

Upper South Branch Kishwaukee

Action Plan & Critical Areas

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Key Discussion Topics

- Policy Recommendations
- Programmatic Recommendations
- Site Specific Recommendations
- Critical Areas

Source: Google



Action Plan Components

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, and green infrastructure.



Programmatic Measures



Policy & Education Recommendations

- Ordinance and Policy Recommendation
- Rainwater Harvesting & Re-use
- Native Landscaping
- Street Sweeping
- Septic System Maintenance
- Green Infrastructure Planning
- Conservation Design & Low Impact Development
- Water Quality Trading & Adaptive Management



Ordinance & Policy Recommendations

- Plan Adoption & Implementation
 - Watershed partners adopt plan and incorporate into comp. plans and ordinances
- Green Infrastructure Network
 - GIN incorporated into comp. plans and development reviews
 - Developers protect restore degraded natural areas then donate to public agency or conservation group for long term management with SSA or similar funding source
- Groundwater
 - Infiltration requirements and impervious surface reduction within developments
- Road Salt
 - Consider alternatives to existing programs & emerging research from Illinois Tollway
- Native Landscaping/Natural Area Restoration
 - Allow native landscaping within local ordinances
 - Require developers to meet natural area performance standards



Programmatic Agricultural Recommendations

- Encourage the 39% of agricultural landowners already practicing reduced tillage to increase residue to 60% or more on cropland watershed-wide
- This alone could reduce pollutant loading by 16,912 lbs/year of nitrogen, 7,506 lbs/yr of phosphorus, and 3,025 tons/year of sediment.
- Practice principles of soil health
- Encourage regenerative agriculture



Leverage NRCS Programs

- Environmental Quality Incentive Program (EQIP)
- Agricultural Conservation Easement Program (ACEP)
- Wetlands Reserve Easements (WRE)
- Agricultural Land Easements (ALE)
- FSA's Conservation Reserve Program (CRP)



Native Landscaping

- Using native plants around homes & businesses



Pervious Pavement

- Allows water to percolate
- Provide for infiltration
- Can be used for parking lots, parking aprons, private roads, fire lanes, residential driveways, and bike paths



Street Sweeping

- Removes pollutants from roadways before they can enter streams
- Bi-weekly street sweeping is shown to provide sufficient results



Septic System Maintenance

- Septic system failure can contribute to high levels of nutrients and bacteria
- Owners should be compliant with state and local ordinances for installation, operation, & maintenance
- Septic owners should follow USEPA's guidance called "A Homeowner's Guide to Septic Systems"



Rainwater Harvesting & Re-use

- Downspout disconnection
- Reduction in stormwater runoff
- Utilizes rain barrels or cisterns
- Most commonly used for irrigation



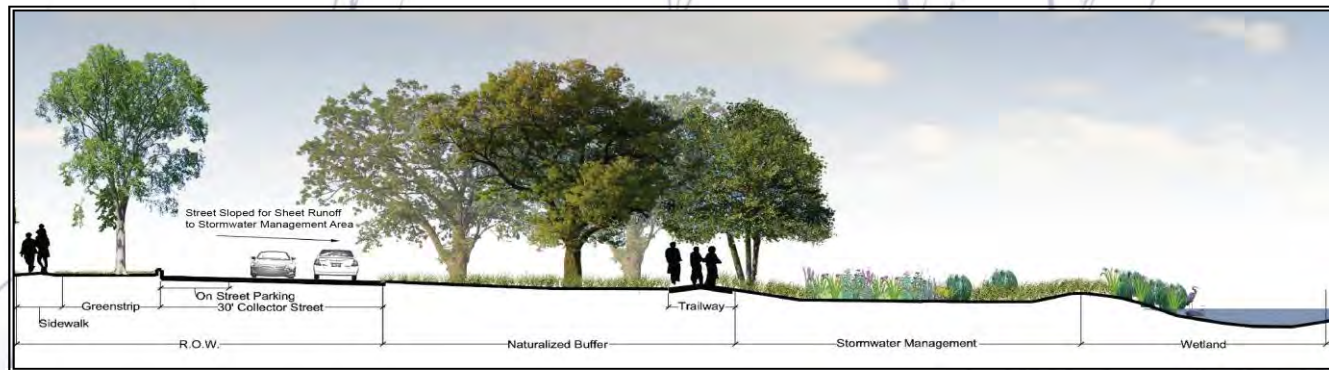
Green Infrastructure Planning

- * Green Infrastructure preservation and planning is the key to achieving watershed health
- Protect specific unprotected green infrastructure parcels through acquisition, regulation, and/or incentives
- Incorporate conservation or low impact design standards on green infrastructure parcels where development is planned
- Limit future subdivision of green infrastructure parcels
- Implement long term management of green infrastructure



Conservation & Low Impact Development

- Also known as cluster or opens space design
- Preserves natural areas and features
- Maintains density by allowing smaller lots clustered around larger areas of open space



Example of Stormwater Treatment Train within Conservation Development.



