



STORMWATER MANAGEMENT COMMISSION

Society of American Military Engineers Lake Michigan Post Industry Day

Thursday, May 26

SMC Mission

Coordinate the stormwater activities of over 80 local jurisdictions to improve water quality, reduce flood damages, and restore and enhance the natural drainage system.

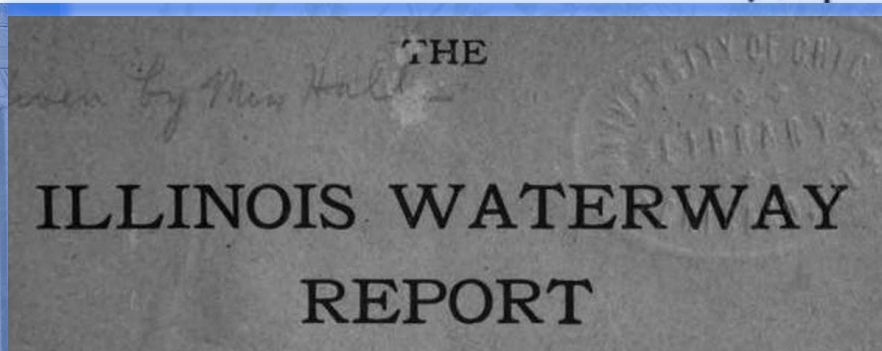
Kurt Woolford, P.E.
Executive Director



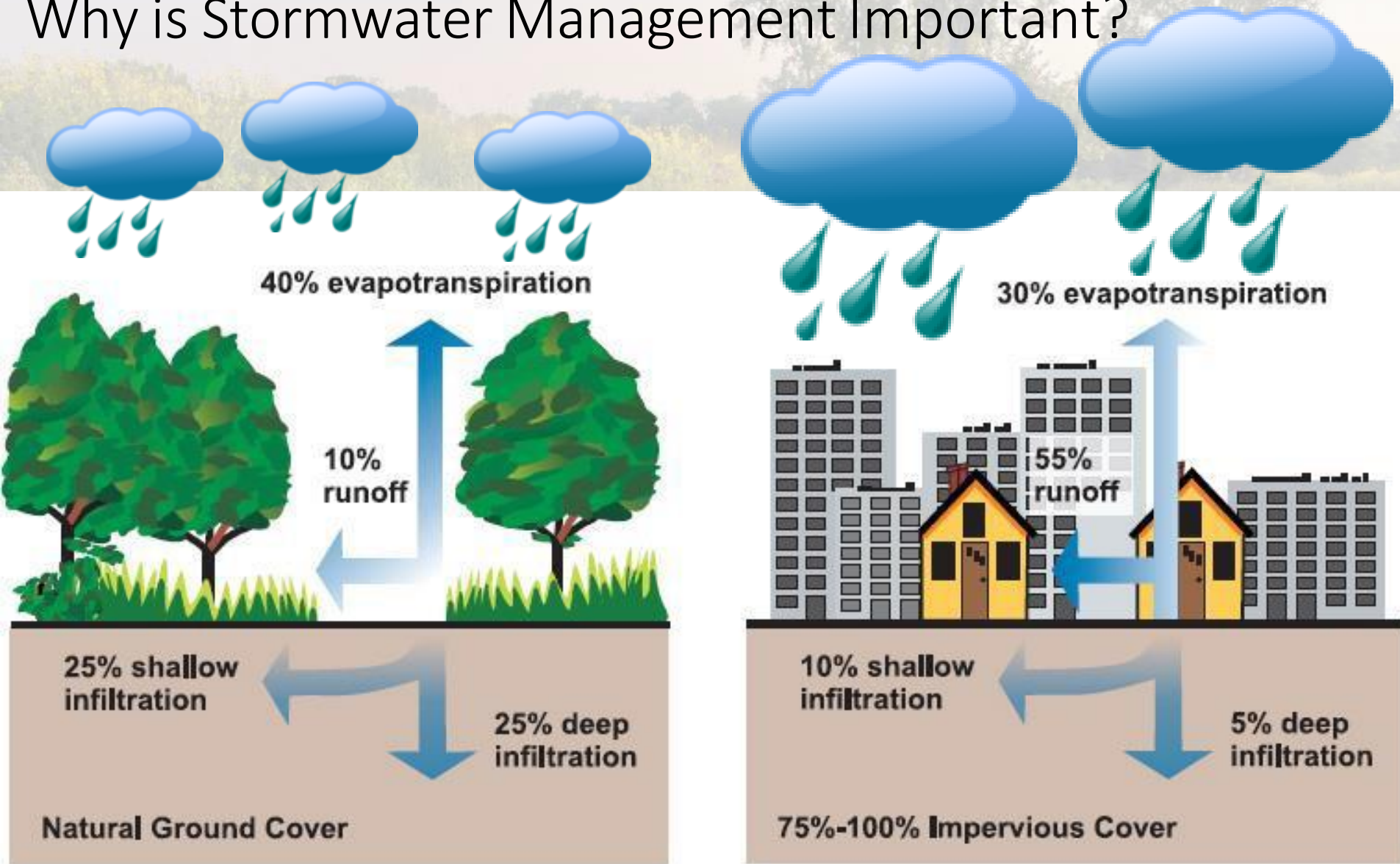
Earliest Record of Chicago Region Flooding

the lake of Illinois. At the extremity of this lake would be the cut or canal of which I have spoken, to have a passage to the St. Louis river, which empties into the Mississippi. The bark, having entered this river, could easily sail to the Gulf of Mexico.”

Marquette returned to Chicago late in 1674, and wintered “two leagues” from the lake, adjacent to the west fork of the south branch of the Chicago river, near Robey street. On March 29, 1675, he was driven from his cabin by flood waters, due to the spring breakup of the Desplaines river and ice gorges. He secured his effects in trees and took refuge on a “hillock.” On March 31, he erected two canoes and proceeded to the Illinois country, passing



