

# StormStore™

**Spark development | Save money | Reduce flooding**

*StormStore is a partnership of:*

Metropolitan  **Planning Council**

The Nature  
Conservancy   
Protecting nature. Preserving life.™

# StormStore™ Take Away-s

- How we got here
- What is stormwater credit trading and who is StormStore
- How StormStore works
- Who can participate in stormwater trading
- What are the benefits of stormwater trading
- What is next for StormStore

This work would not be possible without collaboration...



Metropolitan **Planning** Council



**Metropolitan Water  
Reclamation District  
of Greater Chicago**

...and so many others

# Regional Stormwater Issues

Residents of Cook County continue to experience more frequent and severe flooded yards, street closures, basement backups and seeps, and combined sewer overflows that pollute our rivers and streams and impact quality of life across Cook County



**Pollution from Runoff**



**Urban Flooding of Neighborhoods**



**Impacts from Combined Sewers**

# Cook County Stormwater Investment Needs



**Metropolitan Water  
Reclamation District  
of Greater Chicago**

“Let’s design a flood control solution that will maximize local assets and spur economic development.”



- Over the last 30 years, **MWRD has invested over \$3 billion in regional flood mitigation** through the Tunnel and Reservoir Plan (TARP)
- MWRD only got authority from the State in 2014 to start working with local communities to plan, finance and implement local flood solutions
- Currently MWRD funds local stormwater projects through their Green Infrastructure Partnership Opportunity Program
- **To solve flooding in Cook County it will cost another \$70 billion**, even if a cost-effective blended green and grey approach was used

Source: MWRD, Update on MWRD Stormwater Master Planning Process (2020)

# Stormwater Credit Trading is...

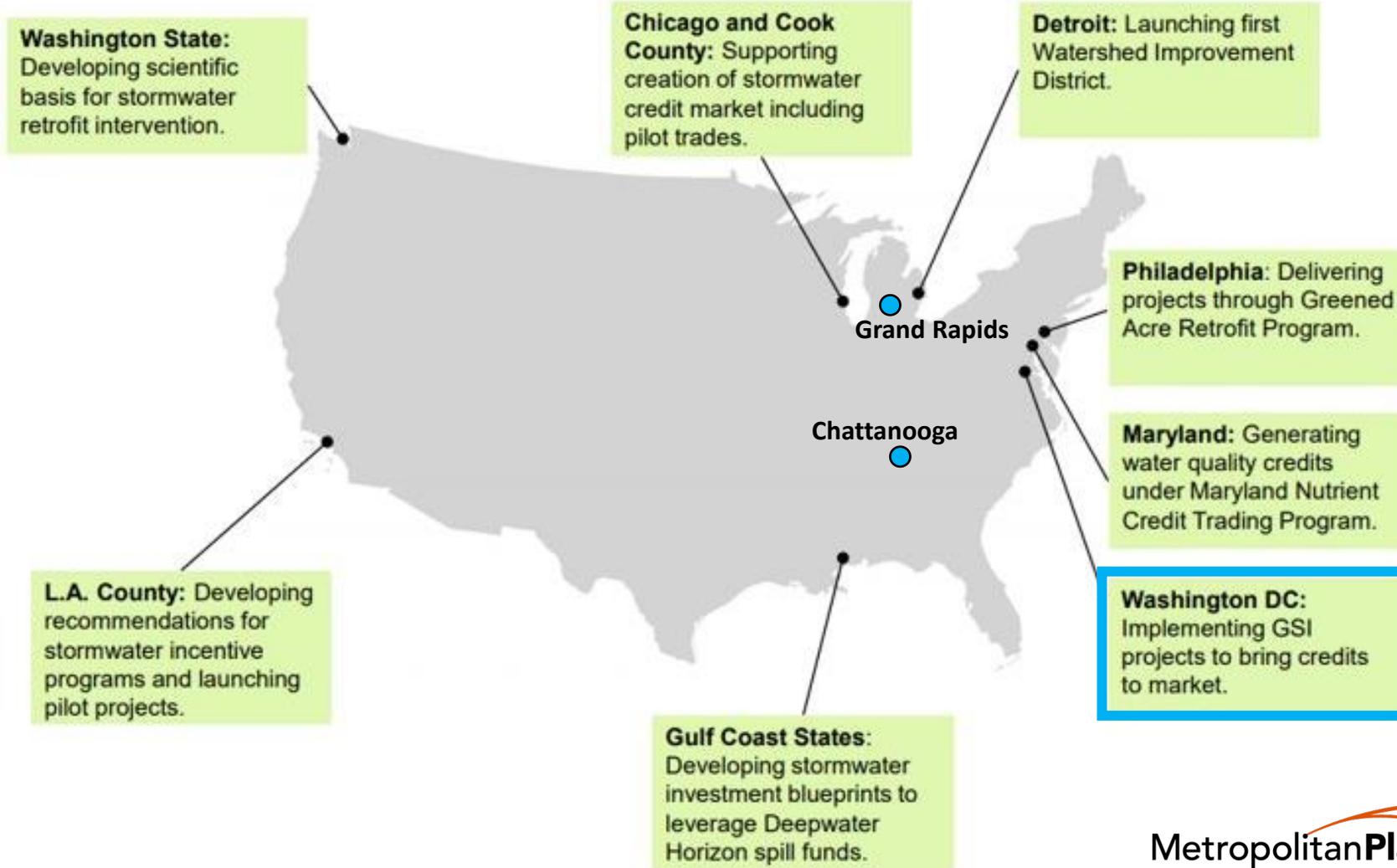
- A **watershed approach** to solving local flooding issues
- A **policy** that provide options for developers to meet stormwater management requirements
- An **economic tool** that encourages placement of stormwater controls where it is most needed and provides greatest benefit
- An **incentive** for expanding investment in nature-based stormwater solutions by:
  - Philanthropic and private investors
  - Conservation organizations and land banks, and
  - Businesses, landowners and local governments