Water Quality Trading & Adaptive Management

- Follows example set by WI
- Presents a way for municipal and industrial NPDES permit holders to demonstrate compliance with water quality-based effluent limitations
- Provides point sources with the flexibility to acquire pollutant reduction from other sources in the watershed to offset their point source load



Site-Specific Measures



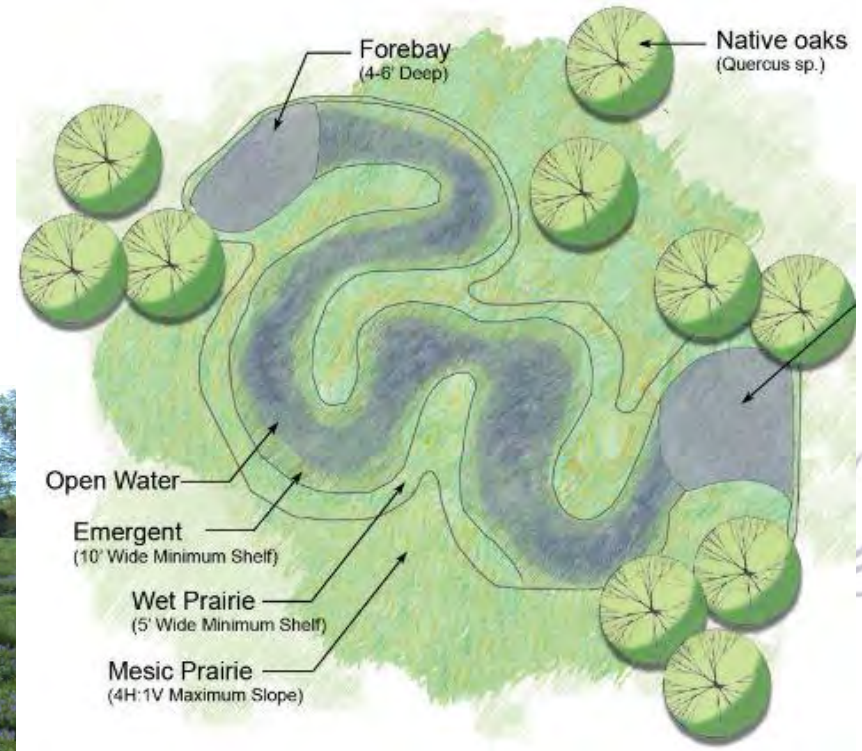
Site Specific Management Measures

- Detention Basin Retrofits
- Wetland Restoration
- Stream & Riparian Area Restoration
- Agricultural Management Practices
- Flood Mitigation & Problem Areas - TBD
- Other Management Measures
 - Natural Area Restoration & Management
 - Golf Course Naturalization
 - Parking Lot BMPs