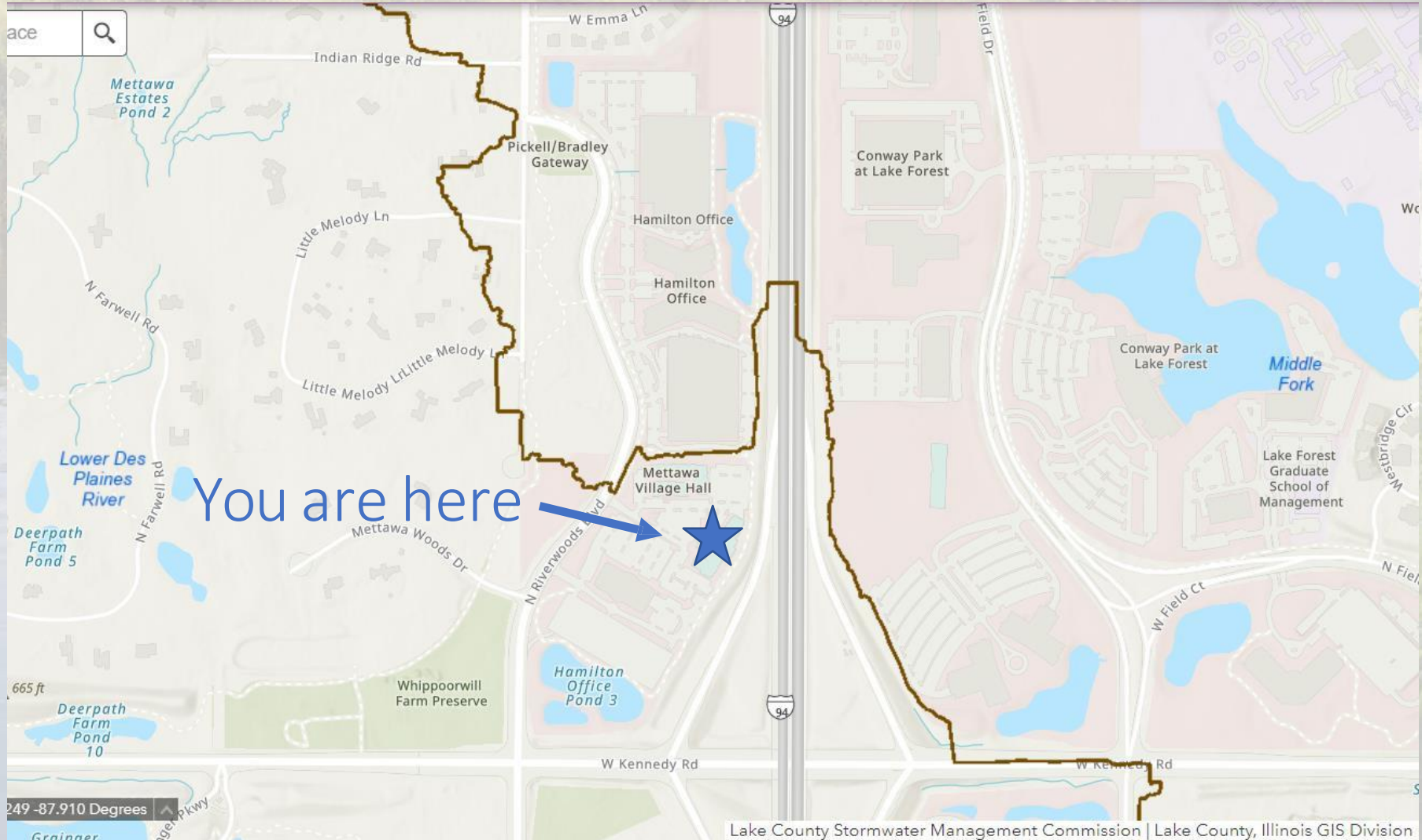
Why is Stormwater Management Important?



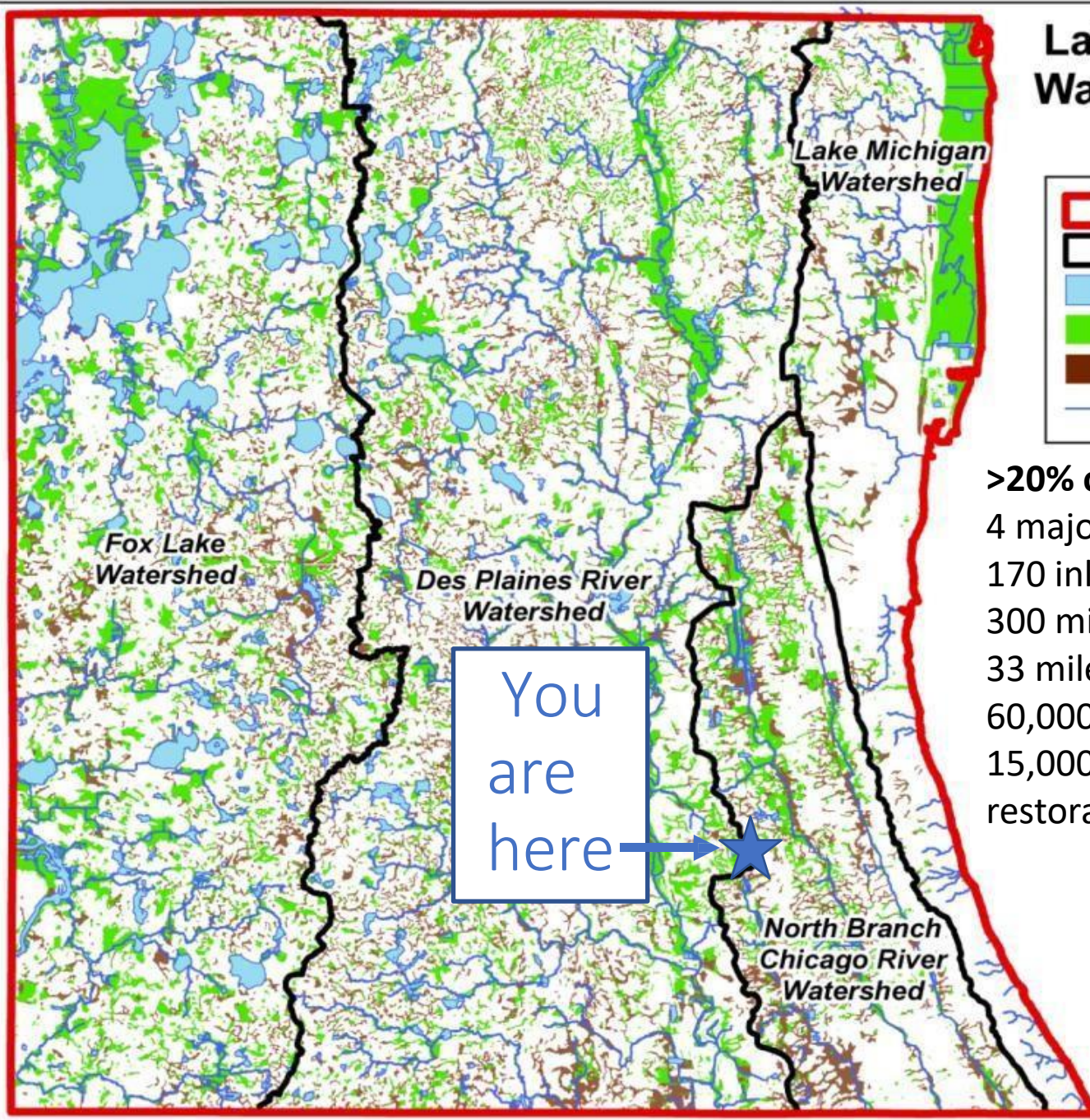
Impervious surfaces increase the volume and rate of stormwater runoff