*...Trading allows more communities to experience the economic, social, and environmental benefits from building decentralized, nature-based solutions for stormwater management*



Source: NRDC, [How to: Stormwater Credit Trading Programs](#)

# Stormwater Markets Across the US



# Our work so far...

## Setting a Foundation for Collaboration

Stakeholder feedback & concept socialization

2015



2016

## Initial Due Diligence

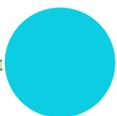
Concept case studies & financial modeling

## Studying Market Feasibility

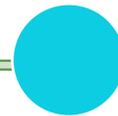
Research on policy & supply/demand forecasting

Start shaping new regulation

2017



2018



2019

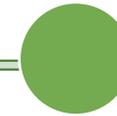
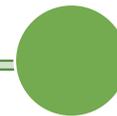
## Market Design Research

Study on Market Administration options & more regulation shaping

## Cook County Pilot Initiated & StormStore Market Enabled

TNC Secures NFWF grant to establish Revolving Fund for demonstration pilot projects

2020



2021 + Beyond

## Ensuring Early Market Success

Deliver pilot projects, conduct stakeholder outreach, & guide MWRD toward pilot improvements

# MWRD Pilot: Detention and Volume Control Trading

**Starting May 2020 through January 1, 2025...**

*“...projects located within [the **Little Calumet** and **Lower Des Plaines** watershed planning areas] do not need to demonstrate site limitations and constraints to be able to participate in detention and volume control trading.” - Watershed Management Ordinance (WMO)*

**IF...**

Developers provide **ONSITE** storage for:

**Detention Volume** for the 10-year, 24-hour storm event and at least 50% of required **Volume Control**.

*And “...proposed peak runoff rates [do not] exceed the existing peak runoff rates and any existing detention volume [is not] reduced...”*

**THEN...**

Developers can meet requirements **OFFSITE** for:

**Remaining Detention Volume** for the 100-year, 24-hour storm event and **Remaining Volume Control** (up to 50%)

*“...within each WPA, volume control or detention may be **TRADED** with existing **SUPPLY** site...”*



