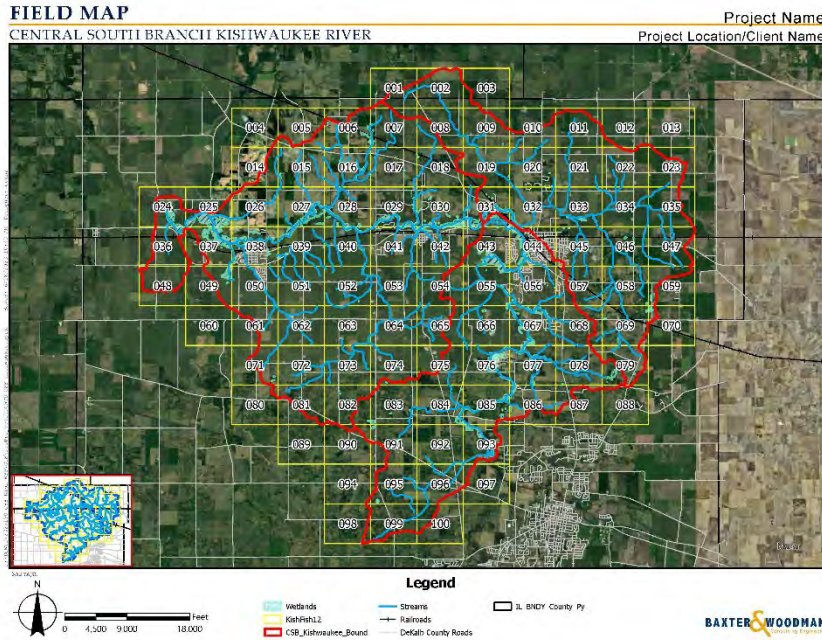


1. Watershed Field Inventory
2. Watershed Characteristics Assessment
3. Causes & Sources of Impairment
4. Vision, Goals & Objectives
5. Critical Areas & Reduction Targets
6. Action Plan
7. Plan Evaluation

Meetings held bi-monthly throughout process

Watershed Field Inventory

- Results will be used to identify potential watershed improvement projects & protection areas, verify land uses, etc.
- Document conditions on map and data sheets



WATERSHED-BASED PLAN STREAM INVENTORY/BMP DATA FORM

STREAM NAME: SB09 REACH ID: _____ DATE: _____
 REACH BOUNDARIES: HainesCreek to E Pearl St OWNER: _____
 MAP/ID#: _____ PHOTOS: 31-32 APPROX. LENGTH: _____ INVESTIGATORS: _____
 CHANNEL CONDITIONS
 CHANNELIZATION NONE LOW _____ MODERATE _____ HIGH _____
 SPOIL PILES ON BANKS (Left /Right /Both /None) _____
 CHANNEL SINUOSITY NONE _____ LOW _____ MODERATE HIGH _____
 POOL/RIFLE DEVELOPMENT NONE _____ LOW _____ MODERATE HIGH _____

DEGREE OF BANK EROSION/LATERAL RECESSION RATE (Circle most appropriate):

None/Slight	Moderate	Severe	Very Severe
Stable; less than 5% of banks affected.	Moderately stable; 5-33% of banks eroding; bare banks and vegetative overhang.	Moderately unstable; 33-66% of banks eroding; exposed tree roots, fallen trees.	Unstable; 66-100% of banks eroding; many fallen trees, culverts eroding, etc.

MEAN BANK HEIGHT & CHANNEL WIDTH (facing downstream):

Left Bank Height (FT)	Mean Channel Width	Right Bank Height (FT)
5	20-75	5

DEBRIS JAMS INSTREAM/OVERBANK: LOW _____ MODERATE HIGH _____
 STREAM BED EROSION: LOW MODERATE _____ HIGH _____

RIPARIAN VEGETATION COVER:
 NARRATIVE DESCRIPTION OF RIPARIAN AREA: mostly forest to average quality flood plain forest w/ generally wooded flood plain

OVERALL ECOLOGICAL CONDITION OF RIPARIAN AREA: GOOD AVERAGE _____ POOR _____

- BMP RECOMMENDATIONS:
- Invasive Species Removal (Riparian)
 - Soil Lifts
 - Regrade/Reslope Stream Banks
 - Artificial Riffles/Pools
 - Native Seeding/Plug Planting
 - Hard Bank Armoring (ie Gabions)
 - Bioengineered Bank Armoring
 - Native Tree/Shrub Planting
 - Maintenance (ie debris clearing)

BMP DETAILS: maintain existing flood plain

BMP PRIORITY: CRITICAL AREA/HIGH _____ MEDIUM LOW _____

EXPLAIN BMP PRIORITY: best floodplain forest is dead

Watershed Characteristics Assessment

- **Topography/Watershed Boundary**
- **Geology, Soils, Historic Vegetation**
- **Demographics**
- **Existing and Future Land Use**
- **Ordinance Review**
- **Green Infrastructure and Natural Areas**
- **Drainage System**
- **Groundwater**
- **Water Quality and Pollutant Loading**

Identify Causes and Sources of Impairment

What is causing our water quality issues?

- **Nutrients, sediment, bacteria**
- **Eroding streambanks**
- **Land uses and practices**
- **Pollutant hotspots**
- **Invasive species**
- **Future development sites**



Develop a Mission, Goals & Objectives

We'll lead a facilitated community workshop in early 2024, during which stakeholders will:

- **Help craft a mission statement for the watershed plan**
- **Develop and prioritize goals**
- **Places-of-the-Heart exercise**



Identify Critical Areas

- What areas are the biggest contributors to our pollutant issues?
- Where can we install practices that will give us the most water quality improvement?

