

Lake County Wetland Restoration and Preservation Plan (WRAPP)



STORMWATER MANAGEMENT COMMISSION

Public Information Meeting

Virtual/Webcast via Zoom

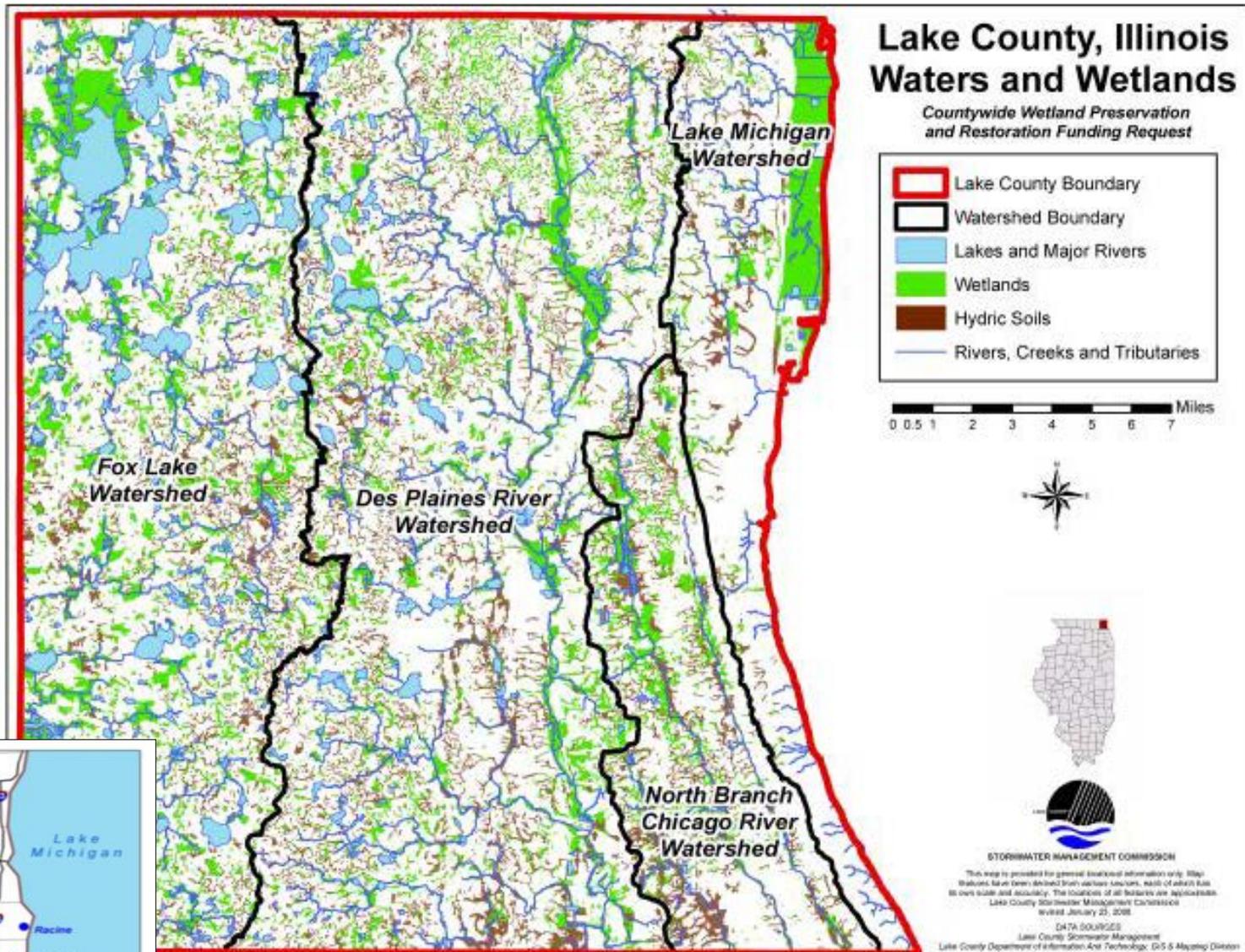
July 22, 2020



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~ 21% of the County is wet

Lake County, IL





Why a WRAPP?

