

# Upper South Branch Kishwaukee Watershed Inventory

October 2, 2019 Stakeholder Meeting  
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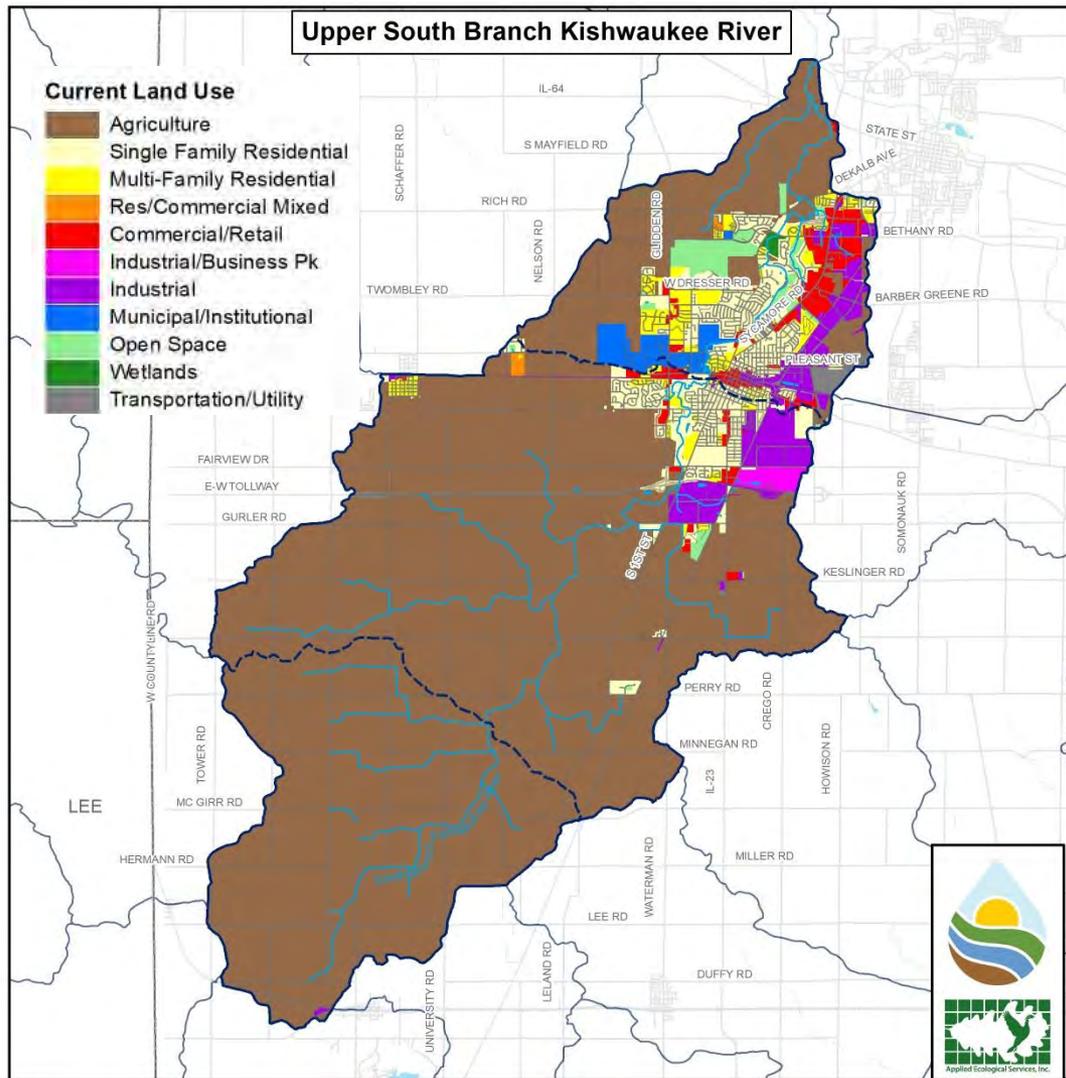
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# Key Discussion Topics

- Existing & Future Land Use
- Impervious Cover
- Open Space Parcel Prioritization
- Important Natural Areas
- Green Infrastructure Network
- Cropland and Agricultural data
- Groundwater