Historical Subcontinental Divide ...until Engineers



Lake County, Illinois Waters and Wetlands



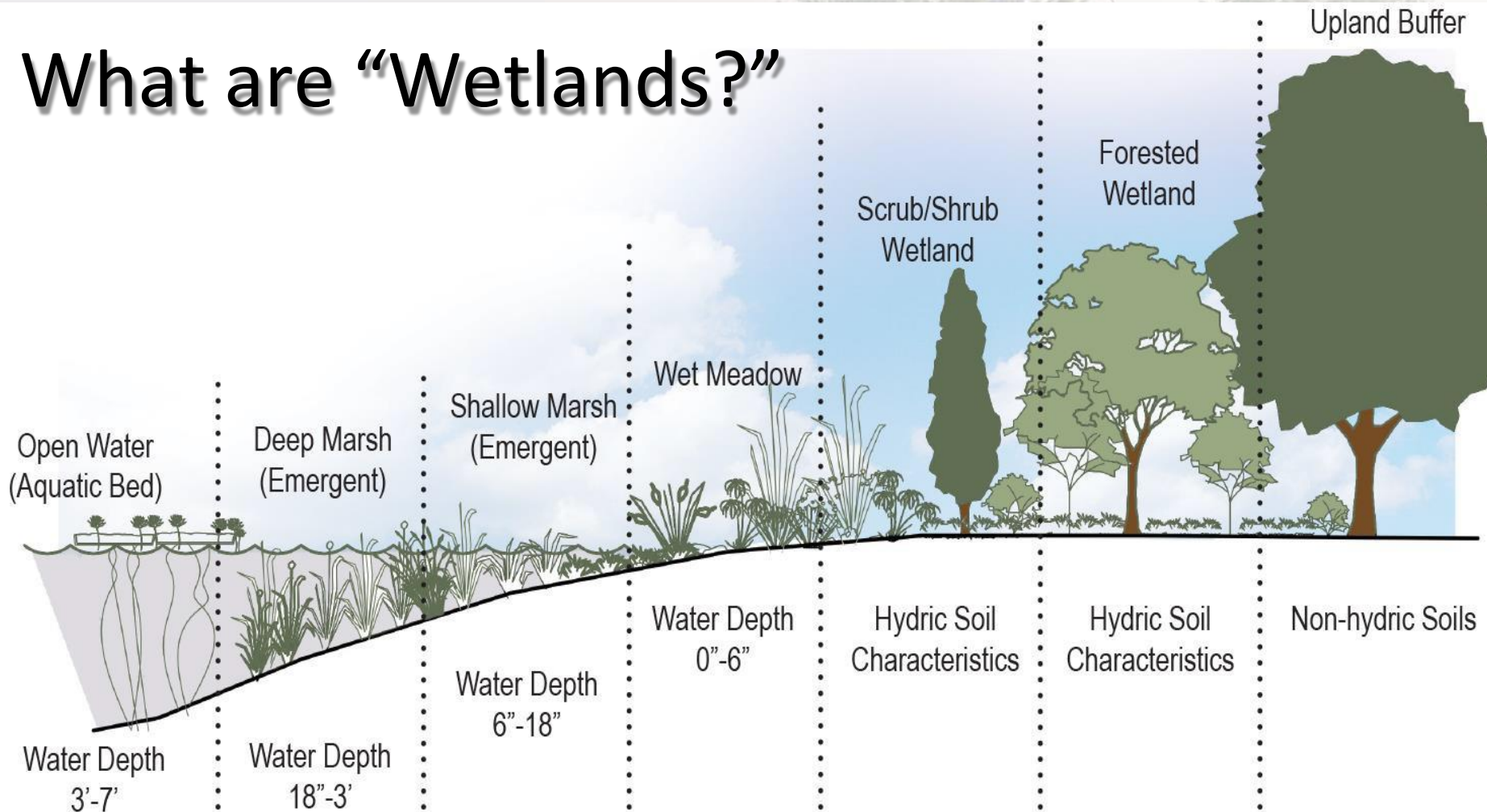
	Lake County Boundary
	Watershed Boundary
	Lakes and Major Rivers
	Wetlands
	Hydroic Soils
	Rivers, Creeks and Tributaries

>20% of Lake County is "wet"
4 major watersheds
170 inland lakes
300 miles of streams/ivers
33 miles of LM coastal V Zone
60,000 acres of wetlands
15,000 acres of potentially restorable wetlands



STORMWATER MANAGEMENT COMMISSION
This map is provided for general locational information only. Map features have been derived from various sources, each of which has its own scale and accuracy. The locations of all features are approximate.
Lake County Stormwater Management Commission
revised January 23, 2008
DATA SOURCES:
Lake County Stormwater Management
Lake County Department of Information And Technology, GIS & Mapping Division

What are “Wetlands?”



In 1818 there were over 8 million acres, or 23% of the total land area, of wetlands in the State of Illinois.

Source: Sierra Club – Illinois Wetlands at Risk

Impacts of Potential Future Climate Change on the Expected Frequency of Extreme Rainfall Events in Cook, DuPage, Lake and Will Counties in Northeastern Illinois

Momcilo Markus, James Angel, Kexuan Wang, Gregory Byard, Sally McConkey, Zoe Zaloudek

Summary and Conclusions (excerpt)

...At this point, these limits could serve as justification for water managers to adopt somewhat more stringent standards for urban flood protection by applying appropriate safety factors...

Future efforts should include continuous monitoring of relevant climate variables, as well as the development and validation of climate models that will provide more accurate projections of heavy rainfall.

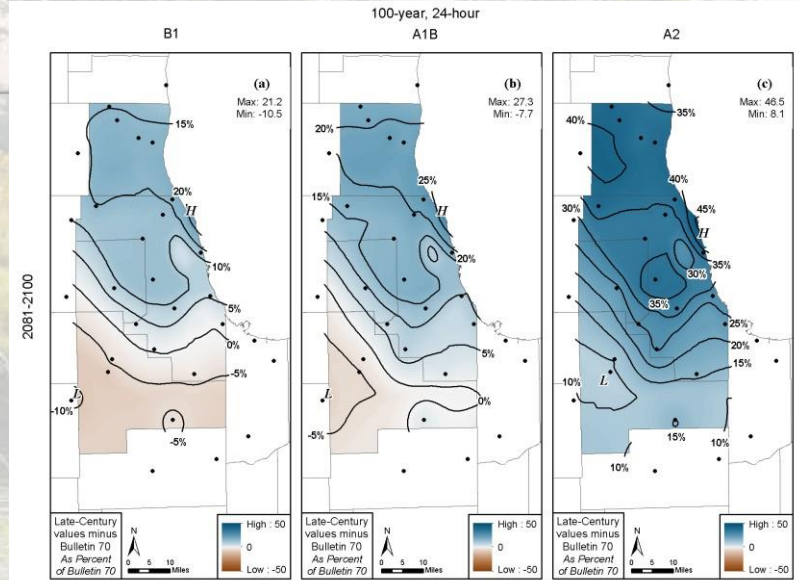


Figure B2.4. Percent differences between projected 100-year 24-hour projected values for late 21st century based on CMIP3 UW data and Bulletin 70