- ❖ Lake County has lost over half of the wetlands that existed prior to European settlement
- ❖ Lake County WDO Policy: *No Net Loss* of Wetland acreage + *Net Gain* in Wetland Functions
- ❖ Action Item in 2002 Lake County Comprehensive Stormwater Management Plan
- ❖ Good baseline of wetland mapping but limited identification of functions or restoration opportunities



WRAPP Goal

To provide a wide audience of end-users with decision-making support to help prioritize wetland restoration and preservation efforts.



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What the WRAPP does NOT do:

- ❖ Impose new development regulations
- ❖ Establish new protections for wetlands
- ❖ Recommend land acquisition or zoning changes
- ❖ Replace the need for a site-specific wetland delineation



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WRAPP Development Process

Input provided by 13-Member Technical Advisory Group ("TAG")

Wetland Mapping & Classification
(GIS)

Preliminary Assessment of Wetland Functions
(Desktop)

Field Studies
48 sites
(Refine Functional Assessment)

Restoration Site ID & Final Functional Assessment

Summary Report

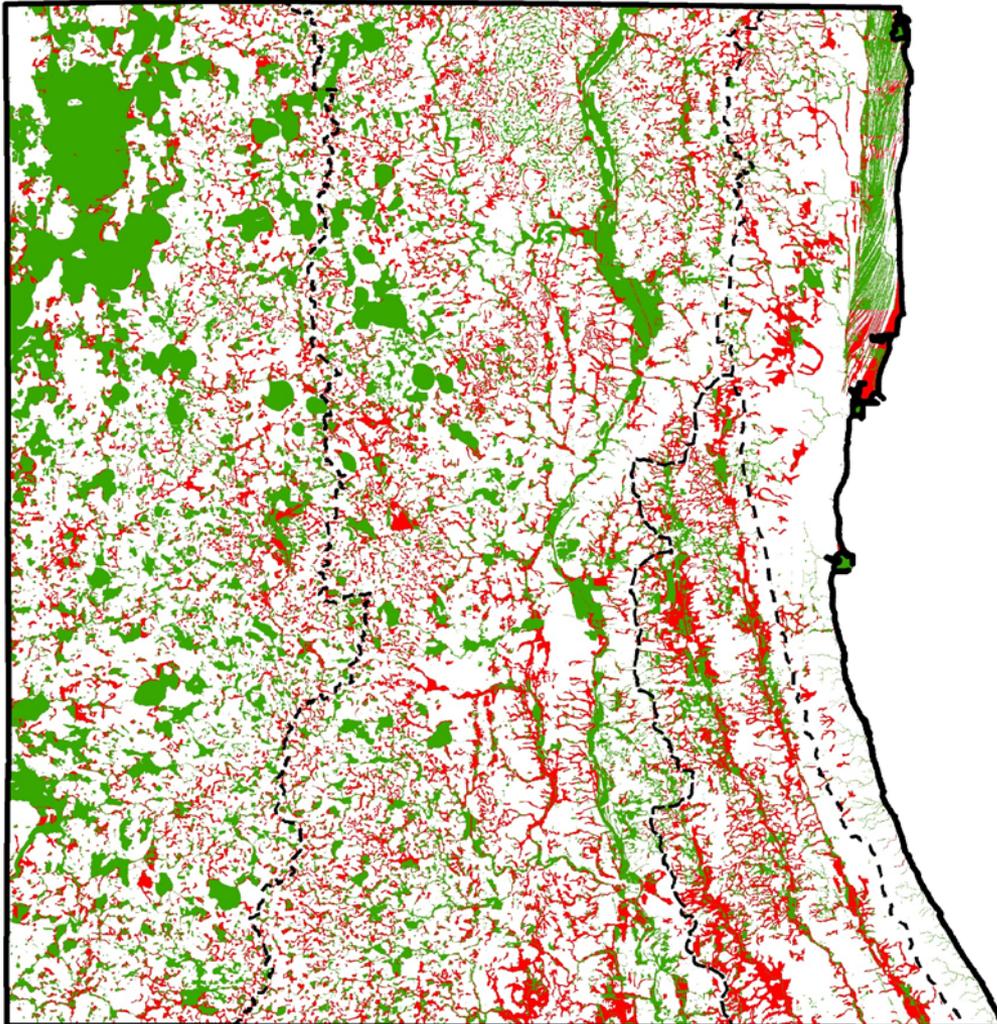
On-Line GIS Tool



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Wetland Mapping & Classification