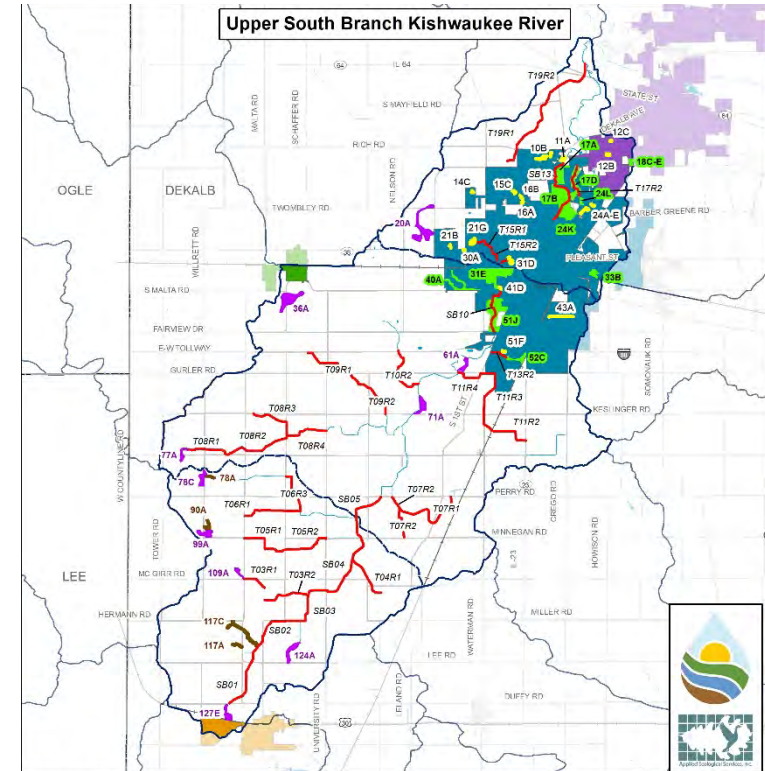
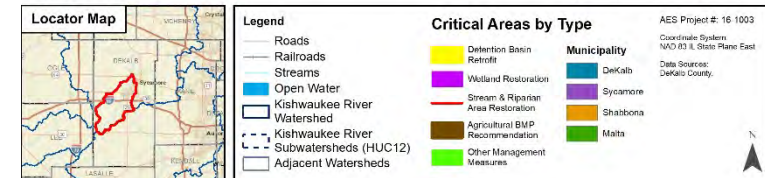


Figure 57: Critical Areas



Develop Reduction Targets

- **How much do we need to reduce each pollutant in order to get our water quality back where it needs to be?**
- **Set pollutant Reduction Targets based on existing water quality data and numeric standards.**
- **Use a model to estimate pollutant reduction from addressing Critical Areas and other high priority projects**
- **Are those targets attainable?**

Develop an Action Plan

Programmatic Measures: general remedial, preventive, and policy watershed-wide Management Measures that can be applied across the watershed by various stakeholders.

Site Specific Measures: actual locations where Management Measure projects can be implemented to improve surface and groundwater quality, green infrastructure, and flooding.

Site-Specific Action Plan Table

CITY OF DEKALB												
ID#	Location	Units (Acres or LF)	Existing Condition	Management Measure Recommendation	Pollutant Reduction Efficiency			Priority	Owner & Responsible Entity	Sources of Technical Assistance	Cost Estimate	Implementation Schedule (Years)
					TSS (tons/yr)	TP (lbs/yr)	TN (lbs/yr)					
DETENTION BASIN RETROFITS & MAINTENANCE (SEE FIGURE 69). Technical and Financial Assistance Needs: Technical assistance needed to implement detention basin retrofits is relatively low while financial assistance needs are moderate. Private landowners will need the greatest assistance.												
10A	See Figure 69 for project location	3.1	Large wet-bottomed basin with turf side slopes, eroded toe along half, mowed on three sides in poor ecological condition	Design and implement a project to remove turf, regrade/stabilize and naturalize slopes and buffer with natives and maintain for three years to establish	2	5	17	Medium	Private Owner/ HOA	Ecological Consultant/ Contractor	\$115,000 to design, permit, & construct. \$9,300 to implement three-year M&M.	5-15 Years
10B	See Figure 69 for project location	12.3	Large wet-bottomed basin with turf side slopes, spot erosion evident, and poor ecological condition; geese present	Design and implement a project to remove turf, spot regrade banks where necessary, increase the size of buffer, naturalize buffer & slope with native plants and maintain for three years to establish	21	63	214	High/Critical Area	Private Owner/ HOA	Ecological Consultant/ Contractor	\$237,600 to design, permit, and construct. \$18,450 to implement three-year M&M.	1-10 Years



Funding for the projects YOU want to accomplish!

Information & Education Plan

- Change social behavior, public cooperation, and motivation to take action to meet plan goals
- Get the word out!

Education Action of Campaign	Target Audience	Communications Vehicles	Priority/Schedule	Lead (Supporting) Organizations	Outcomes, Change in Action	Estimated Cost
Regenerative Agriculture Workshop	Farmers and Ag Industry	Social Media, Websites, local publications	Critical/Fall/ Winter 2020/2021; biennially	SWCD (NRCS)	Understanding of the Nutrient Loss Reduction Strategy, improved water quality and soil health.	\$500 per workshop (biennially)
Water Quality Educator Resources	DeKalb County Educators	Emails, Communication with School Districts	Critical/Ongoing	U of I Extension, DeKalb County Farm Bureau, Ag Literacy Coordinator, (SWCD)	Provide useful tools to educate the Educators and Students on understanding watersheds and how to improve water quality in DeKalb County	\$1,265 (one time)
Name that Stream	Students in the Watershed	Emails, Letters to the School District	Critical/Fall/ Winter 2020/2021	Watershed Steering Committee (SWCD)	Encourage student involvement and provide opportunities to discuss water quality and watersheds.	\$250 (one time)



Water Quality Monitoring Plan

- **Where will we monitor water quality?**
- **What parameters should we be monitoring?**
- **Develop a set of criteria to measure success.**



Evaluate Implementation – Report Cards

- A progress report card will be created for each plan goal to help evaluate implementation progress.
- The progress report card is designed to be used/evaluated every five years.

Goal 1 Report Card
Build stakeholder awareness of watershed issues through education and stewardship while increasing communication and coordination among stakeholders.