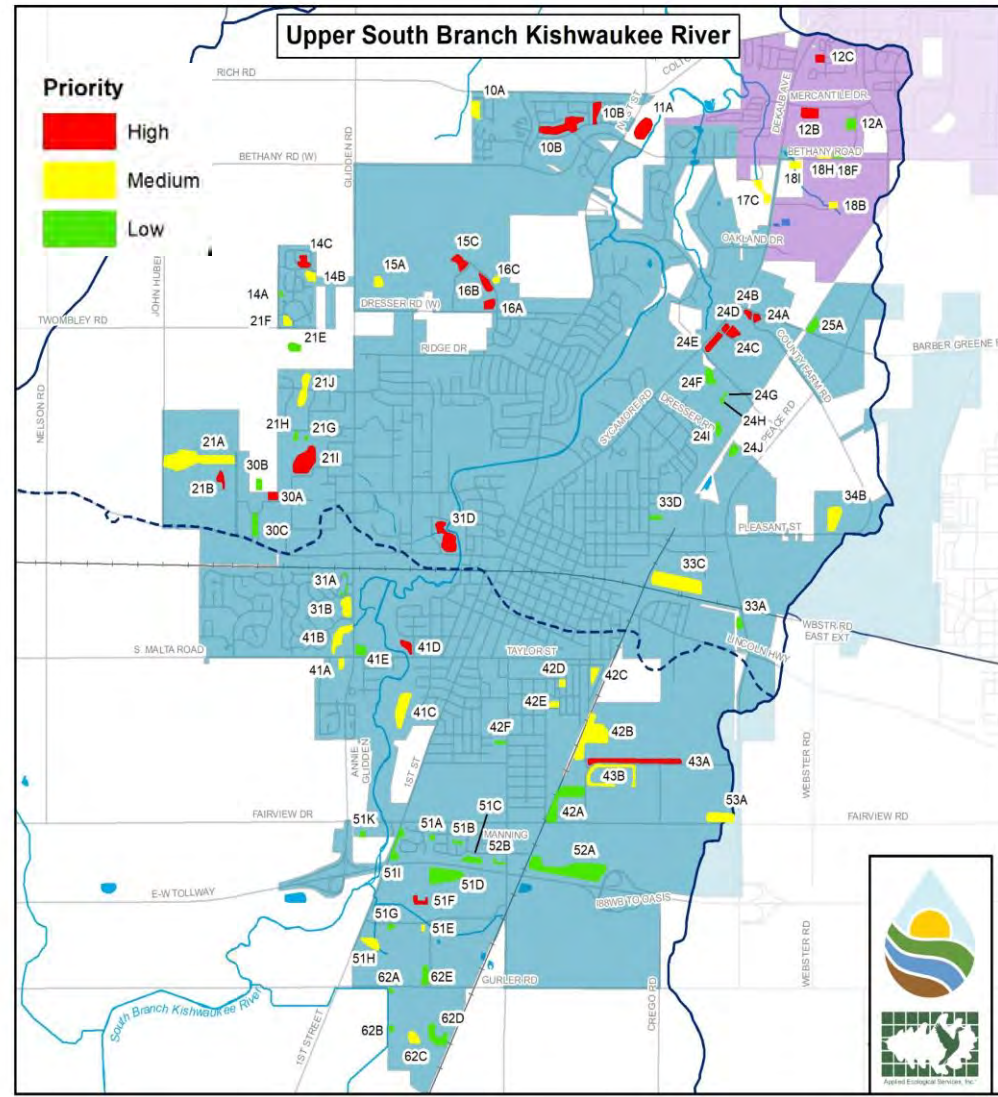
Detention Basin Retrofits

- Location
- Design
- Short & Long Term Native Vegetation Establishment



Detention Basin Retrofit Sites

- 20 detention basins are categorized as High Priority/Critical Areas.
- 26 are categorized as Medium Priority and 30 as Low Priority.
- General recommendations include naturalizing slopes and buffers.