Countywide Results



Countywide Results

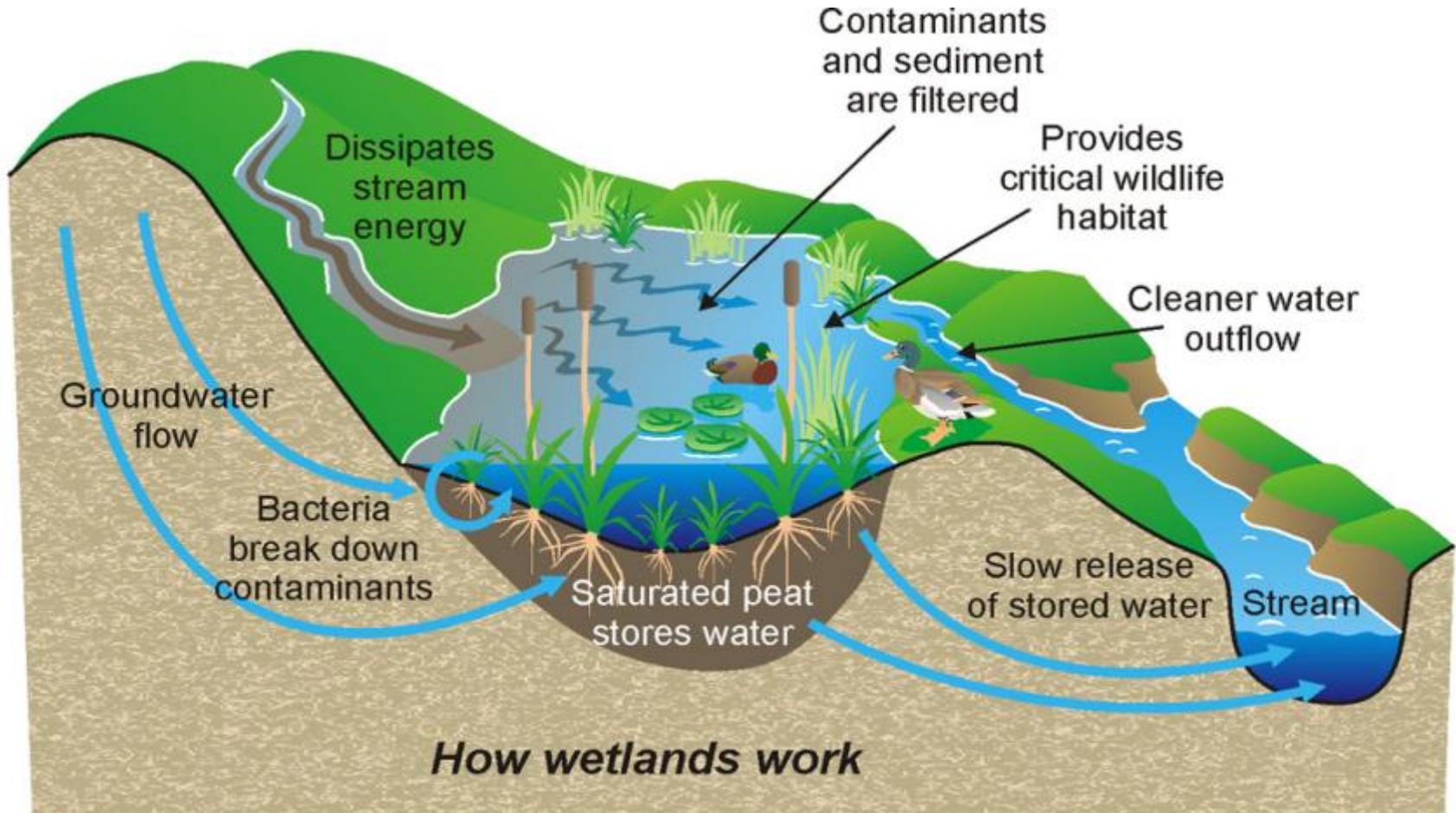
- 84,899 acres of historic wetland
- 37,825 acres of existing wetland
- **55%** Loss of Wetland (47,074 acres loss)