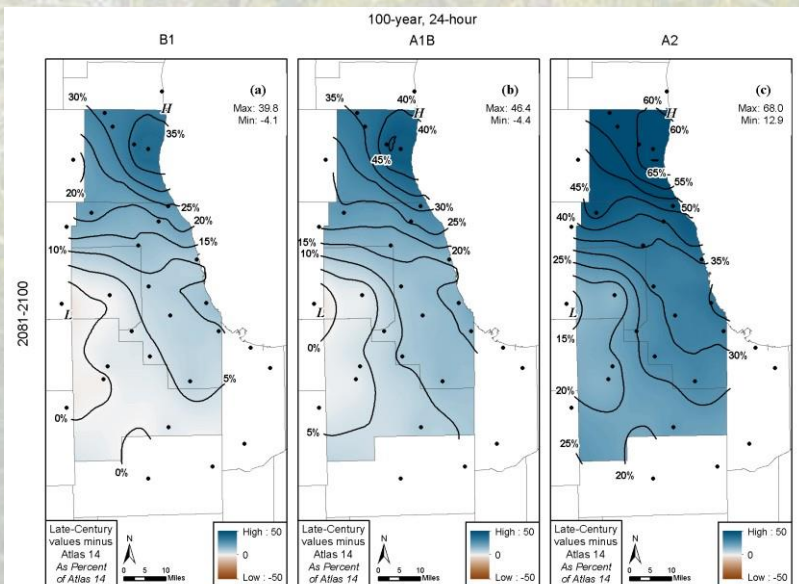


Figure B2.6. Percent differences between projected 100-year 24-hour projected values for late 21st century based on CMIP3 UW data and NOAA Atlas 14

Flood Safety

Do You Really Know How Deep the Water is?

12 inches of fast-moving water can carry away a small car.

WHEN FLOODED
TURN AROUND
DON'T
DROWN

6 inches of fast-moving water can knock over and carry away an adult.

18-24 inches of fast-moving water can carry away most large SUVs, vans and trucks.



Flood Safety

Never Drive Into Flood Waters



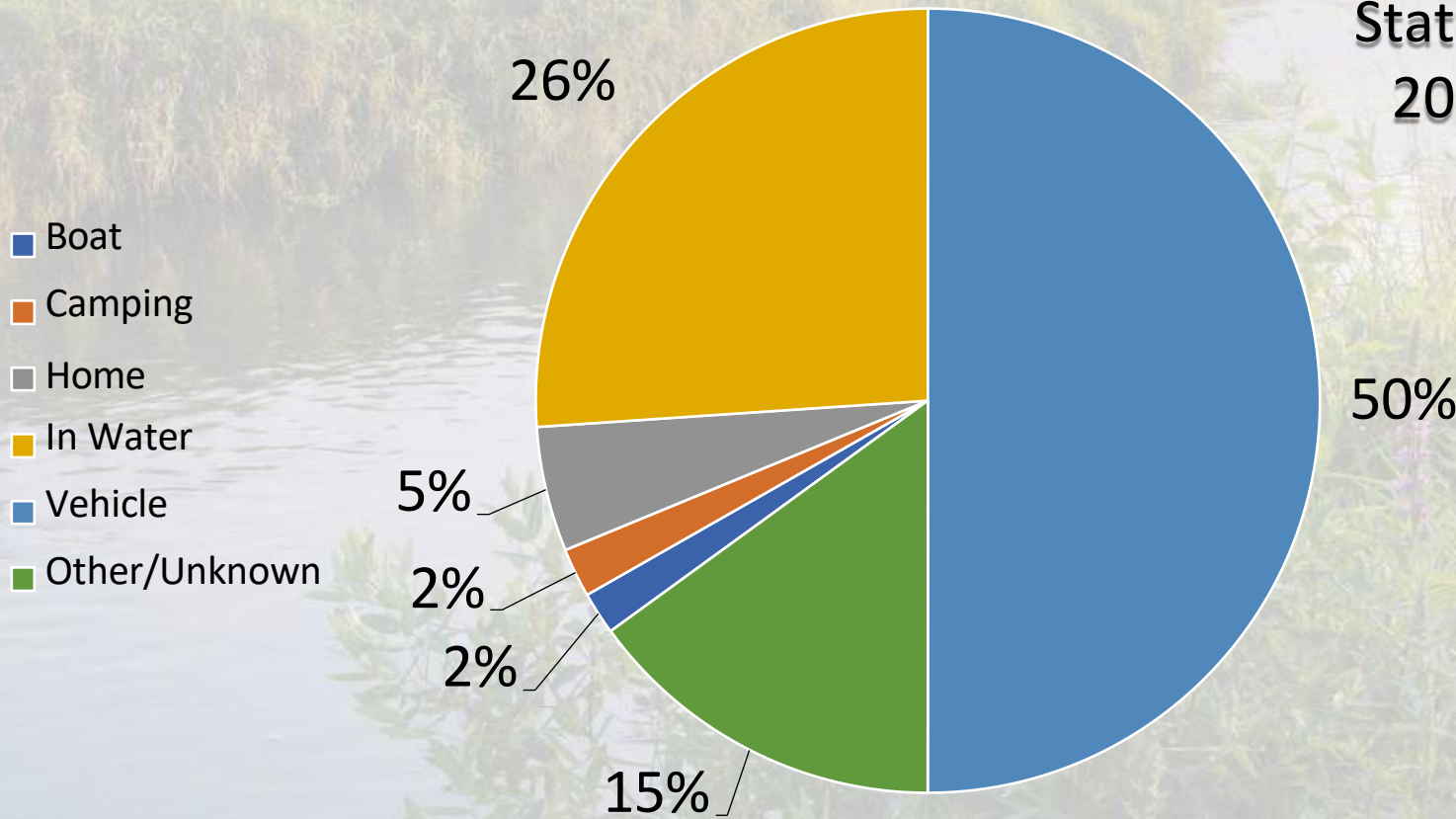
even if the water appears calm

Driving into flood waters also puts rescuers' lives at risk **Turn Around Don't Drown!**