Example Detention Basin Retrofits



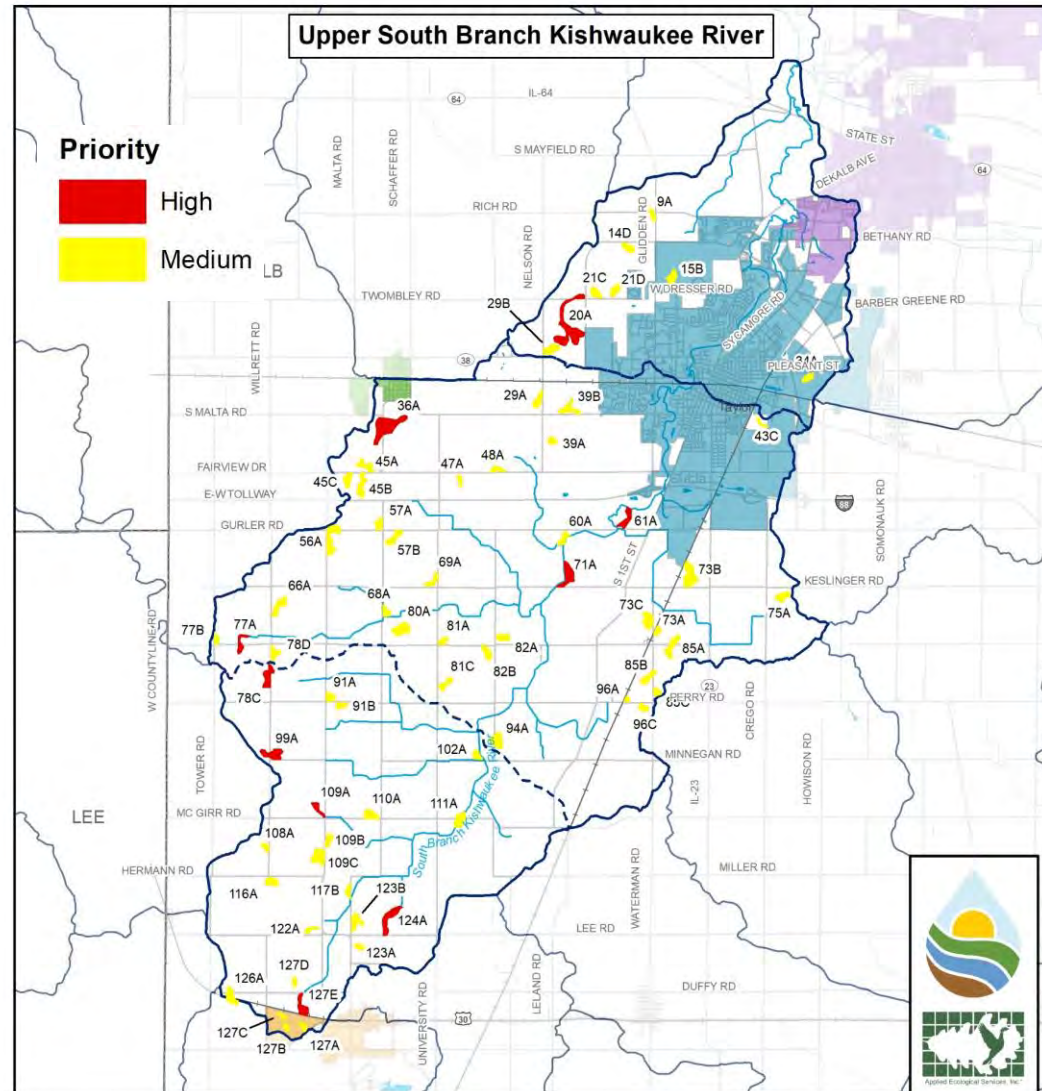
Wetland Restoration

- Returning hydrology and vegetation to soils that once supported wetlands
- Incorporate into conservation design or as part of wetland mitigation bank



Wetland Restoration Sites

- 10 wetland restoration sites are categorized as High Priority/Critical Areas.
- Remaining 58 are categorized as Medium Priority.
- All confirmed to be potentially feasible based on field investigations.



Example Wetland Restoration Sites



Streambank & Riparian Area Restoration

Restoration: Improve stream channel using pool-riffle complexes, stabilize streambanks using a combination of bioengineering combined with native vegetation and hard armoring with rock if needed. Increase and restore riparian areas throughout & maintain.



TYPICAL RIFFLE AND POOL DESIGN



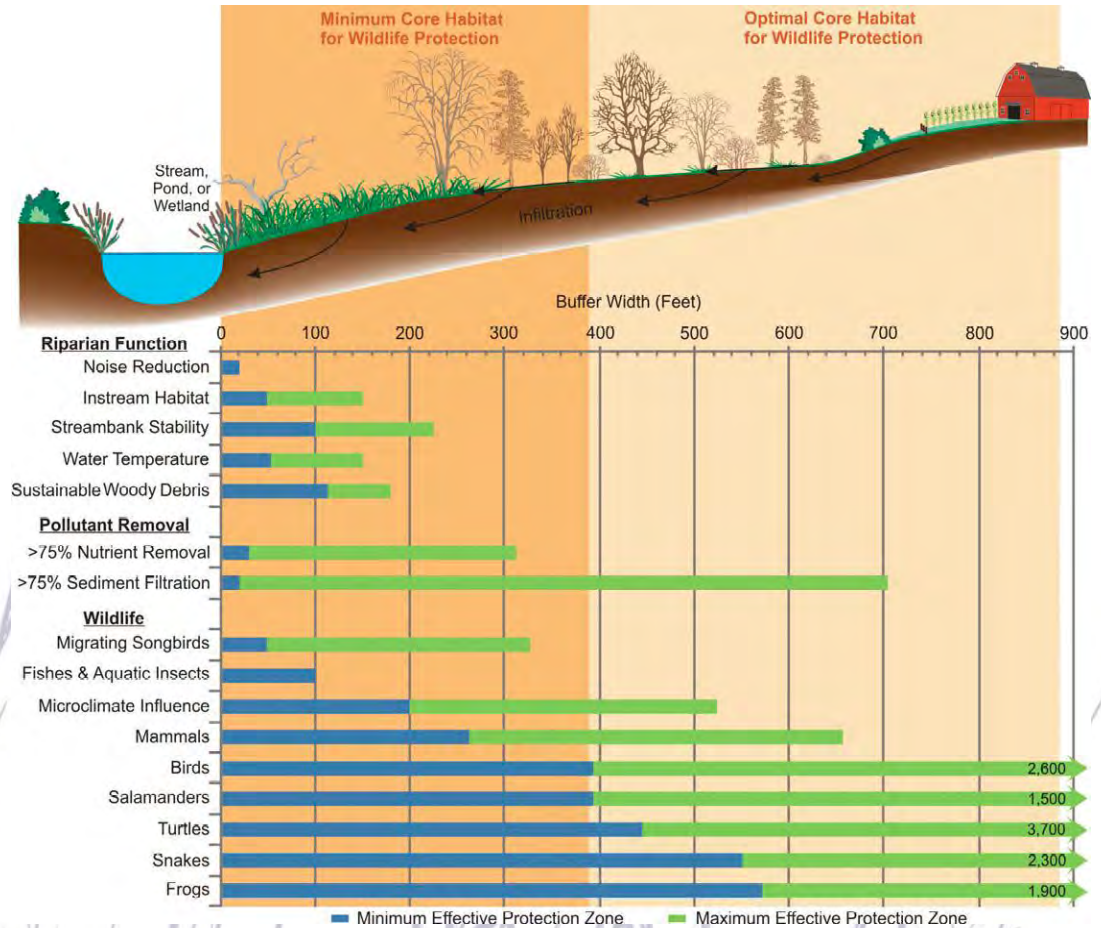
Vegetative Cover on Stream Banks:
Provides Shade and Cover for Wildlife