Existing Wetlands & Waters
Wetland/Water Loss



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Wetland/Water Body Functions



Source: Unclear



Wetland Functions

Selection of Functions

Hydrologic Functions	Biodiversity Functions	Water Quality Functions
Flood Water Storage	Native Fish Habitat	Nutrient Transformation (P-focus)
Stream Baseflow Maintenance	Waterfowl Habitat	Sediment & Other Particulate Retention
	Other Wetland-dependent Bird Habitat	Shoreline/Stream Bank Stabilization
	Woodland Amphibian Habitat	Carbon Sequestration
	Unique Wetland Resources	
	Stream Shading	
	Wildlife Movement Corridors	



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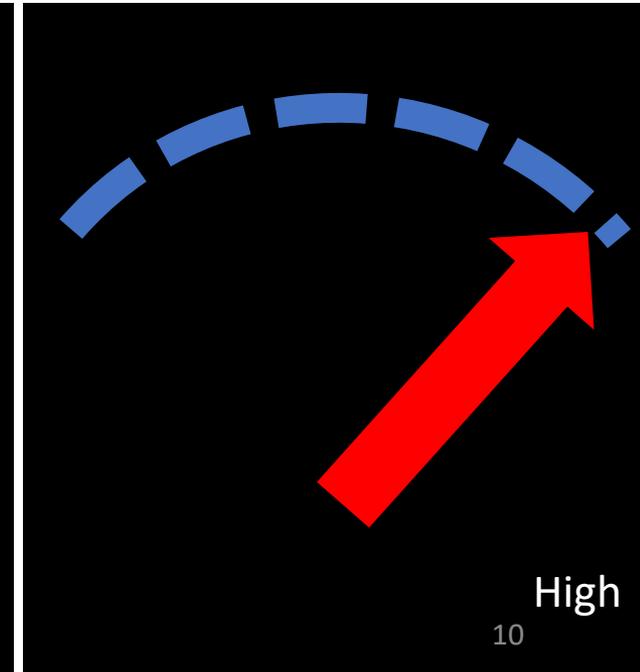
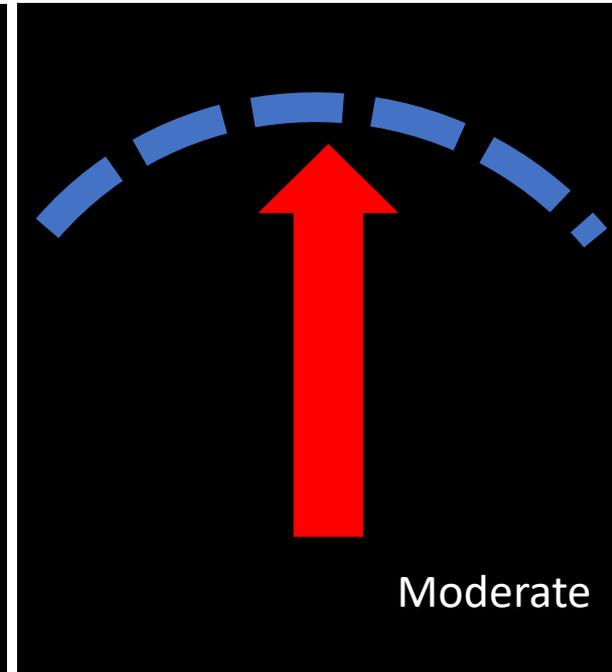
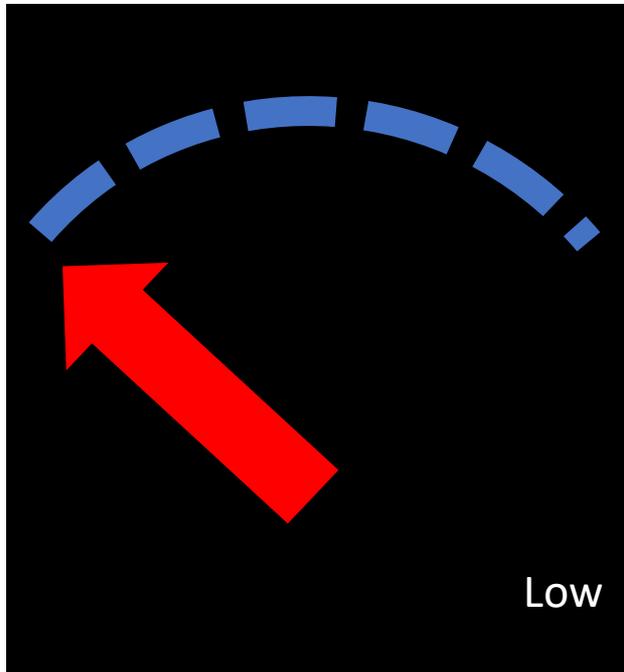
Wetland/Water Body Functions