Flood Fatalities: Location

Statistics from
2000 - 2018



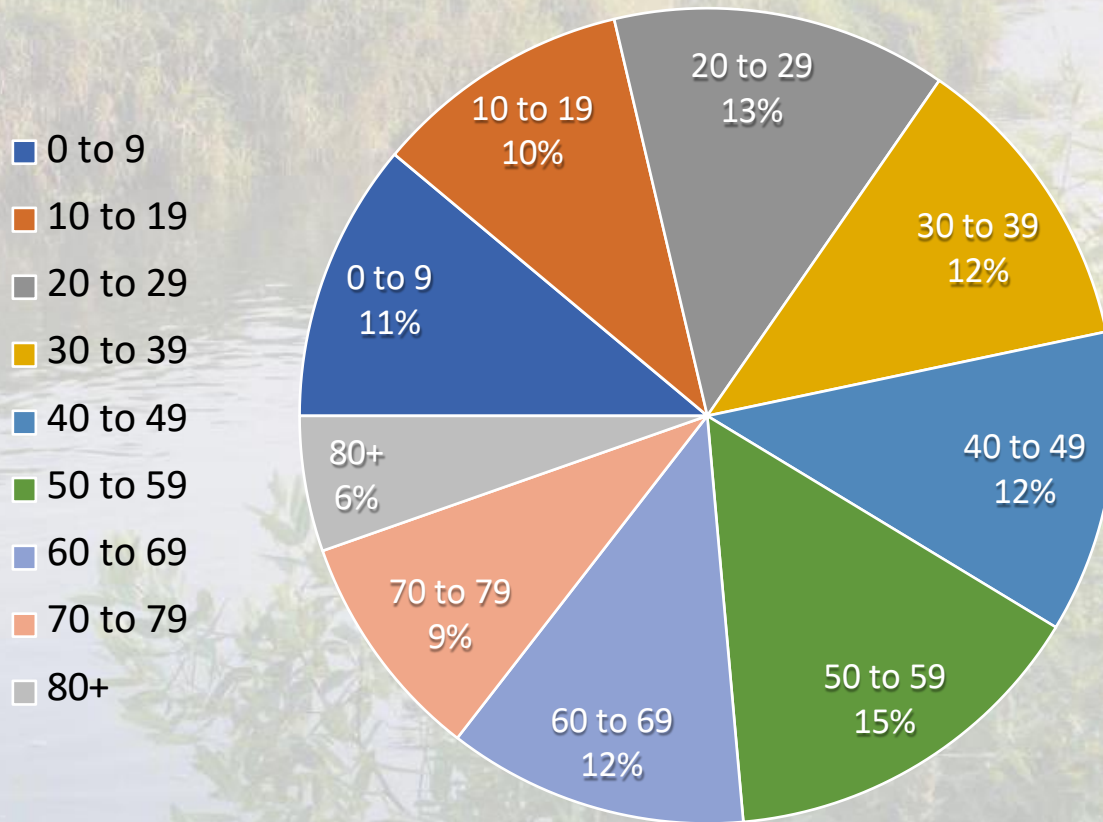
<https://www.weather.gov/hazstat/>



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Flood Fatalities: Age

Statistics from
2000 - 2018



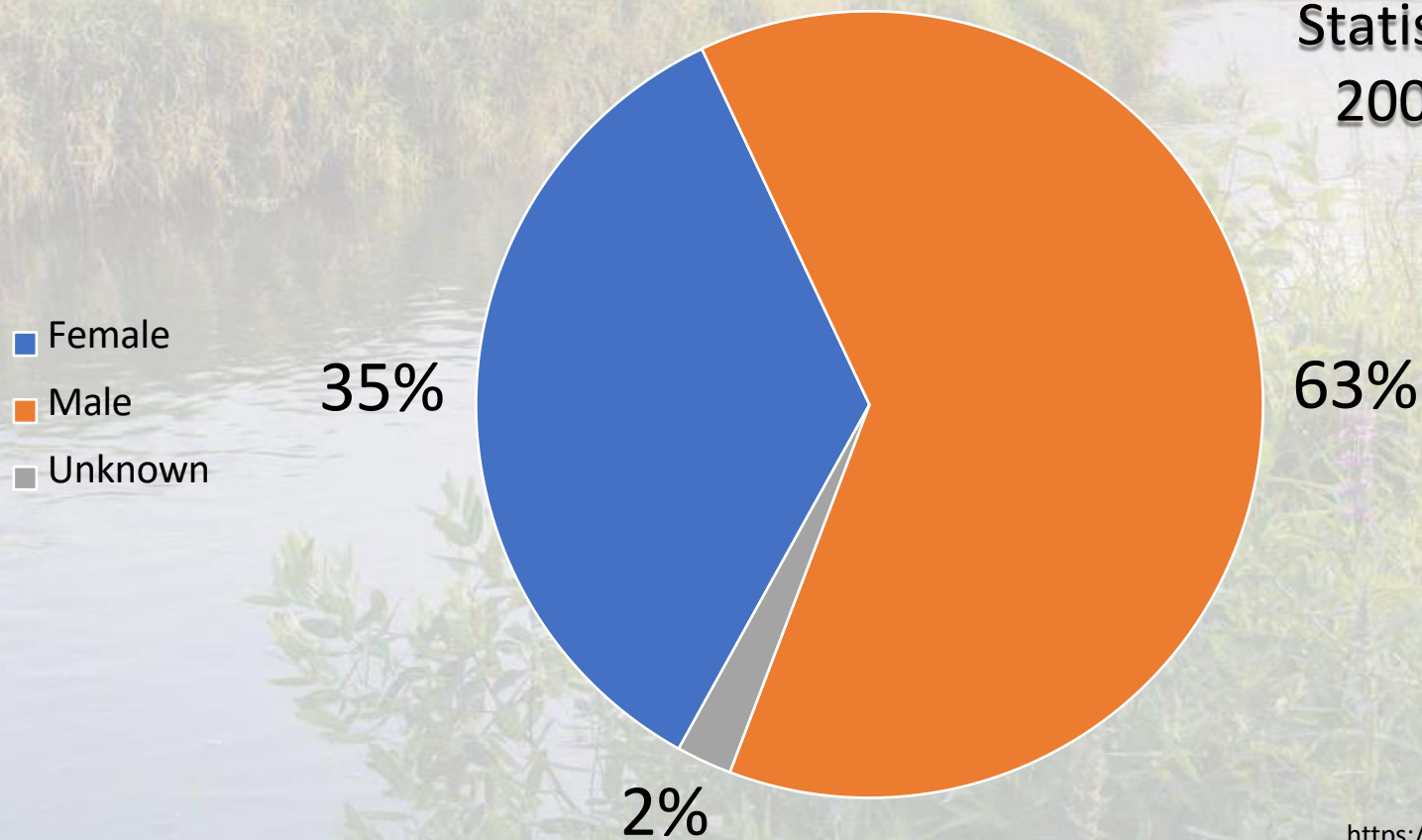
<https://www.weather.gov/hazstat/>



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Flood Fatalities: Gender

Statistics from
2000 - 2018



<https://www.weather.gov/hazstat/>



STORMWATER MANAGEMENT COMMISSION

North Chicago Storm Sewer Project – Route 41/NSGL



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Congress of the United States
House of Representatives
Washington, DC 20515-1310