Waterbody Buffers

Land adjacent to any water body including ponds, lakes, streams, and wetlands.

SEWRPC recommends 75% minimum of stream length naturally vegetated with 75 foot wide buffer. Goal for this watershed plan is 50 feet along both banks.

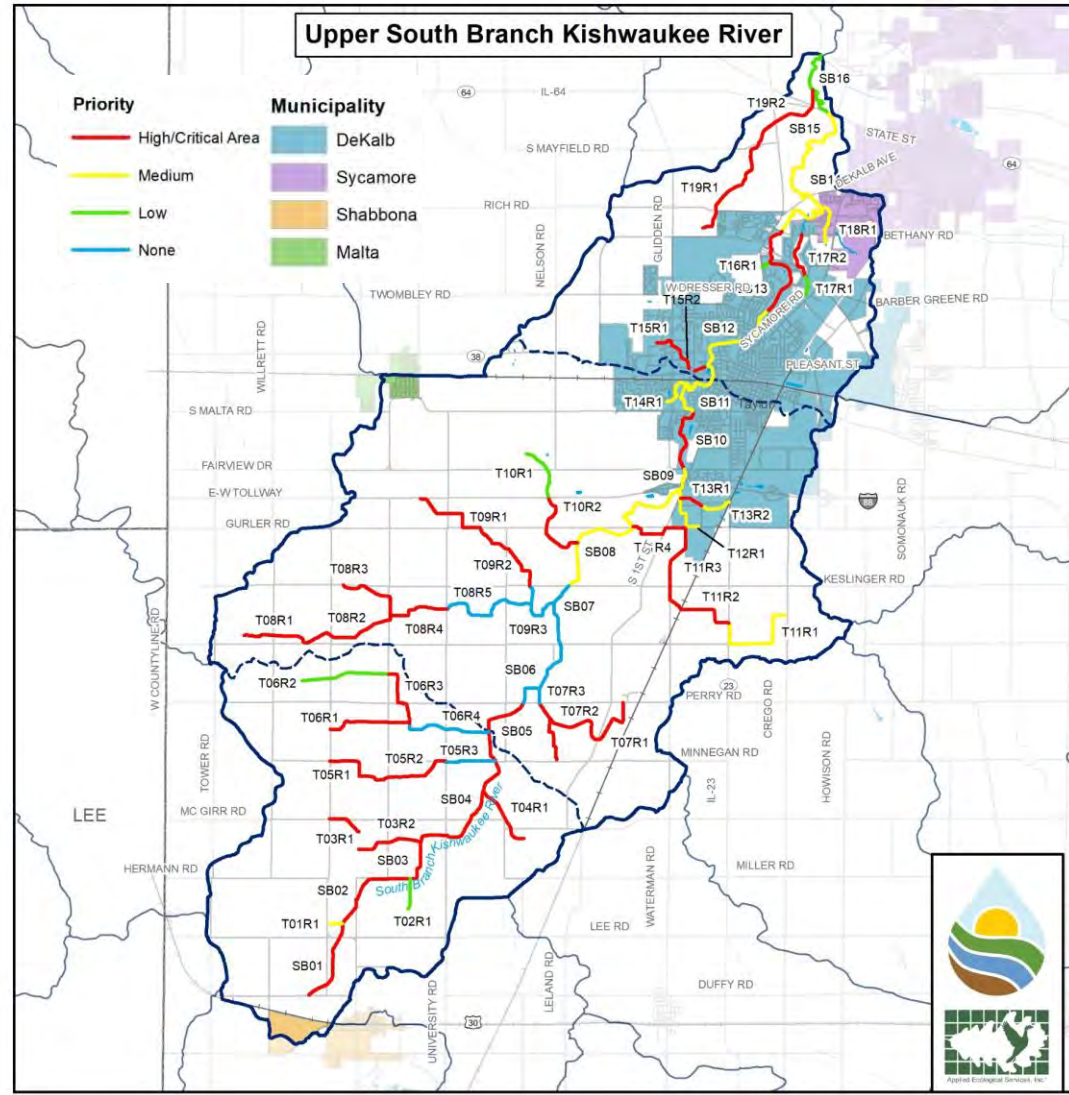


Riparian function, pollutant removal, & wildlife benefits for buffer widths (Source: SEWRPC) 2010).