Functional Significance Ratings

- ❖ Relative measure (comparing wetlands/ water bodies to each other)
- ❖ Qualitative levels used, without regard to social values or quantitative limits.

“High” simply means **“performing process at a better/higher rate than other wetlands in the area”**

Wortman & Ashby, 2014





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Wetland/Water Body Functions

Functional Assessment Criteria

Flood Water Storage	High	<ul style="list-style-type: none"> Wetlands & waters associated with a mapped special flood hazard area, excluding slope wetlands Terrene basins with > 0.75 acre-feet of storage Throughflow & Throughflow-Intermittent ponds and associated basin, fringe, and island wetlands Polygons identified as stormwater basins
	Moderate	<ul style="list-style-type: none"> Wetlands & waters that intersect the USGS flood of record not already rated High Wetlands & waters associated with rivers, streams, and lakes with no mapped FEMA floodplain or outside of the mapped floodplain and not already rated high Flat wetlands outside of mapped floodplains All remaining Ponds not already ranked high or moderate Remaining fringe and island wetlands and remaining Lentic and Lotic wetlands Remaining Basin wetlands that are isolated or impounded and not slough wetlands
	Low	<ul style="list-style-type: none"> Remaining wetlands that are not slope wetlands, including slough wetlands Slope wetlands within FEMA 100 or 500 yr floodplain
	N/A	<ul style="list-style-type: none"> All remaining Slope wetlands



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Field Studies

Field Summary Sheet with Refined Ratings



48 Field Sites



Site: DP-07

Watershed: Des Plaines River *Sub-Watershed:* Upper Des Plaines River *NWJ Class:* PEM/FO1C *LLWW Class:* LR1FPbaTH

Notable Features: *Dominant Plants:* Scirpus fluviatilis, Leersia oryzoides, Acer negundo, Acer saccharinum

Functional Significance Ratings

- Flood Water Storage: **High**
- Stream Baseflow Maintenance: **Low**
- Nutrient Transformation (P): **High**
- Sediment and Other Particulate Retention: **High**
- Shoreline/Stream Bank Stabilization: **High**
- Carbon Sequestration: **Moderate**
- Native Fish Habitat: **Moderate**
- Waterfowl Habitat: **High**
- Other Wetland-Dependent Bird Habitat: **High**
- Woodland Amphibian Habitat: **Moderate**
- Unique Wetland Resources: **N/A**
- Stream Shading: **Low**
- Wildlife Movement Corridor: **High**





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Restoration Site ID & Prioritization

Potentially Restorable Wetlands (PRWs)

PRW = Historic Wetlands & Water Bodies – Current Wetlands & Water Bodies – Recently Restored Areas