COMMITTEE ON WAYS AND MEANS
SUBCOMMITTEE ON HEALTH
SUBCOMMITTEE ON SOCIAL SECURITY

COMMITTEE ON SMALL BUSINESS
SUBCOMMITTEE ON ECONOMIC GROWTH, TAX
AND CAPITAL ACCESS

April 29, 2021

The Honorable Rosa DeLauro
Chair
House Appropriations Committee
Washington DC, 20515

The Honorable Kay Granger
Ranking Member
House Appropriations Committee
Washington DC, 20515

Dear Chair DeLauro and Ranking Member Granger:

I am requesting funding for the North Chicago Storm Sewer project in fiscal year 2022. The entity to receive funding for this project is the Lake County Stormwater Management Commission, located at 500 West Winchester Road, Suite 201, Libertyville, IL 60048. The funding would be used for a high-priority stormwater management and flood mitigation project that would benefit local, state, and federal assets, including housing for Great Lakes Naval Station, Illinois Route 41, and local homes and facilities. The project would also provide downstream benefit by increasing water storage capacity.

I certify that neither I nor my immediate family has any financial interest in this project.

Sincerely,

BRADLEY S. SCHNEIDER
Member of Congress



FEMA
IEMA



Illinois
Department of Commerce
& Economic Opportunity

Many people were flooded out of their homes, lost most of their possessions, and their cars were totaled.



Strawberry Condos Parking Lot

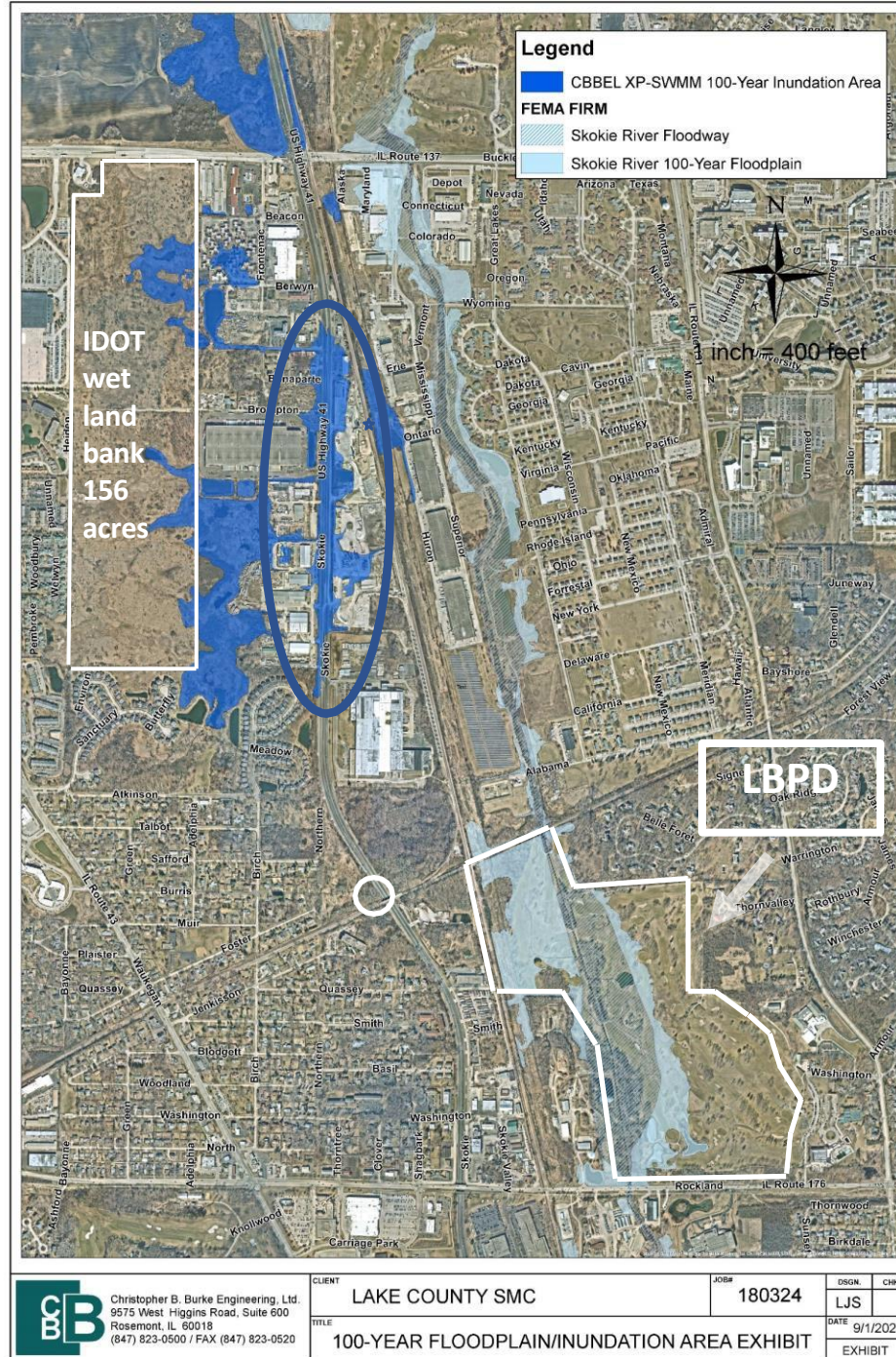
- Two 100-year flood events in the last eight years resulted in:
- Over 50 homes damaged in North Chicago and Naval Station Great Lakes
- Negative economic impacts for businesses located along US Route 41 and the region
- Closure of Route 41 negatively impacts public safety, schools, and transport of goods



Route 137 & Route 41,
looking south

Project Goal: Eliminate flooding along US 41

- Install additional protections along IDOT's wetland mitigation bank
- Enlarge storm sewers and culverts, incl. water quality catch basins, tunnel 72-inch casing pipe under Route 41 and UP North RR
- Find land to temporarily store a minimum of forty acre-feet of stormwater volume to ensure no negative downstream impacts



Nature-based Storage Solutions

#1 - Navy property storage, streambank stabilization, and water quality filtration channel