# Existing Land Use

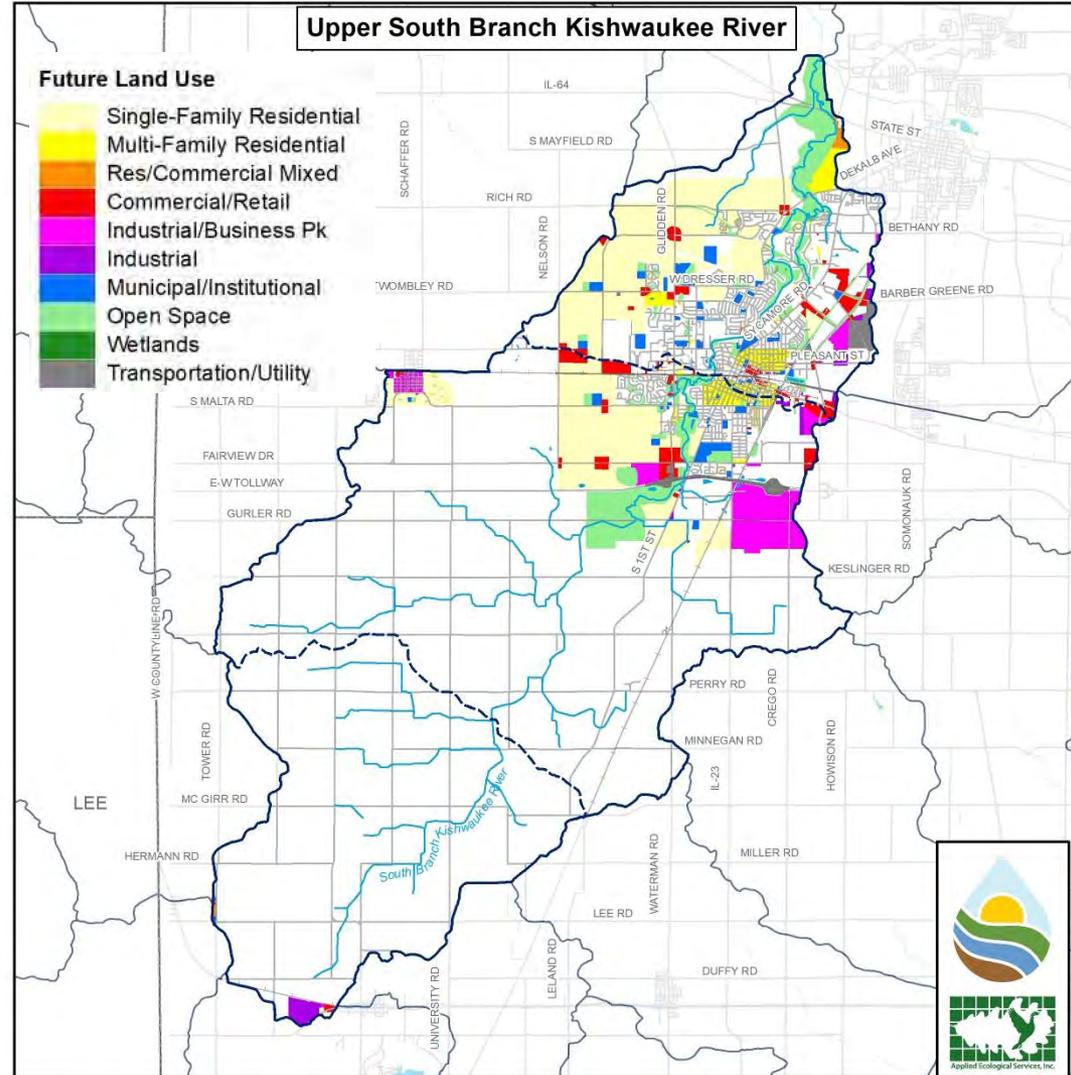


- 80% Agriculture
- 5% Residential
- 5% Utility/  
Transportation
- 3% Industrial
- 2% Multi-family
- 2% Retail/  
Commercial
- 1% or less all other  
uses



# Future Land Use Changes

- Biggest loss is in agricultural land (-9,148.5 ac, 14.5%)
- Biggest gain is in single-family residential (+5,163 ac, 8.2%)
- Other gains include open space, industrial/business park, and commercial/retail



# Impervious Cover Impacts on Streams

As impervious cover increases stream morphology degrades, pollutants & temperatures increase, flow/volume increases, and habitat degrades.

| Category       | % Impervious  | Stream Condition within Subwatershed   |
|----------------|---------------|--|
| Sensitive      | <10%          | Stable stream channels, excellent habitat, good water quality, and diverse biological communities                      |
| Impacted       | >10% but <25% | Somewhat degraded stream channels, altered habitat, decreasing water quality, and fair-quality biological communities. |
| Non-Supporting | >25%          | Highly degraded stream channels, degraded habitat, poor water quality, and poor-quality biological communities.        |

Source: Center for Watershed Protection



Typical "Sensitive" Stream



Typical "Impacted" Stream



Typical "Non-Supporting" Stream

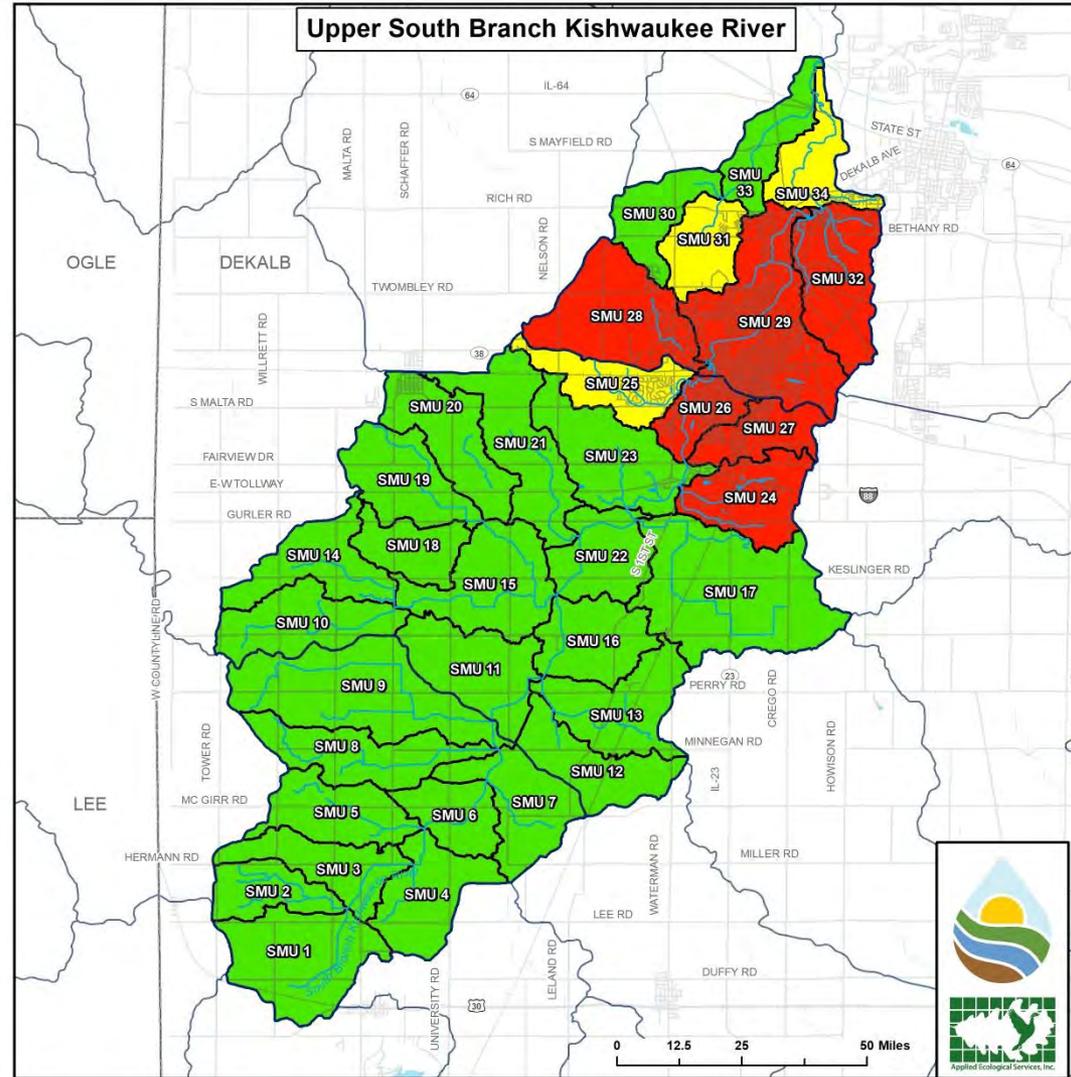
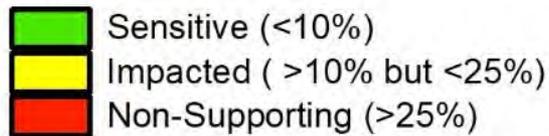