Potentially Restorable Wetlands

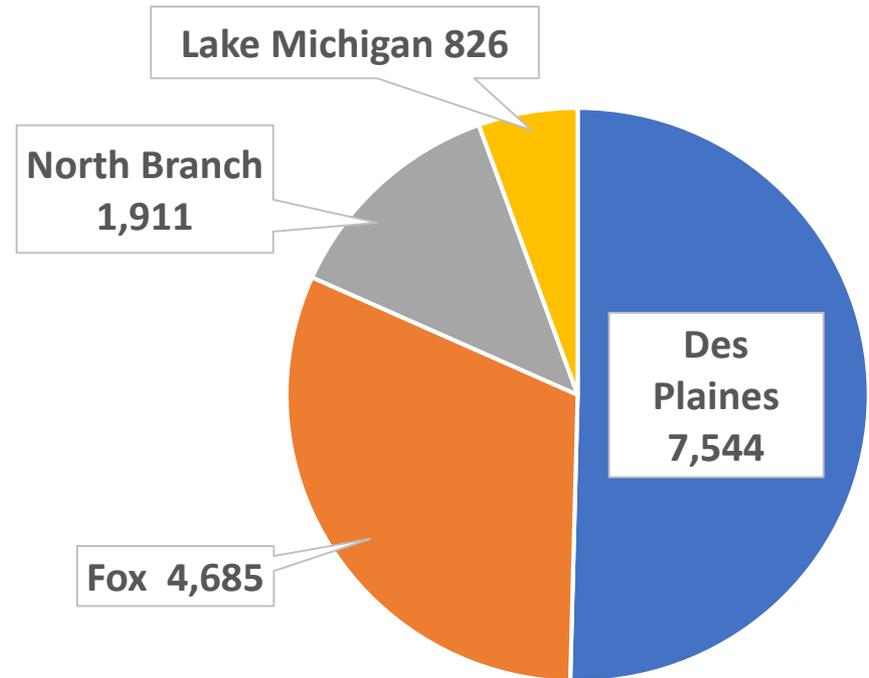
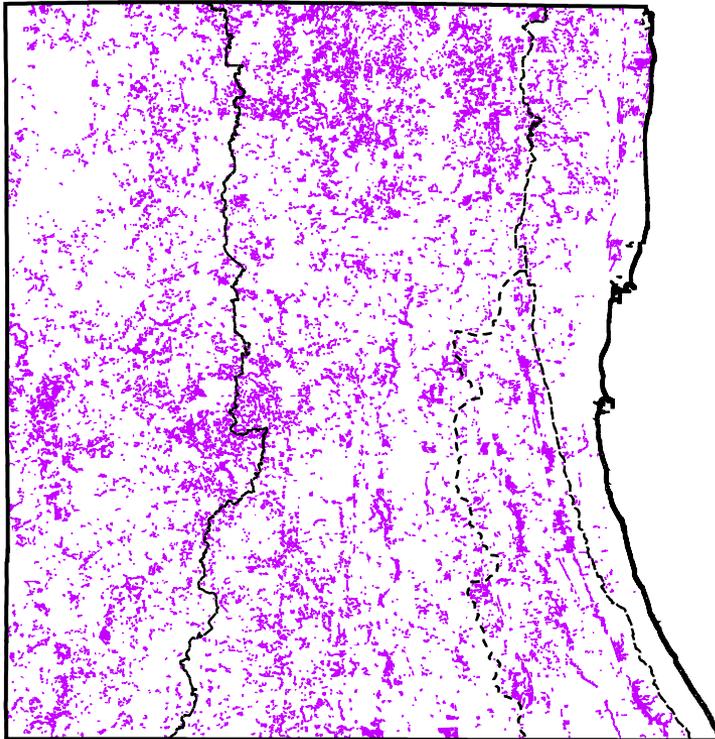


Flood Water Storage Functional Ratings



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Potentially Restorable Wetlands (PRWs)