Streambank & Riparian Area Restoration Sites

- 215,995 LF of streams categorized as High Priority/Critical Areas
- Install native stream buffers where missing
- Restore degraded riparian areas to higher quality (stormwater, habitat)
- Spot stabilization of streambanks using bioengineering, regrading where necessary



Example Stream & Riparian Restoration



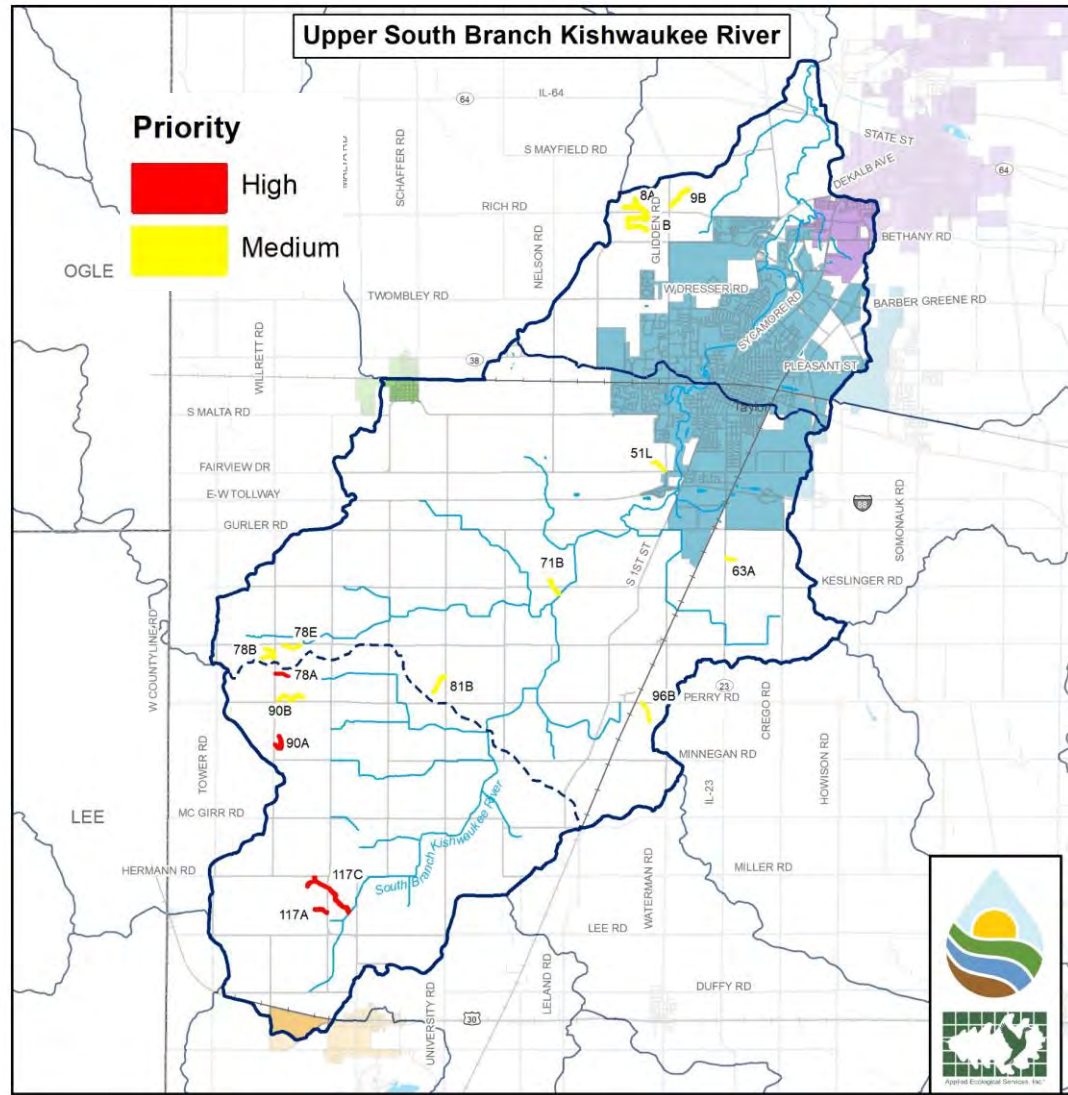
Agricultural Management Practices

- In-field grass waterways or vegetated swales where gullies or eroding drainage have already formed
- Encourage the 39% of agricultural landowners already practicing reduced tillage to increase residue to 60% or more on cropland watershed-wide