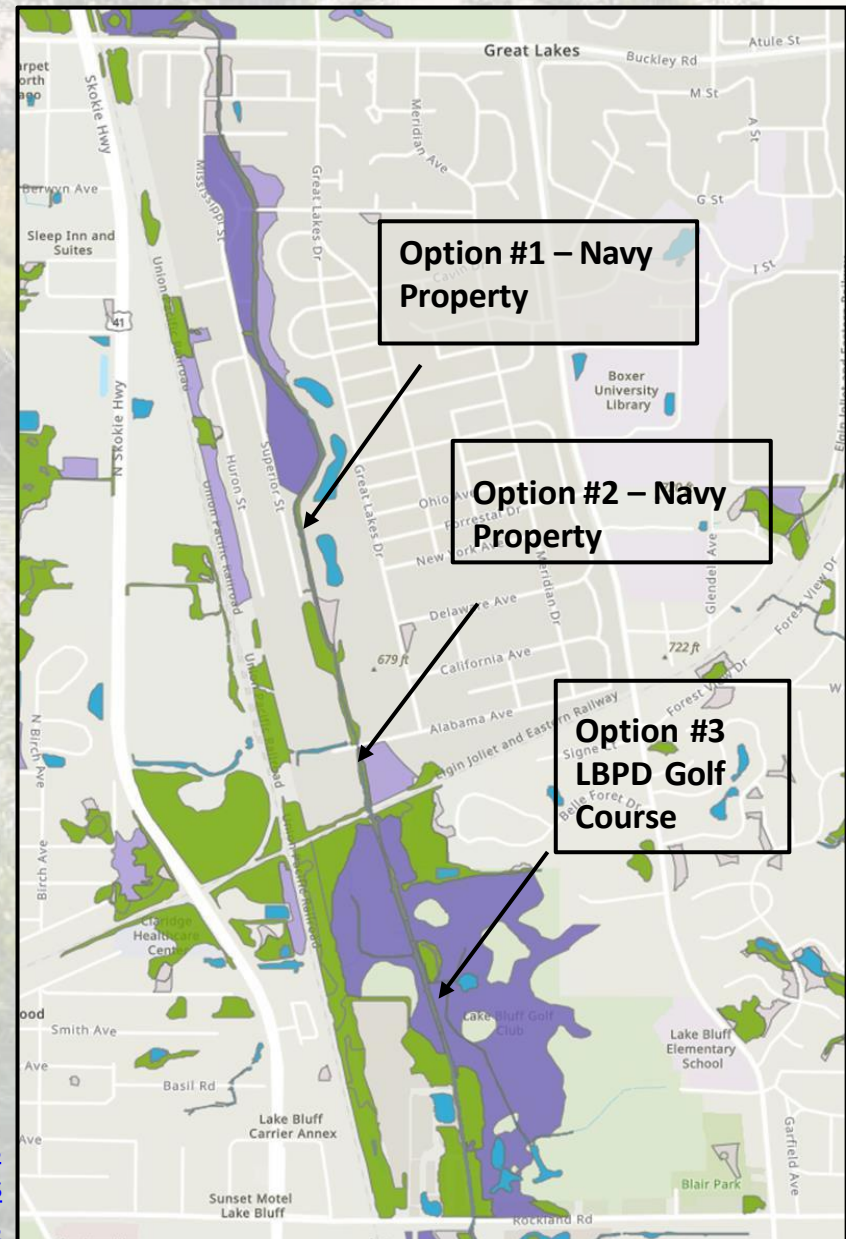
#2 - Navy reserve storage area

#3 - Lake Bluff Park District GC, potential project expansion with wetland and watershed benefits

Green areas are approximate locations of current wetlands

Blue areas are water bodies

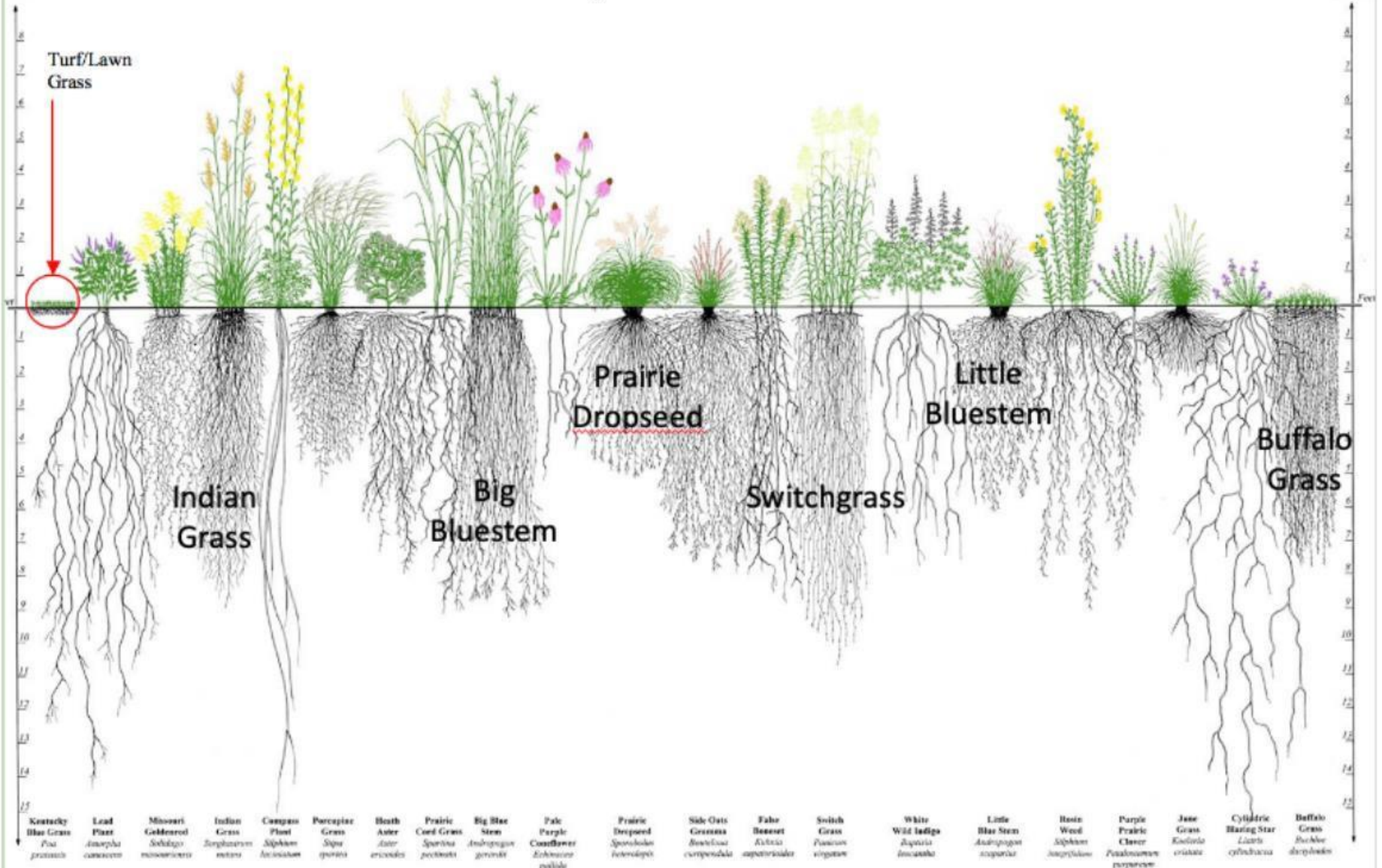
Purple areas are Potentially Restorable Wetlands



<https://www.lakecountyiil.gov/2531/Wetland-Restoration-Preservation-Plan>

Bio-Engineering Solutions ...NOT Weeds!