14,966 acres County-wide
~18% of Pre-settlement wetland acres



Quick Demo of the WRAPP

A Walk-through of our Site

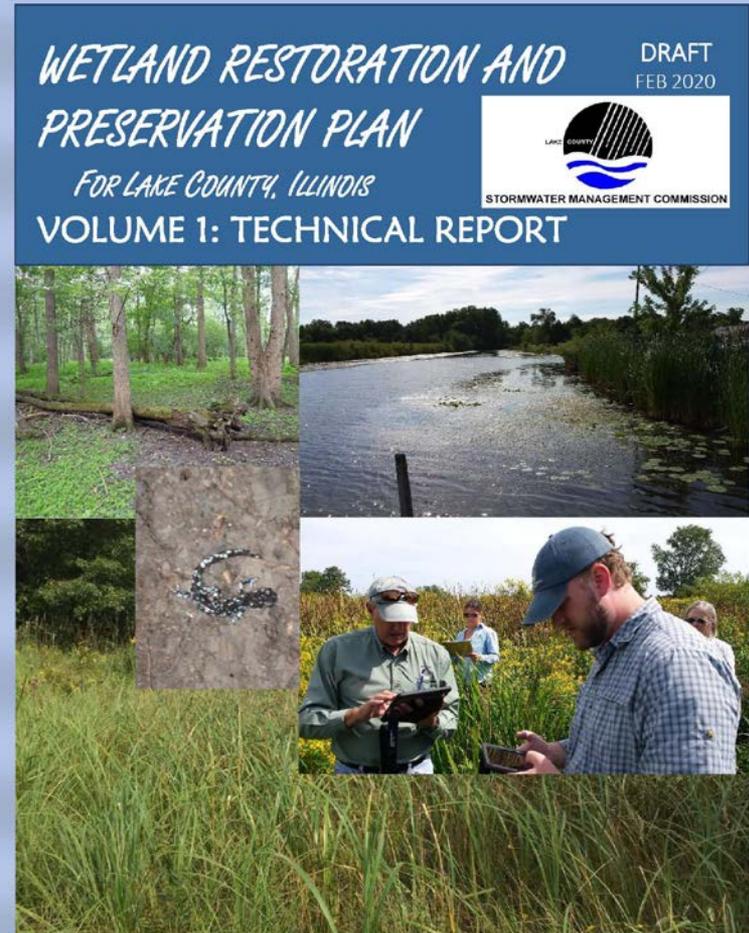




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Recommended Action Strategies