# Existing Impervious Cover

Based on existing land use/land cover

- 25 SMUs classified as sensitive
- 3 as impacted
- 6 as non-supporting

## 2019 Impervious Cover by SMU

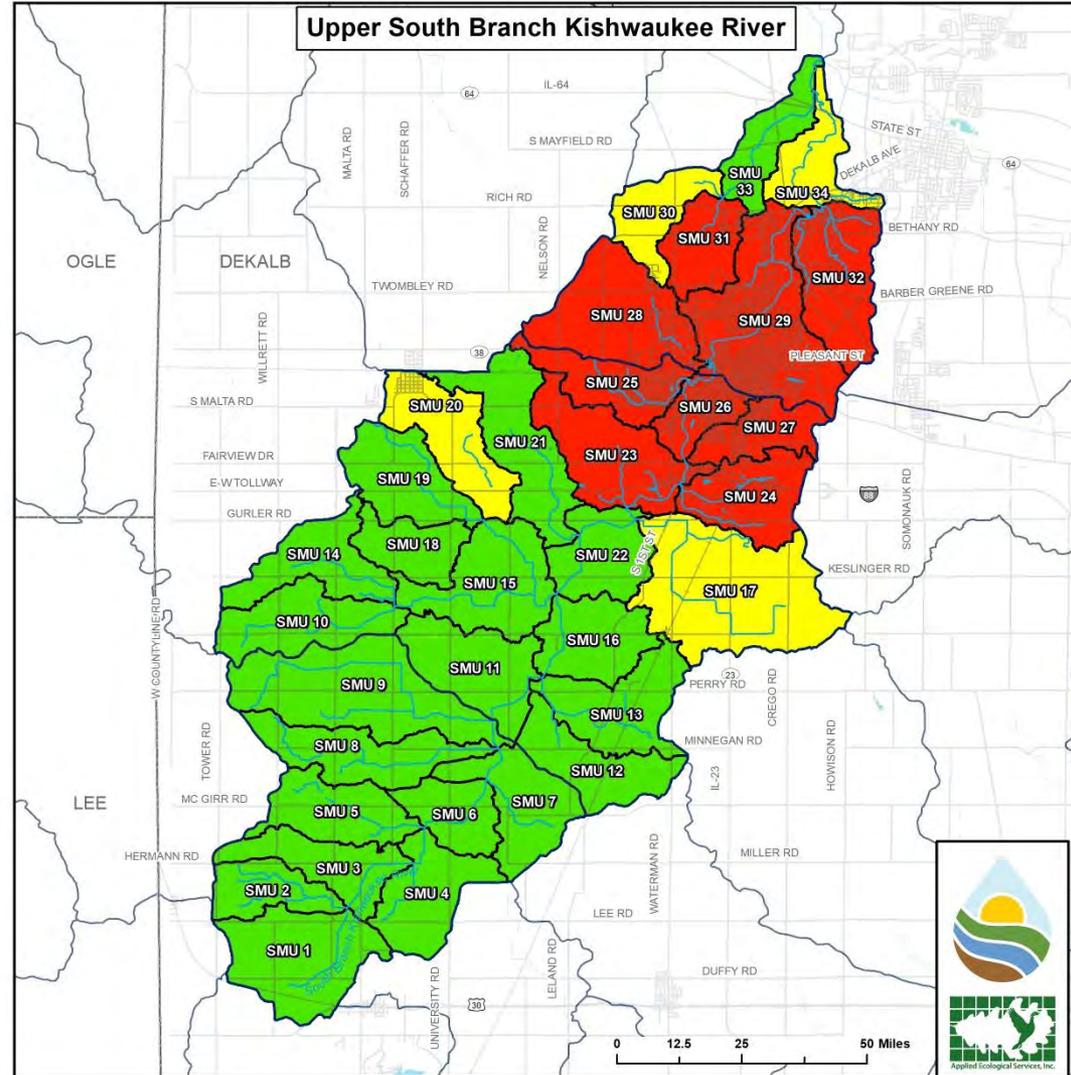
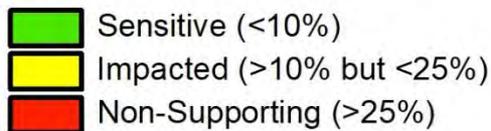