Current Condition:
Many of the stakeholders in the watershed have been active in the creation and leadership of the Upper South Branch Kishwaukee River Watershed Improvement Plan. Key stakeholders include the DeKalb County Community Foundation, DeKalb County SWCD, the Cities of DeKalb and Sycamore, the Villages of Malta and Shabbona, DeKalb County, local drainage districts, Kishwaukee Water Reclamation District, the Forest Preserve District of DeKalb County, the DeKalb Park District, Illinois Tollway, Illinois Environmental Protection Agency, Northern Illinois University, Illinois Department of Natural Resources, and many private residents and land owners. These groups, led by the DeKalb County Soil & Water Conservation District and the DeKalb County Community Foundation, are actively engaging the public in watershed activities such as: educational seminars, watershed outings and bus tours, Regenerative Agriculture workshops, Name-That-Stream programs, water quality monitoring, and extensive public education programs and outreach events. The planning process has allowed watershed partnerships to form that will help with implementing the watershed plan and initiating projects.

Criteria/Targets to Meet Goal Objectives:

- Number of Education Actions completed from Information & Education Campaign.
- Number of public officials that support conservation design and low impact development ordinance language changes.
- Number of agricultural landowners that are informed about healthy land management.
- Number of riparian landowners that are informed about healthy land management.
- Number of educational and environmental interpretation signs posted throughout the watershed.
- Number of people attending public education events regarding fertilizer, road salt, and pet waste disposal.

Goal/Objective Milestones:

		Grade
1-10 Yrs: (Short)	<ol style="list-style-type: none"> At least half of Education Actions completed from Information & Education Campaign. At least one municipality adopts conservation design and LID within their ordinances. At least 25% of agricultural landowners are educated about healthy land management. At least 25% of riparian landowners are educated about healthy land management. Educational signage is installed in at least three locations in the watershed. At least 50 people per year attend fertilizer, road salt, and pet waste disposal education campaigns. 	
10-20 Yrs: (Long)	<ol style="list-style-type: none"> All Education Actions completed from Information & Education Campaign. At least 3 municipalities or the county adopt conservation design, LID within their ordinances. At least 50% of agricultural landowners are educated about healthy land management. At least 50% of riparian landowners are educated about healthy land management. Educational signage is installed in at least six locations in the watershed. At least 100 people per year attend fertilizer, road salt, and pet waste disposal education campaigns. 	

Monitoring Needs/Efforts:

- Track number of Education Actions completed from Information & Education Campaign.
- Track number of public officials with each municipality that support conservation design and low impact development.
- Track amount of information targeted to agricultural and riparian landowners.
- Track number of educational signs that are installed in the watershed.
- Track number of people that attend education campaigns for management of fertilizer, road salt use, and pet waste.

Remedial Actions:

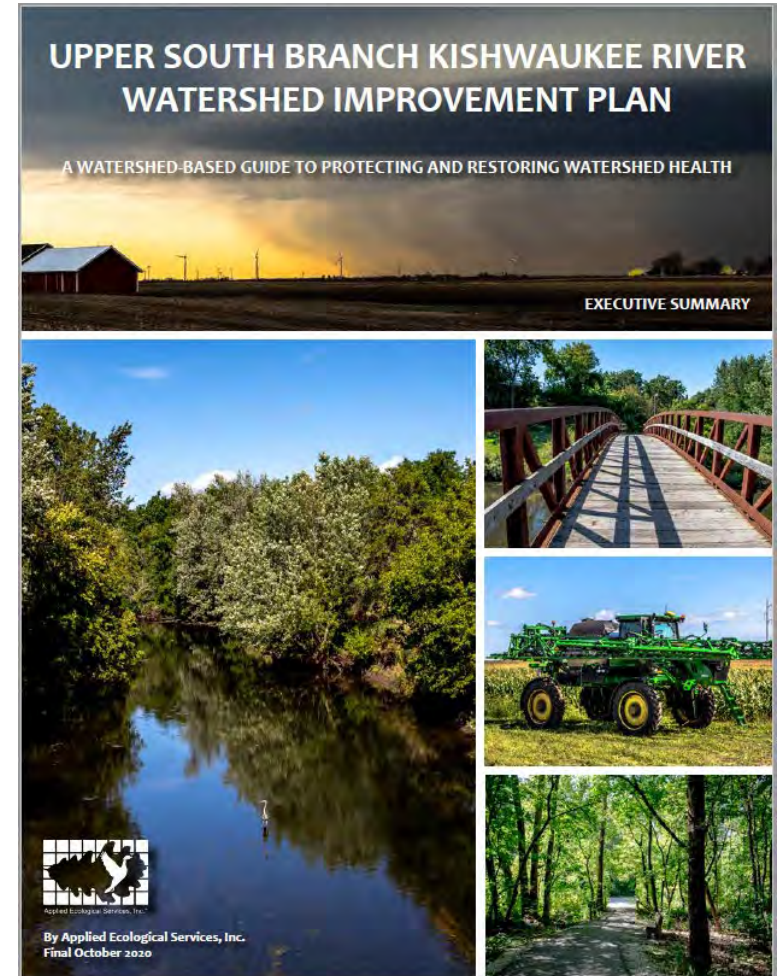
- Ask partners for funding to implement the watershed plan and Information & Education Campaign.
- Meet with public officials to discuss the importance of conservation design and LID ordinance changes.
- Ask municipalities for funding related to creating and installing watershed signage.
- Actively recruit public to attend watershed education campaigns.

Notes:

Grade Evaluation: 80%-100% met = A; 60%-79% met = B; 40%-59% met = C; and < 40% = failed.