- Regenerative Agriculture – promotes regeneration of topsoil, improves water quality, increases biodiversity, and supports carb sequestration
- 5 Principles of Soil Health – soil armor, minimize soil disturbance, plant diversity, continual live plant/root, and livestock integration



Agricultural Management Practice Sites

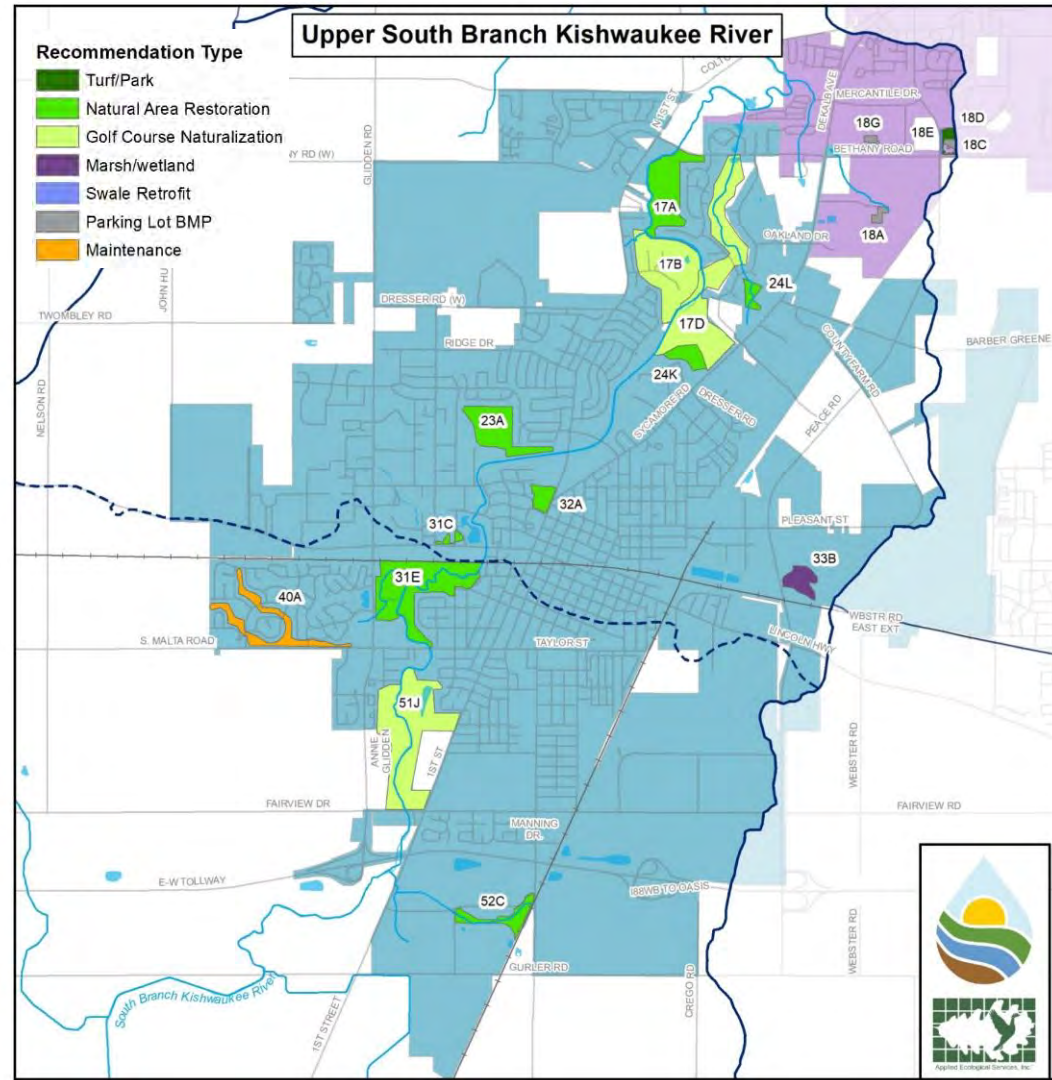
- All Agricultural Management Practices mapped here are fields in need of additional grass waterways or swales.
- 4 sites categorized as High Priority/Critical Areas, 11 Medium Priority.