# Future Impervious Cover

Based on 2030 land use predictions

- 21 SMUs classified as sensitive
- 4 as impacted
- 9 as non-supporting

## Predicted Impervious Cover by SMU





# Conservation Design or 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



# Important Natural Areas

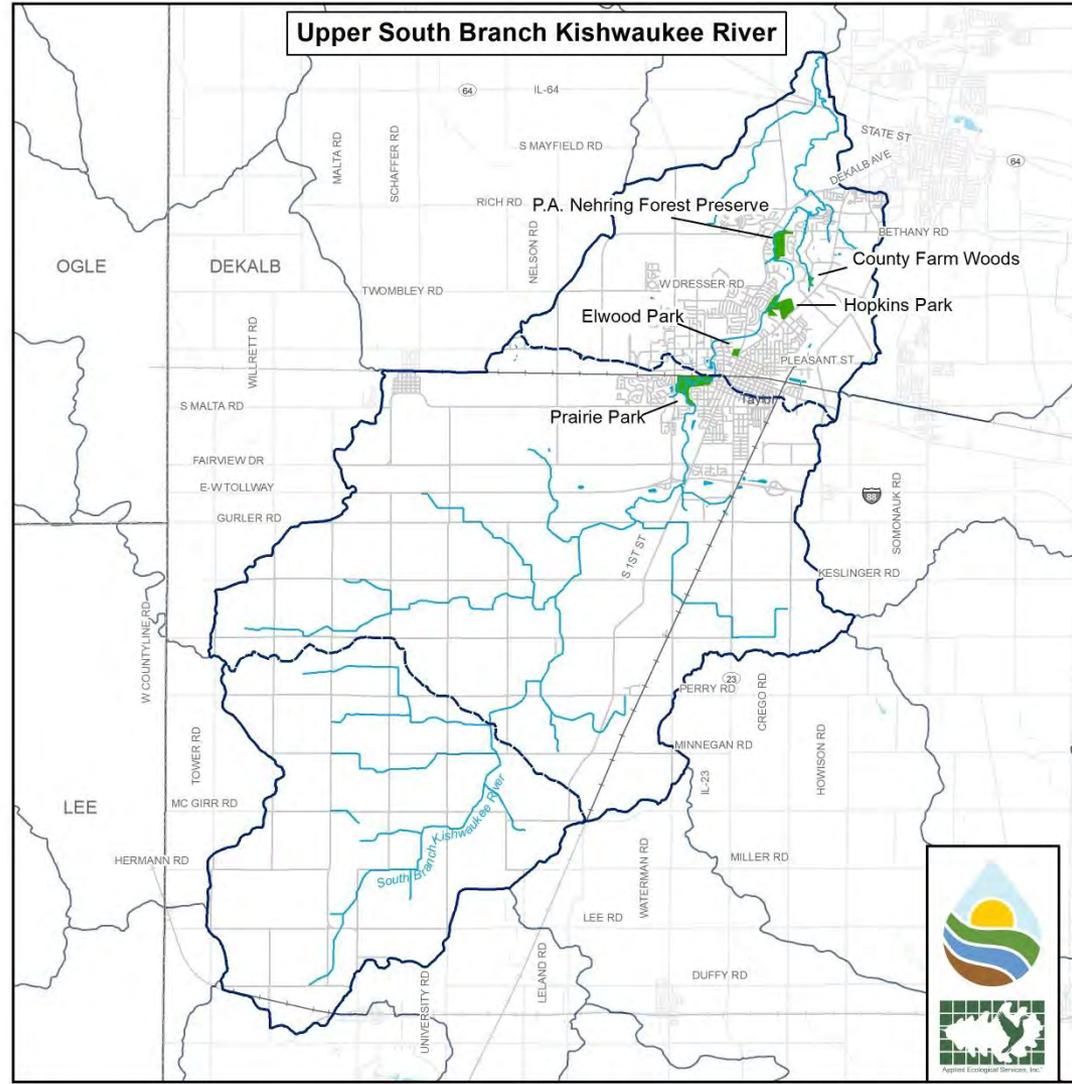
## Forest Preserve District

- P.A. Nehring Forest
- Prairie Park

## DeKalb Park District

- Hopkin's Park
- Elwood Park
- County Farm Woods

Total almost 200 acres



# P.A. Nehring Forest Preserve

Public preserve comprised of overgrown mesic oak woodlands located in a floodplain on the banks of the South Branch of the Kishwaukee River (58.6 ac)



# Prairie Park

Degraded remnant, mesic oak woodland with a connected to the DeKalb Nature Trail (106.3 ac)



# Hopkin's Park

Turf park with remnant  
oak woodlands connected  
to the DeKalb Nature  
Trail (14.6 ac)



# Elwood Park

Degraded, remnant mesic oak woodland located on the grounds of Elwood House (11.4 ac)



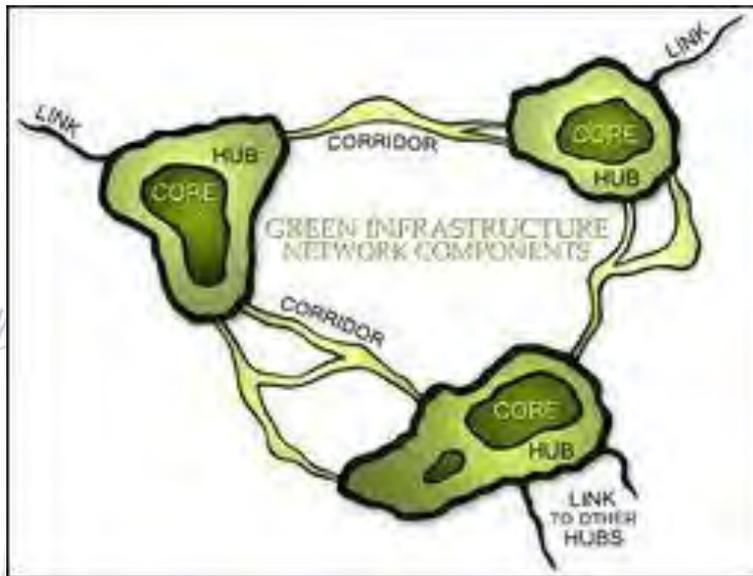
# County Farm Woods

Degraded, remnant oak woodland connected to the DeKalb Nature trail (8.3 ac)