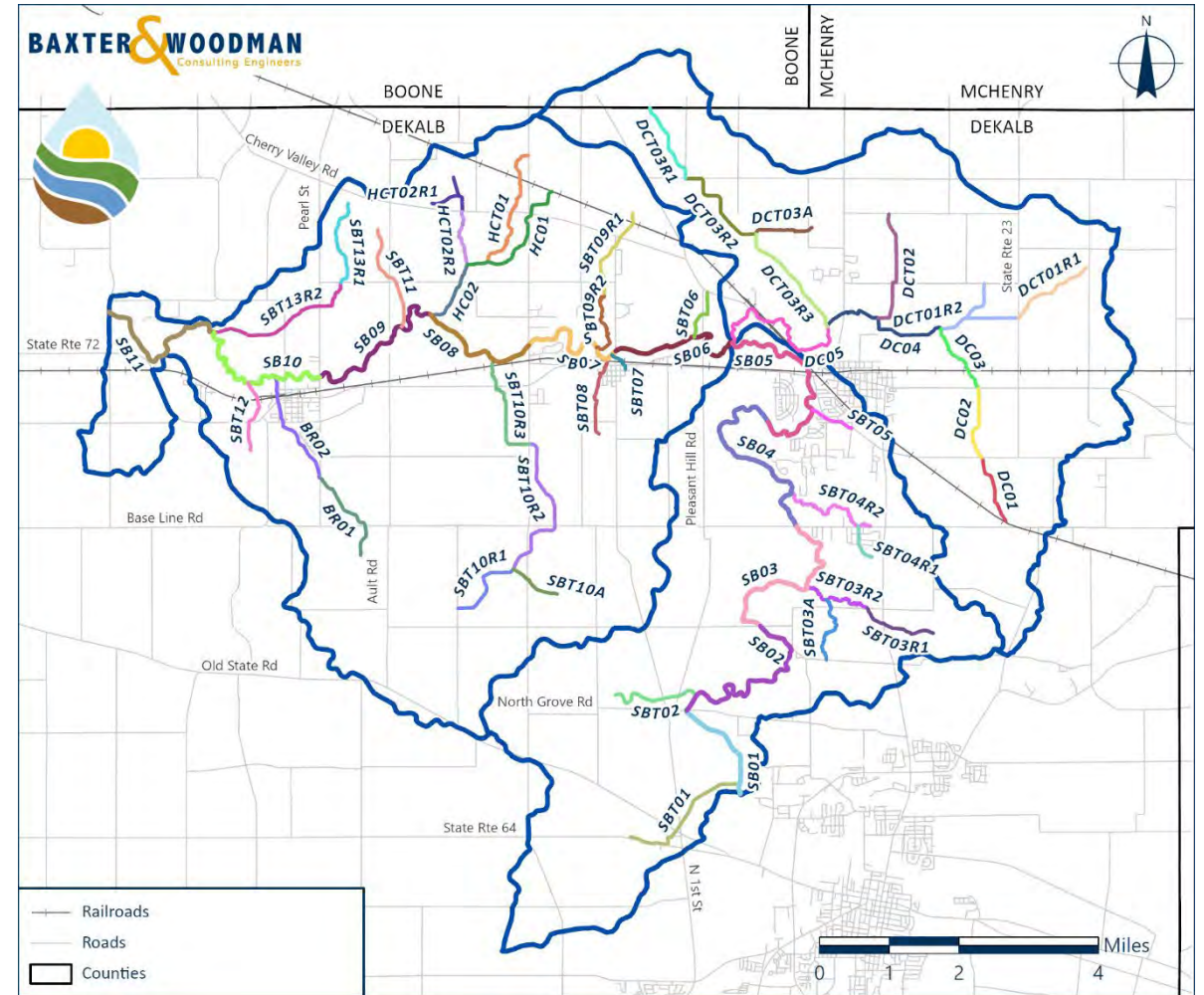
Executive Summary and Final Report

- Will create a brochure-style Executive Summary.
- Once the final draft is approved, we will put the plan in InDesign.
- Includes instructions for sending to printer.

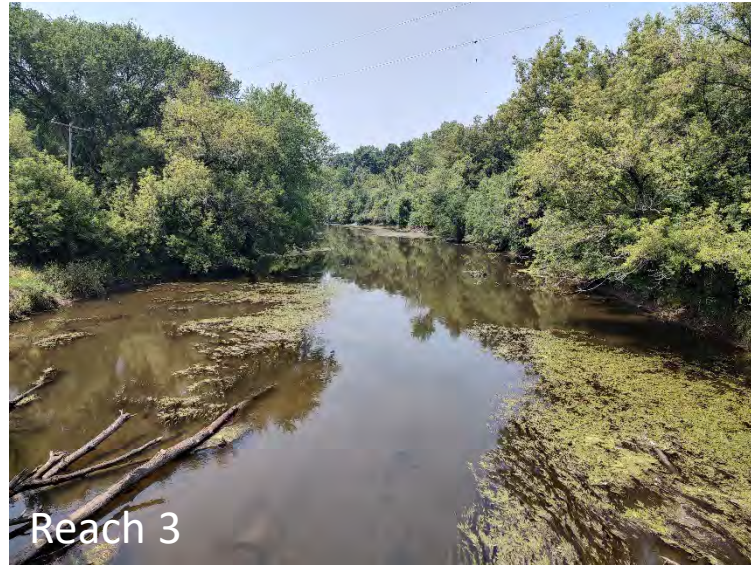


Stream Reaches

- 51 stream reaches in total, 83.7 mi
- South Branch Kishwaukee 27.9 mi, 11 reaches; 27.5 mi of unnamed tributaries, 21 reaches
- Deer Creek 7.9 mi, 5 reaches; 10.3 mi of tributaries, 7 reaches
- Haines Creek 3 mi, 2 reaches; 3.9 mi of tributaries, 3 reaches
- Bull Run 3.2 mi, 2 reaches