Other Management Measure Sites

Potential projects include:

- 8 Natural area restorations
- 3 Golf course naturalizations
- 3 Parking lot best management practice recommendations
- 1 swale retrofit
- 1 turf/park retrofit
- 1 wetland management area
- 1 project to maintain a series of naturalized detention basins

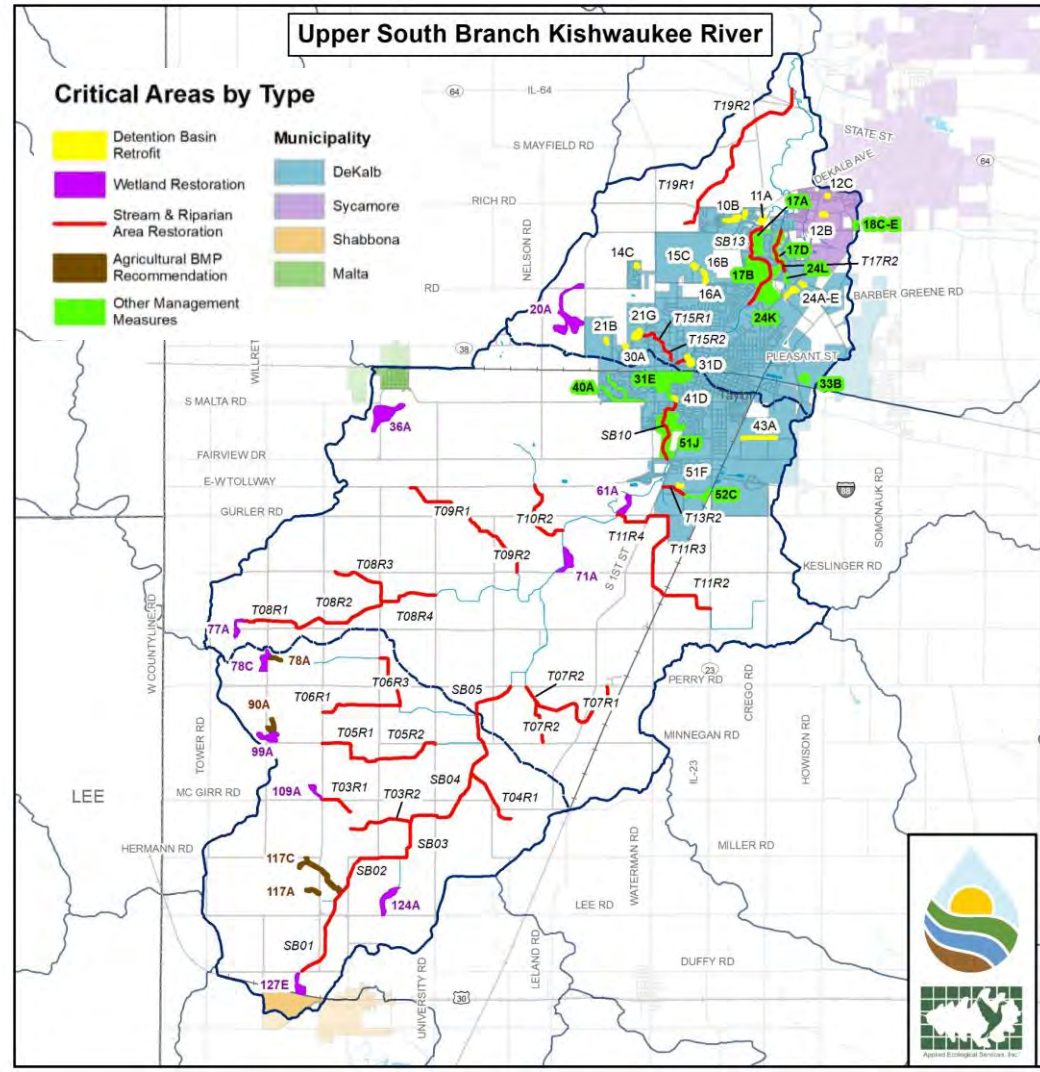


Example Natural Area Restoration



Critical Areas

- Projects recommended for IEPA 319 Grant Funding.
- Generally, those projects that would create the most water quality improvement.
- Also includes encouraging the 39% of agricultural landowners already practicing reduced tillage to increase residue to 60%



Schedule

April – Critical Areas, Action Plan, & tour of potential project sites

June – Information & Education Plan, Monitoring Plan, & Milestones

Draft plan sent to IEPA by June 30th

While in review, plan is put into InDesign. Will have final version completed within 1 month of receiving edits back from IEPA (tentatively by October 31st)



Questions?

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