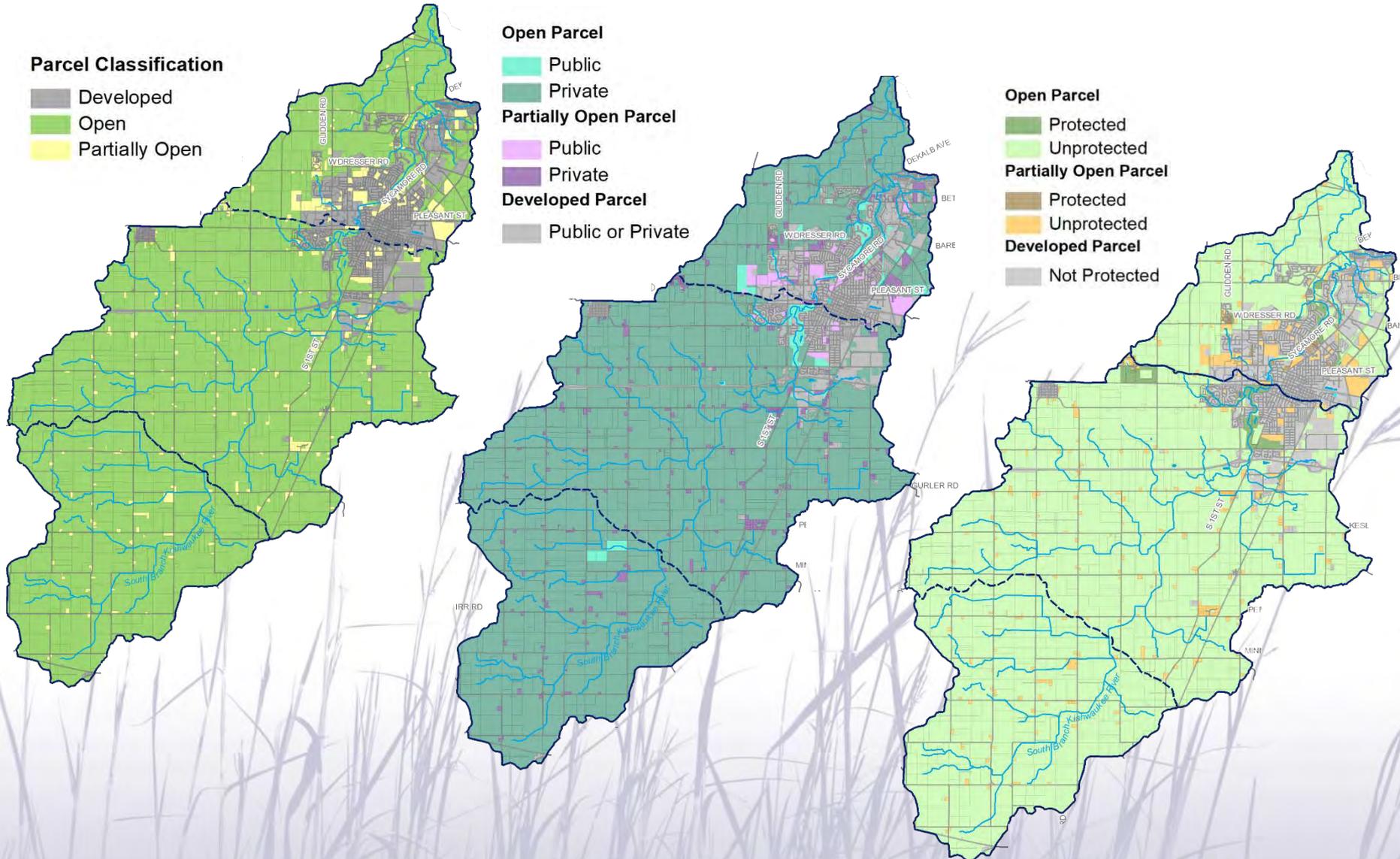
# Importance of Green Infrastructure

Green Infrastructure is a connected **network** of *Hubs* and linking *Corridors* that conserves open space for ecological function, cleans water, benefits a range of species, and reduces flooding.



# Developing a Green Infrastructure Network

## Parcel-Based Open Space Inventory & Analysis



# Developing a Green Infrastructure Network

Open and partially open parcels are prioritized based on criteria important to green infrastructure.

| Green Infrastructure Criteria   |
|---|
| 1. Open or partially open parcels that intersect FEMA 100-year floodplain                         |
| 2. Open or partially open parcels within 0.5-miles of any headwater stream                        |
| 3. Open or partially open parcels that intersect a wetland  |
| 4. Open or partially open parcels that include a potentially restorable wetland                   |
| 5. Open or partially open parcels equal to or greater than 10 acres                               |
| 6. Open or partially open parcels that are within 100 feet of a stream or significant open water  |
| 7. Open or partially open parcels in a “Highly Vulnerable” Land Use/Land Cover SMU                |
| 8. Open or partially open parcels adjacent to or including private or public protected open space |
| 9. Open or partially open parcels managed by the DeKalb Park or Forest Preserve District          |
| 10. Open or partially open parcels that intersect existing trails                                 |
| 11. Open or partially open parcels that include or intersect an “Important Natural Area”          |