South Branch Kishwaukee River

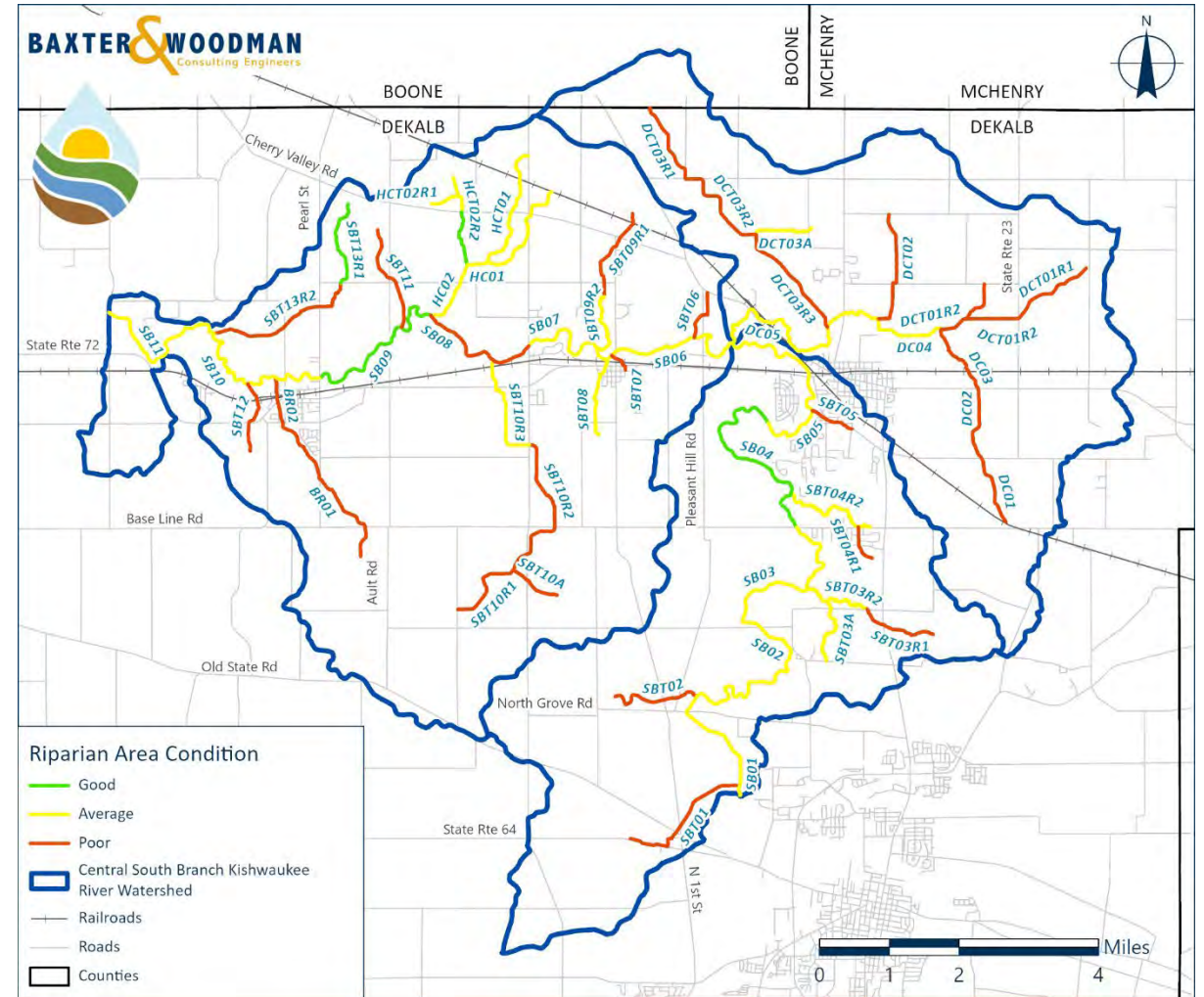


Tributaries to South Branch Kishwaukee River

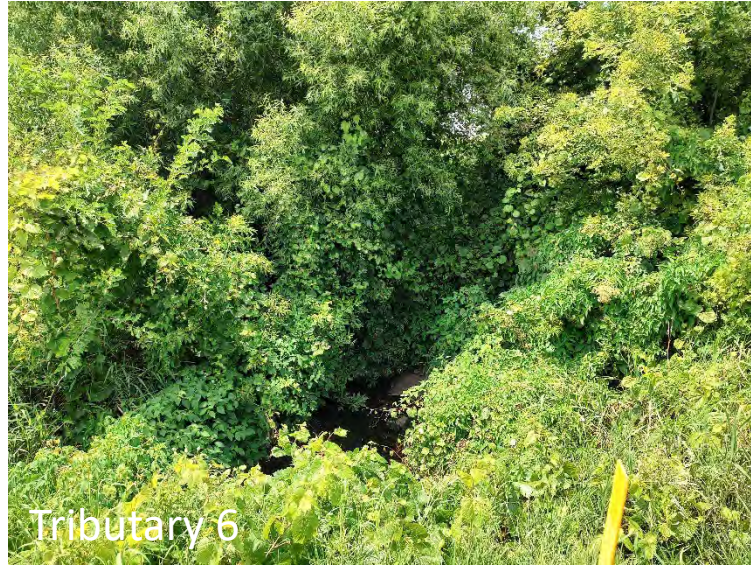


Riparian Area Condition

- 8.2 mi Good Condition