Root Systems of Native Plants



FY 2022 Congressionally Directed Spending Information & Timelines

Requirements and processes for the FY 2022 Pre-Disaster Mitigation grant program congressional community projects.

Timeline

NOTE: FEMA has extended the 30-day Application Period



Project: Dady Slough Flood Storage and Wetland Enhancement Project [Schneider]

Maximum Federal Share: \$3,000,000

Project: North Chicago Storm Sewer [Schneider]

Maximum Federal Share: \$7,796,558

Project: Zion Stormwater Project [Schneider]

Maximum Federal Share: \$720,435

Project: Sylvan Lake Dam Modifications [Underwood]

Maximum Federal Share: \$1,342,500



Upper Des Plaines River Watershed Flood Protection Operations

- Foxconn impact study
- Future watershed urbanization in Wisconsin
- Preliminary Investigation Feasibility Report (PIFR) due June 30, 2022

WATERSHED FLOOD PREVENTION OPERATIONS PROGRAM STATEMENT OF WORK PRELIMINARY INVESTIGATION FEASIBILITY REPORT FOR NRCS CENTRAL REGION

State: Illinois & Wisconsin

County: Lake County (IL) & Racine and Kenosha Counties (WI)

Sponsoring Organization: Lake County Stormwater Management Commission

HUC 10 #: 0712000401, 0712000402 & 0712000403

HUC 10 Name: Upper Des Plaines River

Potential Purposes (not all inclusive): flood prevention, watershed protection, agricultural water management and water quality management

Description: The upper portion of this watershed has significant agricultural land and is undergoing land use conversion while the downstream areas have suffered damage from several flood events, particularly in the past 40 years.



Flood-prone Property Buyout Projects

\$12.3M State & Federal Flood Mitigation Buyout Funding

11 Homes Acquired

9 Demolished

29+ Residents Relocated

15+ Project Partners

Leverage Ratio: 11:1



Severe bluff erosion threatened Beach Park homes along Bull Creek.

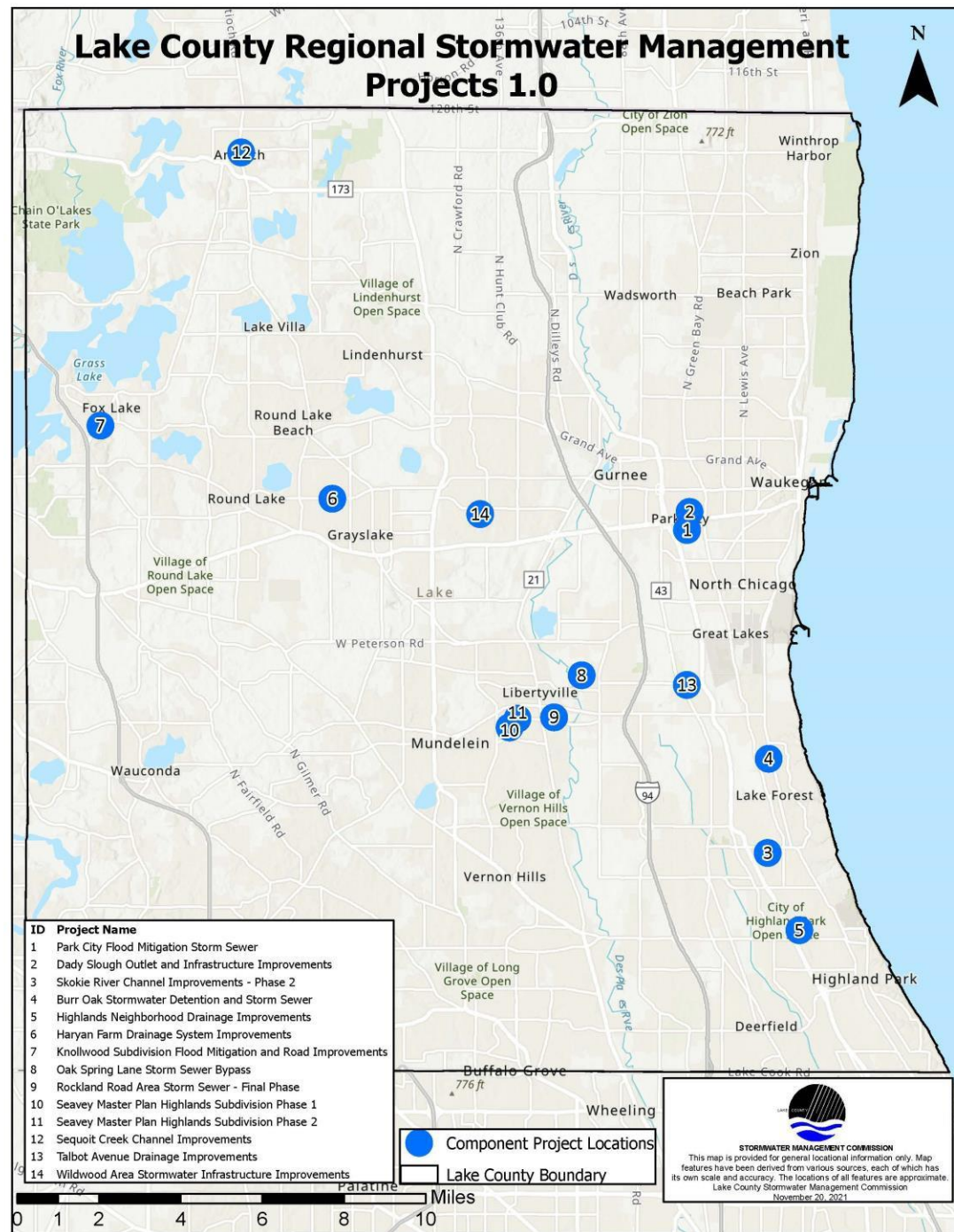
DCEO Grant Funding Update:

- \$30M for 14 Regional Stormwater Projects 1.0
- \$2.6M for Park City Drainage Improvements
- \$92M (of \$122M) remain for Lake County Stormwater Projects:

SMC Work Program incl. 12 new projects (Round 2)

O52

Countywide Request-for-Project Proposals to be issued in August (Round 3)



How can I get more information about SMC?

- Visit lakecountyil.gov/4185
- Subscribe to the SMC MainStream monthly newsletter
- Follow us on social media
- Attend future public information meetings
- Call us at 847-377-7700
- Email us at stormwater@lakecountyil.gov



A photograph of a field of yellow flowers, likely Black-eyed Susans, in the foreground. The background shows a line of trees and a sunset sky with orange and pink hues. A paved path or road is visible on the right side of the field.

Panel Discussions

Middlefork Savanna