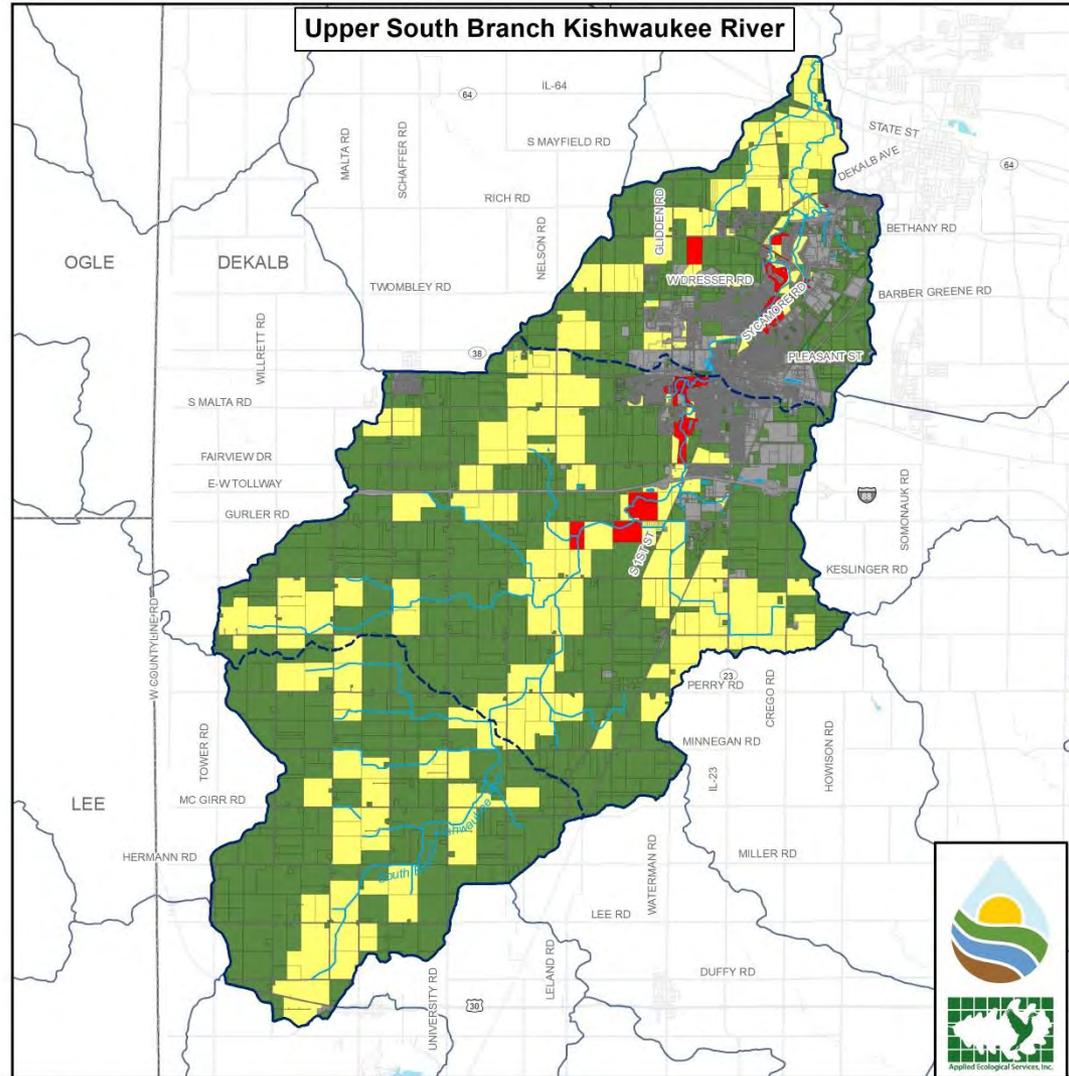


# Open Space Parcel Prioritization

Results of  
prioritization process

## Parcel Prioritization Points

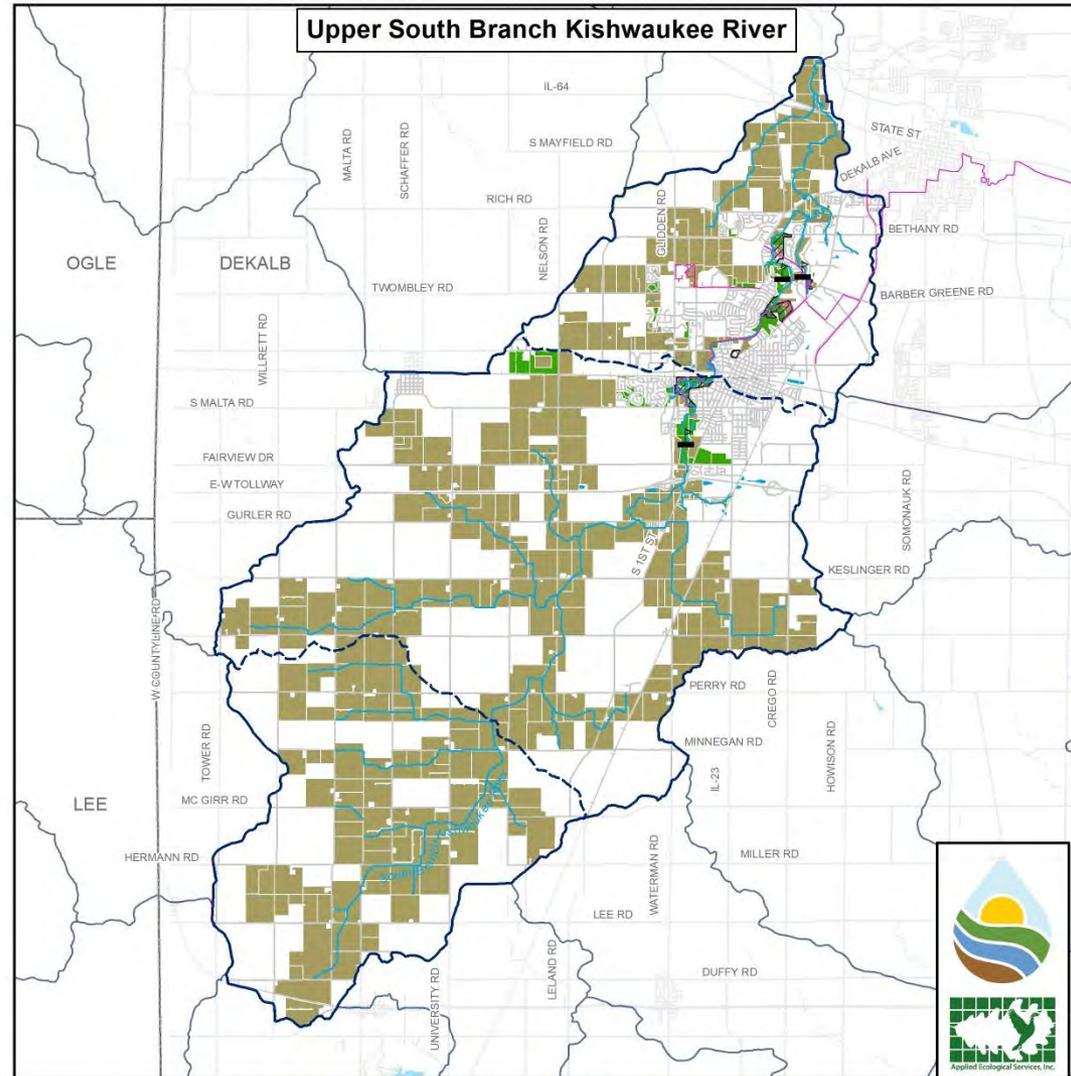
- 0 - 3 Low Priority
- 4 - 5 Medium Priority
- 6 - 9 High Priority
- Developed Parcel



# Green Infrastructure Network

GIN includes 611 parcels, totaling 27,592 acres, 854 acres (3%) of which are protected

- Existing Recreational Trails
- Important Natural Areas
- Protected Green Infrastructure
- Unprotected Green Infrastructure
- Golf Courses



# Green Infrastructure Planning

- Protect specific unprotected green infrastructure parcels through acquisition, ordinance changes, 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.