- 40.1 mi Average Condition
- 35.3 mi Poor Condition

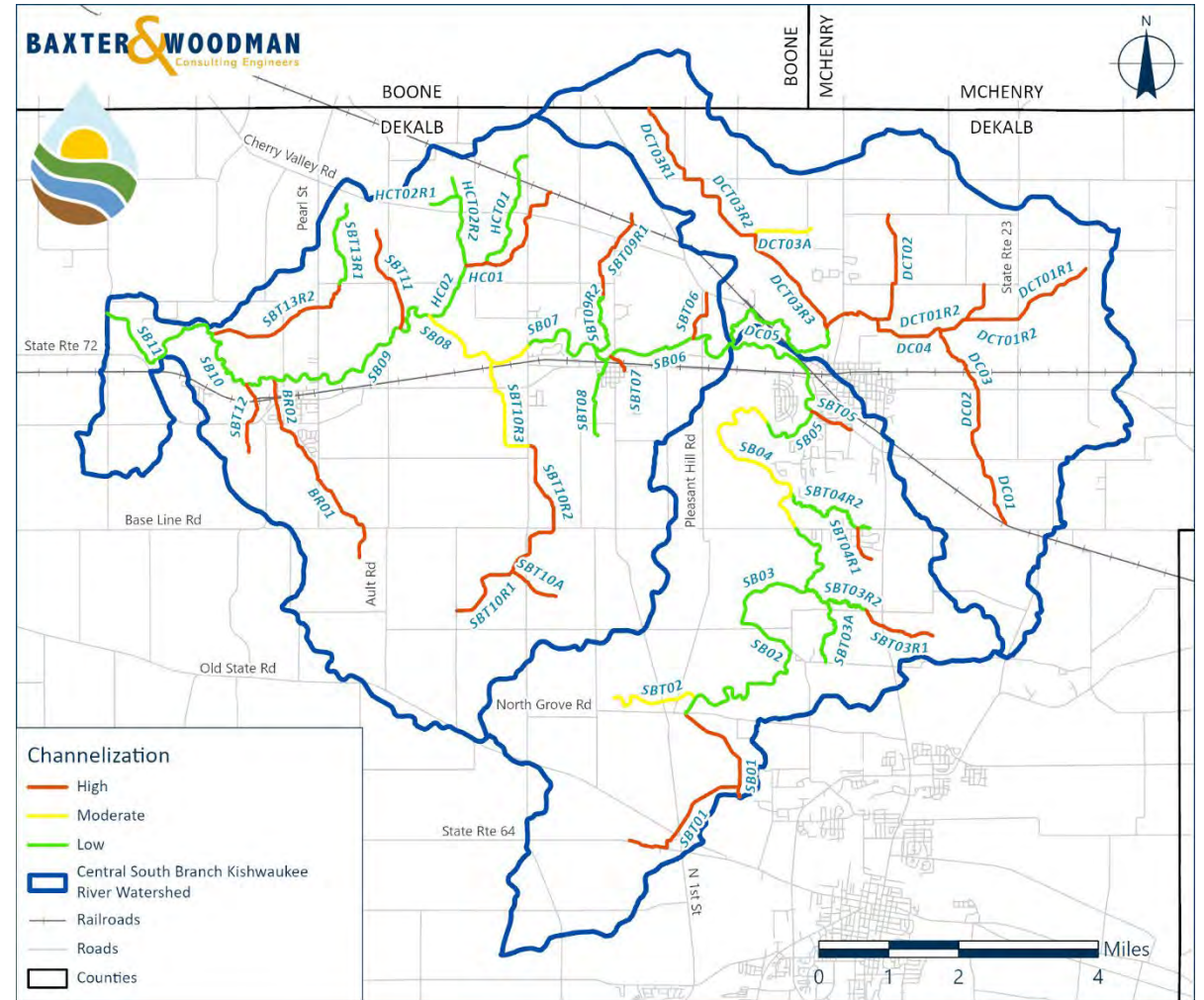


Riparian Area Condition



Channelization

- 37.7 mi Highly channelized
- 9.2 mi Moderately channelized
- 36.8 mi Low channelization