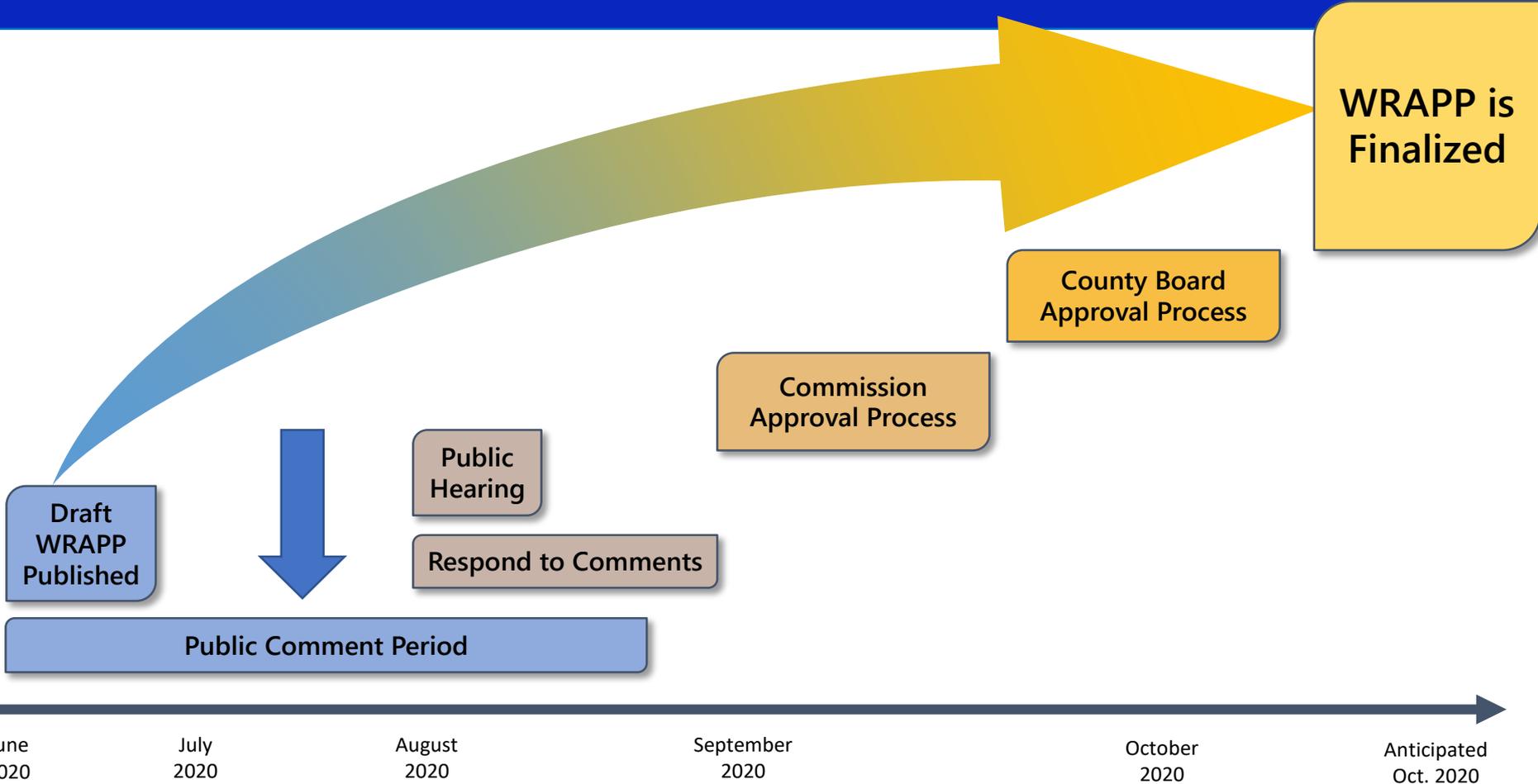
- Assist partners seeking funding for wetland projects (SMC)
- Work with mitigation bankers to create new banks, particularly in the North Branch and Lake Michigan watersheds (SMC)
- Periodically update WRAPP products & maintain a database of wetland restoration projects (SMC)
- Pursue projects on floodplains & along streams, particularly in North Branch & Des Plaines watersheds
- Pursue projects with “High” flood water storage function (widespread)
- Pursue projects in Lake Michigan watershed (limited)
- Preserve & restore in/around the Chiwaukee-Illinois beach plain





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Next Steps for the WRAPP



Anticipated Timeline



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Acknowledgements

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from a USEPA
Region 5
Wetlands
Program
Development
Grant



❖ Technical Advisory Group Members:

- ✓ Mike Adam, LC Environmental Health
- ✓ Jim Anderson, LC Forest Preserves
- ✓ Leslie Berns, LC Forest Preserves
- ✓ Mark Bramstedt, USDA NRCS (ret.)
- ✓ Maggie Cole, IDNR
- ✓ Dennis Dreher, Geosyntec Consultants
- ✓ Sue Elston, USEPA (ret.)
- ✓ Tom Ganfield, Baxter & Woodman, Inc. (ret.)
- ✓ Rich Knodel, LC Mapping Services (ret.)
- ✓ Dan Krill, LC PB&D
- ✓ Vince Mosca, Hey & Associates, Inc.
- ✓ Michael Murphy, (formerly USACE)
- ✓ Darren Olson, Christopher B. Burke Engineering, Ltd.
- ✓ Shawn Cirton, USFWS (ad hoc)



WRAPP Contacts

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❖ SMC Web Site:

<http://www.lakecountiyil.gov/Stormwater/Pages/default.aspx>



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Thank You for Attending!

QUESTIONS?

❖ WRAPP Web Site:

<https://www.arcgis.com/apps/webappviewer/index.html?id=be7438dc569f492dacfc957ab5f86bc0>