# 2018 USDA Cropland Data

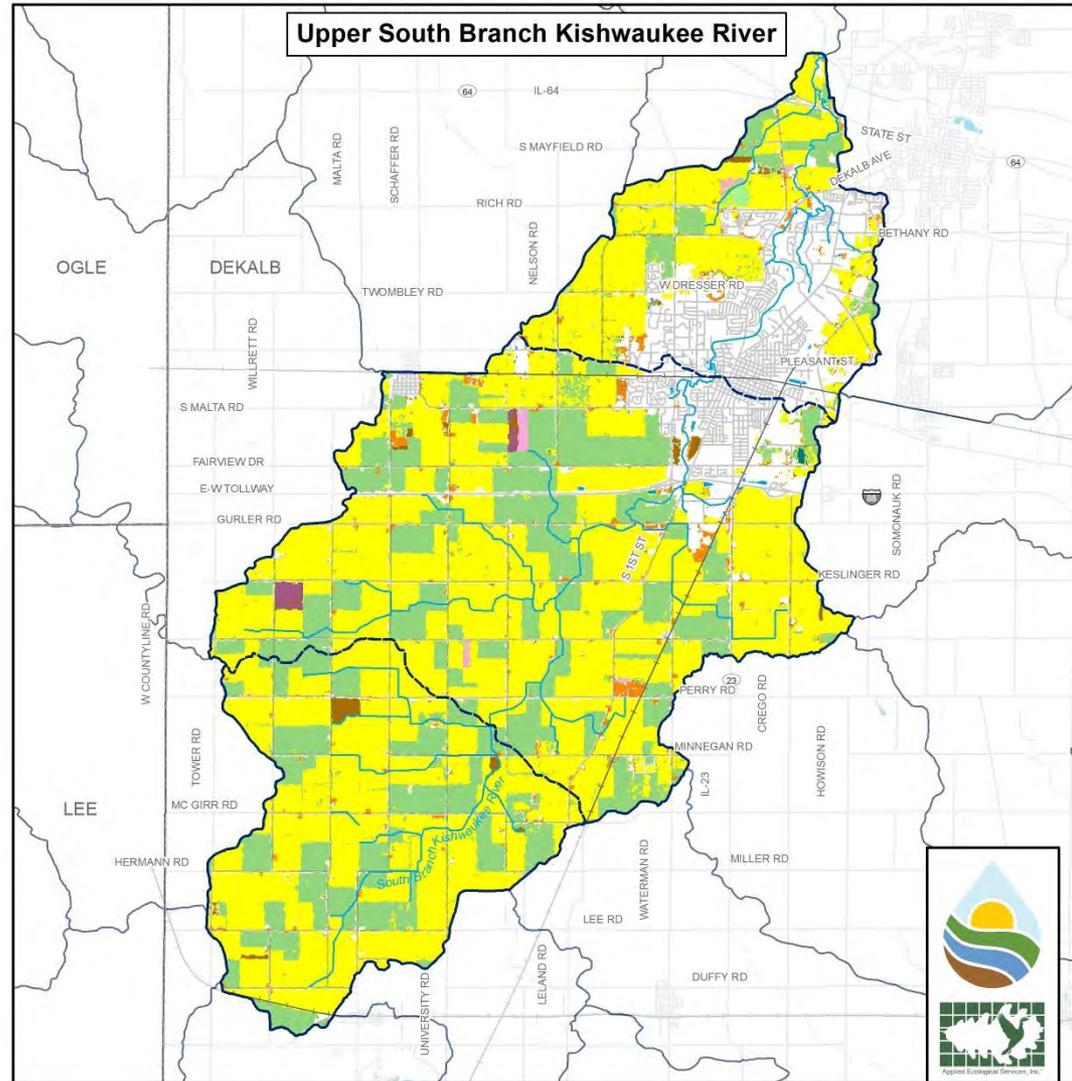
67% corn

29% soy

2% grassland/pasture

All others <1%

## Cropland Data USDA 2018



# 2018 IL Soil Conservation Transect Survey

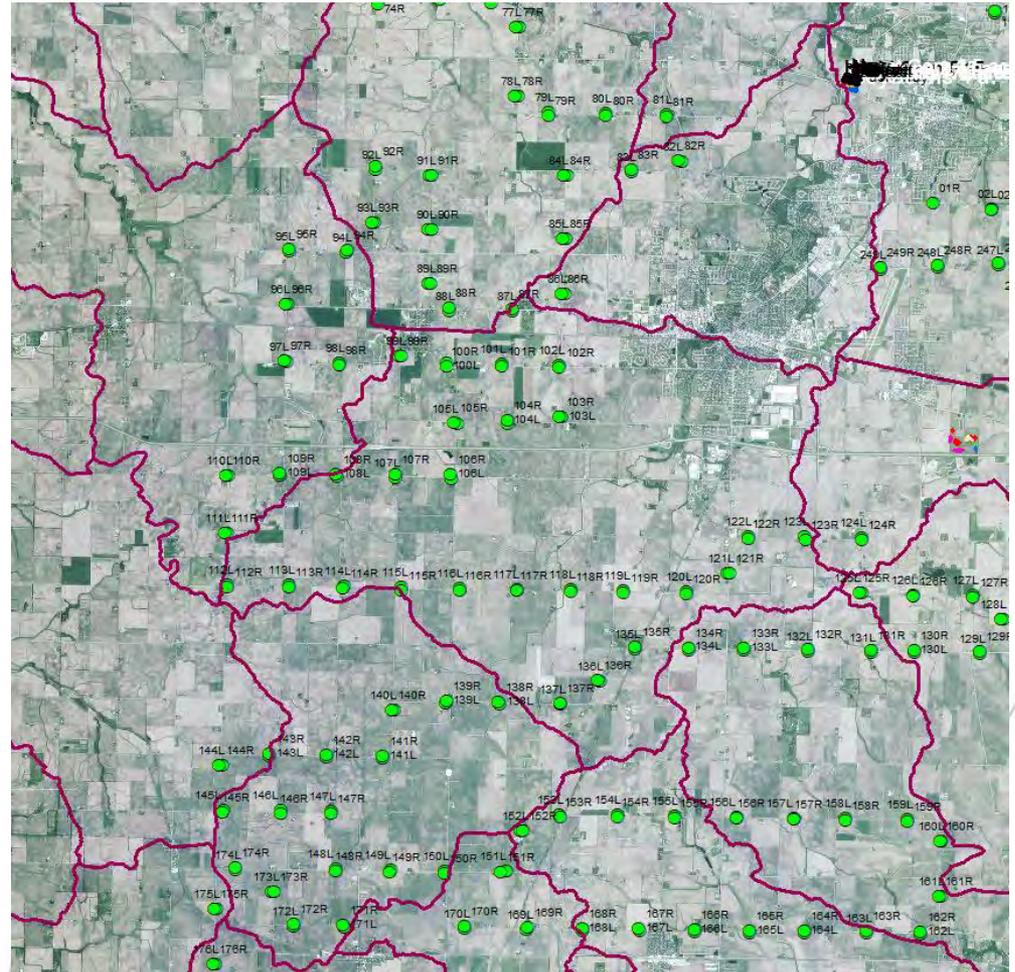
Tillage practices:

39% Reduced till

31% Mulch till

23% Conventional till

6% No-till

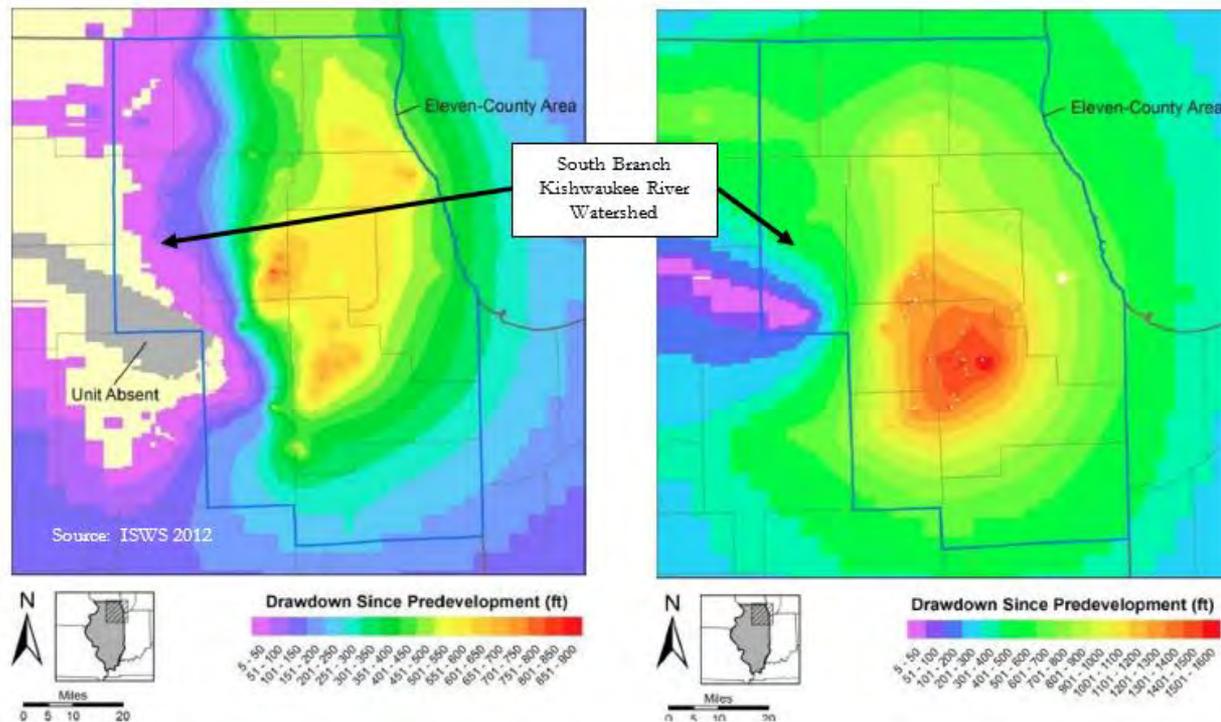


# Groundwater

Modest increases expected in groundwater withdrawals (50-400 ft); drawdown expected to remain relatively stable.

Ancell Unit

Ironton-Galesville Unit

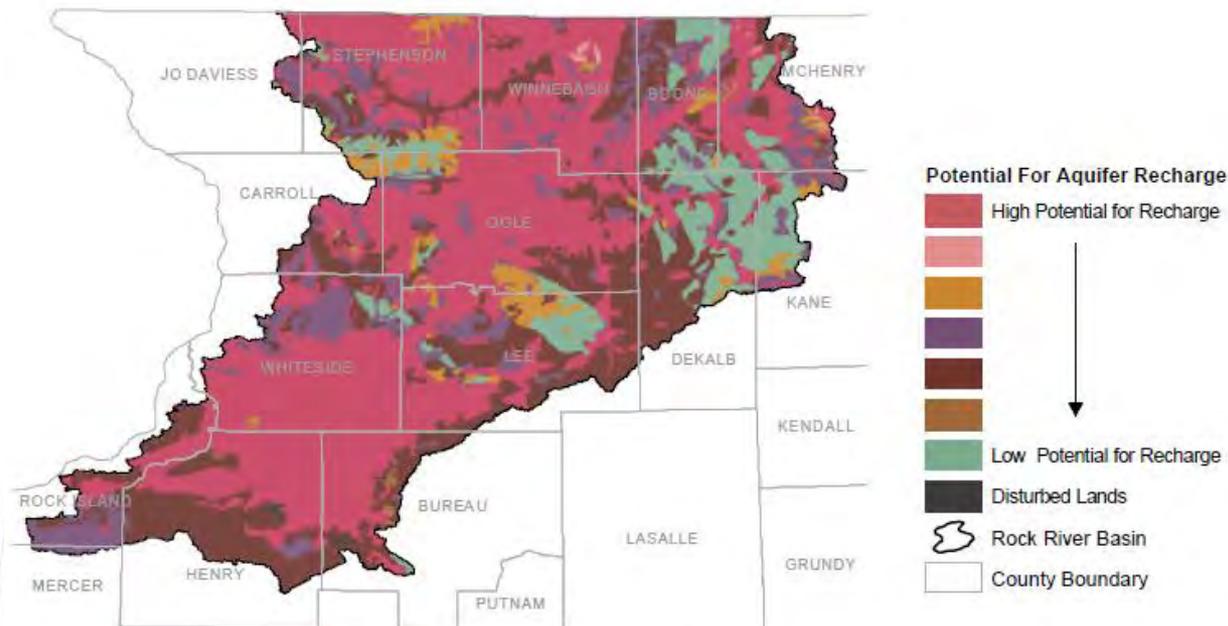


Source: ISWS 2012



# Groundwater

According to 2006 IEPA study of Rock River Basin, area has moderate to low potential for groundwater recharge.



# Schedule

*October* – Land Use and the Green Infrastructure

*December* – Water Quality and Modeling Summary

*February* – Stakeholder/Goal-building workshop

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

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



Questions?



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