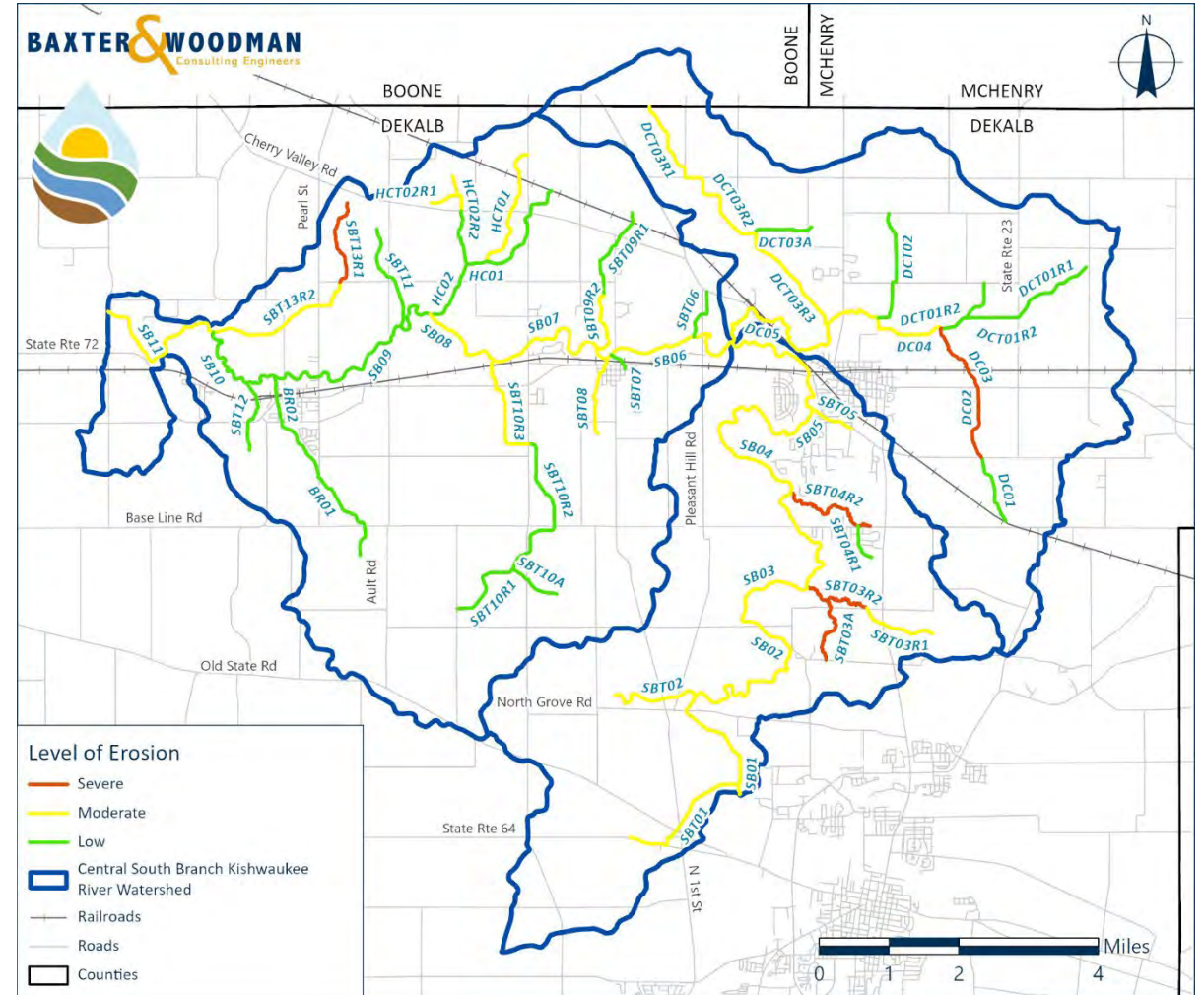


Channelization

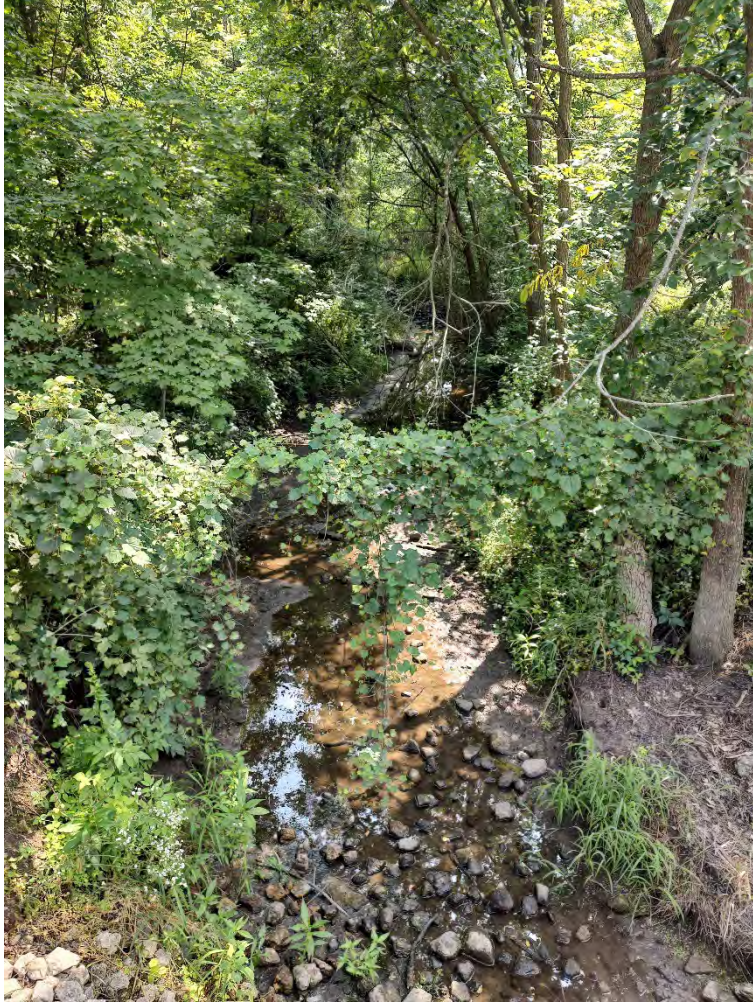


Level of Erosion

- 8.0 mi Severely eroded
- 46.5 mi Moderately eroded
- 29.1 mi Low erosion



Level of Erosion



Tributary 3 Subtributary A



Tributary 3 Reach 2



Tributary 4 Reach 2



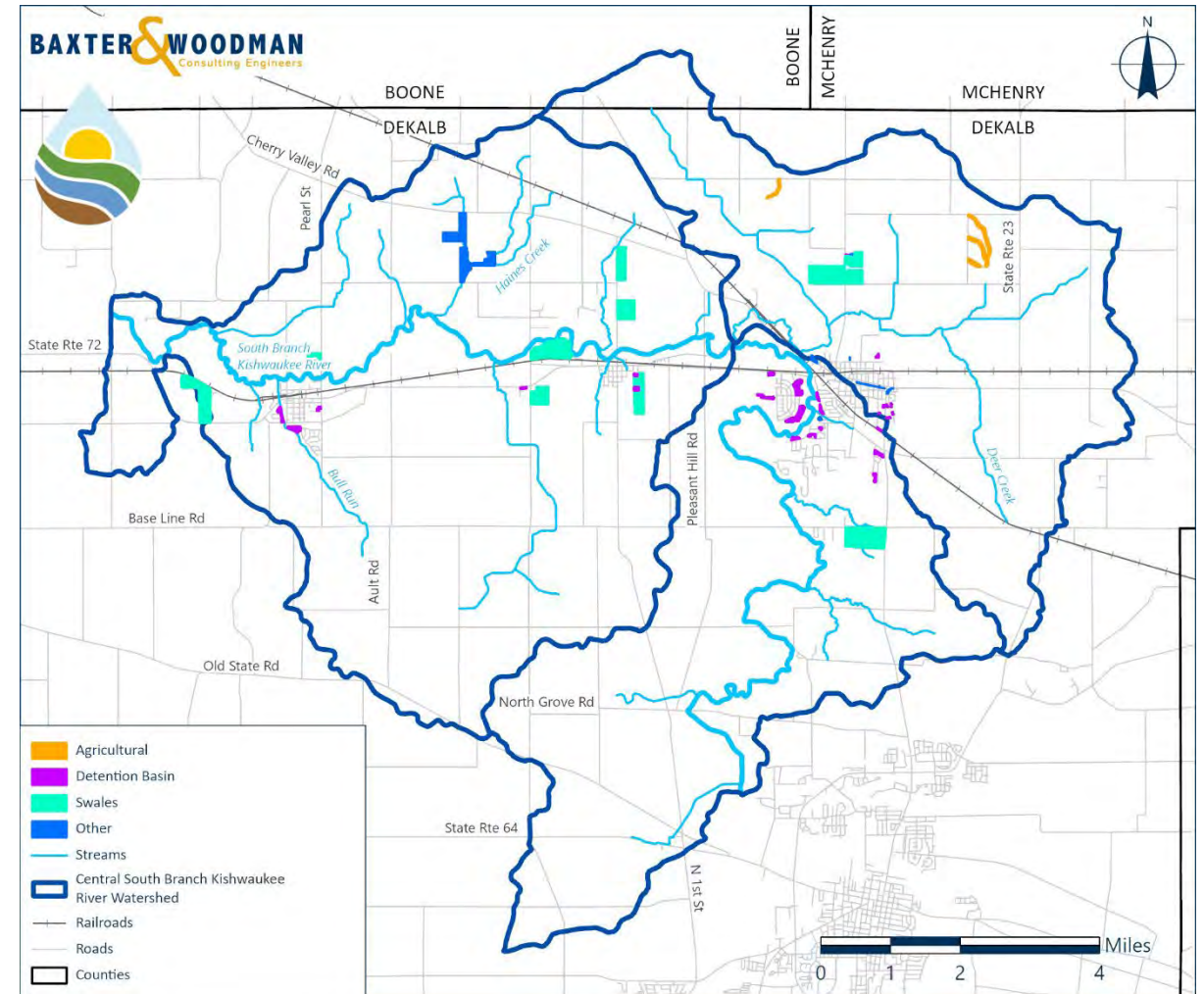
Tributary 13 Reach 1



Deer Creek Reach 2

Best Management Practices by Type

- 2 Agricultural BMPs
- 26 Detention basin retrofits
- 11 Swale retrofits
- 9 Other BMPs
 - Turf to savanna conversion
 - Rain garden
 - Educational opportunities

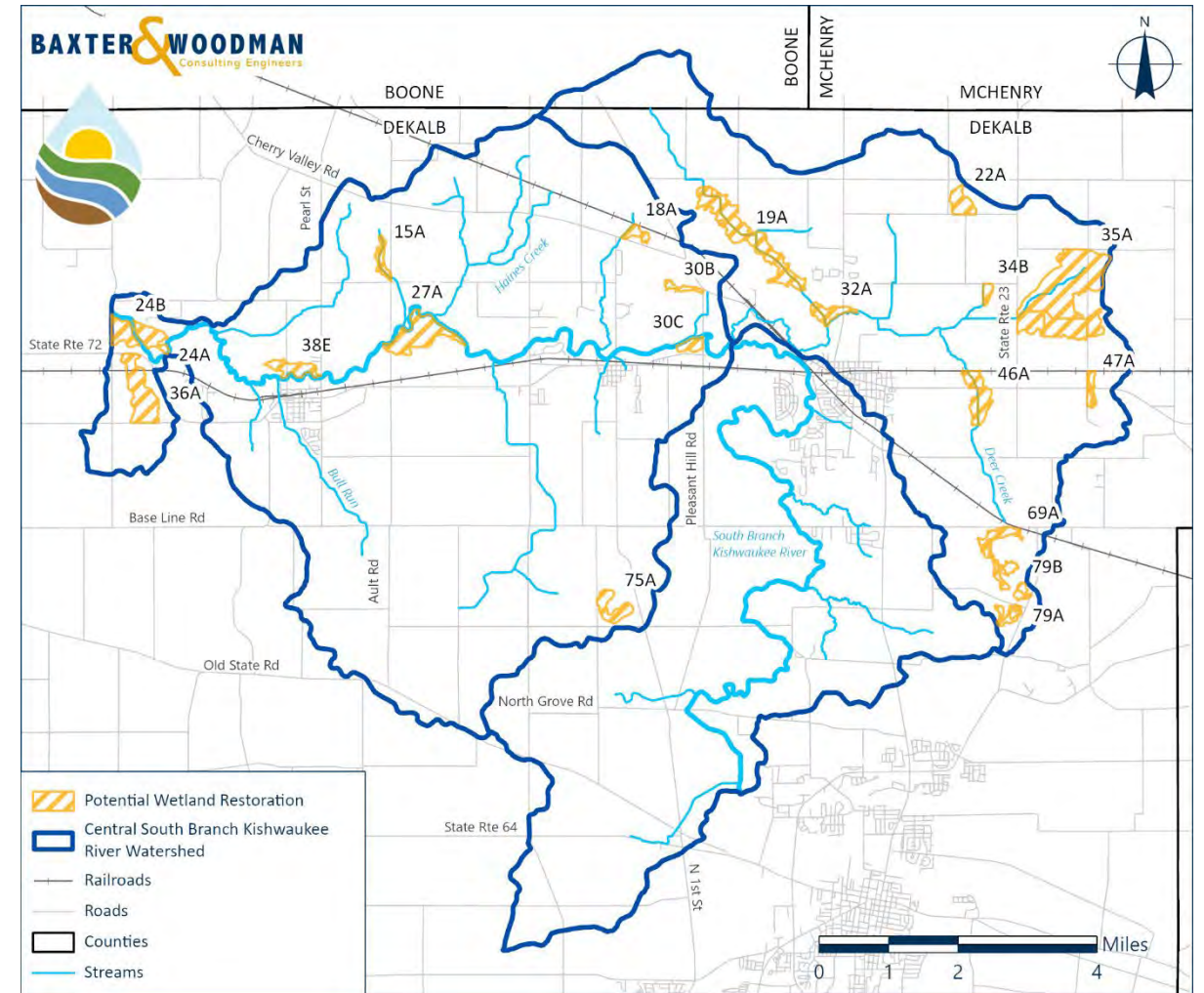


Best Management Practices by Type



Potential Wetland Restorations

- 20 sites
- Most critical along South Branch Kishwaukee to restore floodplain



Watershed Planning Schedule

Meetings generally every other month over the next 1.5 yrs:

- **October – Watershed Characteristics Assessment, Part 1**
- **January '24 – Watershed Characteristics Assessment, Part 2**
- **March '24 – Water Quality, Initial Modeling Results**
- **April '24 – Watershed Goals Workshop**
- **June '24 – Bus Tour**
- **August '24 – Critical Areas and Action Plan**
- **October '24 – Implementation and Outreach Plan**

We need your help!

We want your feedback, knowledge, and data!

- **Important resources/areas to protect or preserve**
- **What projects do you need additional funding for?**
- **Water quality data – chemical, physical, biological**
- **Habitat information**
- **Rare, threatened or endangered species information**

What do you know about this watershed that we don't?