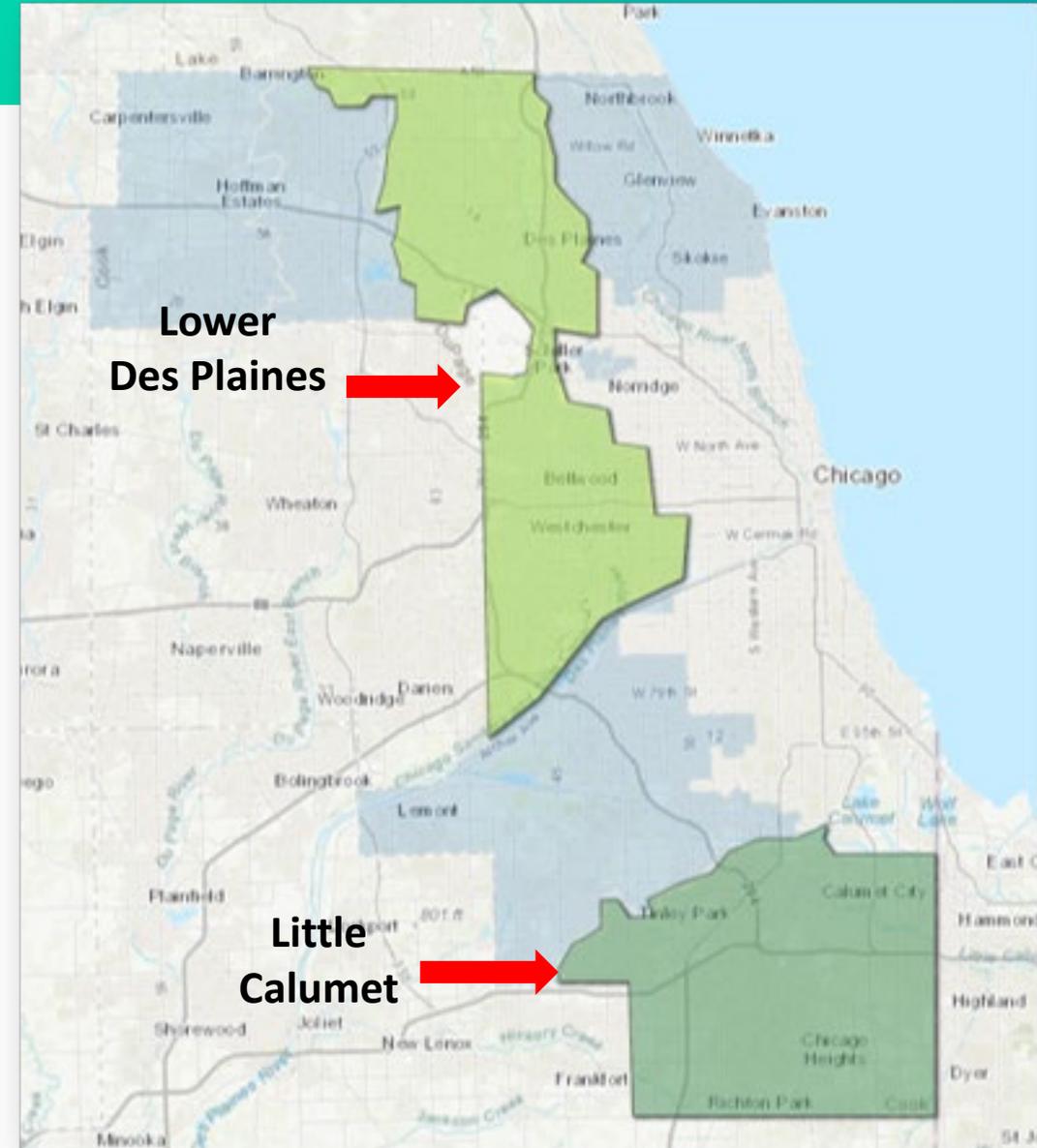
# Who CAN Participate in the Pilot?

**BUYERS of credits** must have a "demand" project:

- Development or redevelopment that triggers MWRD WMO permit
- Project is located fully within one of the eligible geographies
- Able to meet the reduced requirements onsite

**SELLERS can generate** credits from a "supply" project:

- Able to provide new, additional storage capacity beyond what is required
- Located fully within one of the eligible geographies
- **NOT** a single-family home development
- Committed to long-term stewardship and maintenance



# Who SHOULD Participate in the Pilot?

- A **private-developer** seeking a more cost-effective way to meet stormwater compliance requirements
- A **municipality** with projects that address local flooding or add new park-like amenities to the community
- An **affordable housing** developer looking to save money on stormwater management
- A **consulting engineer**, planner, or architect working with developers in the pilot watersheds
- A **resident community member** who has a project from local planning efforts that they want to see realized
- A **nonprofit landowner** or manager looking to capitalize on environmental benefits of natural infrastructure
- A landowning **institution** (e.g. school, church, hospital) that has plans to improve or redevelop your property

# What is StormStore's role?

## Our Purpose...

- Develop a marketplace for the 5-year pilot program
- Attract investment that generates lasting community benefits
- Encourage reuse of vacant or marginal land

## We do this by...

- Pro-bono support + market administration
- Matchmaking between Buyers + Sellers



# How StormStore Works?

## The Seller...

**Procures** Permit

**Installs** new, voluntary green infrastructure

**Sells CREDITS to buyer**

**Maintains** infrastructure

**StormStore**  
Market

**Match**  
*Sellers + Buyers*

## The Buyer...

**Buys CREDITS to seller(s)**

**Procures** permit

**Reduces** project costs

**Meets** requirements

# Benefits of StormStore

- Provides **flexibility and lowers costs** for developers
- Encourages **increased development density**
- Promotes **intentional and more equitable siting** of stormwater investment in areas where it is needed most
- Incentivizes **beneficial reuse of vacant land** that adds environmental and economic value (revitalization)
- **Accelerates multi-benefit, nature-based stormwater solutions**, resulting in
  - improved water quality
  - increased green space
  - protected/enhanced habitats
- **Generates jobs**
- **Reduces flooding**
- **Drives regional resilience**



# StormStore: A proven concept, by the numbers

**\$175k**

On average projects in pilot watersheds could have saved \$175,000 per project with StormStore from 2006-2019.

**13**

On average, 13 projects per year would benefit from using off-site stormwater facilities-- potentially allowing for 13 new, voluntary facilities.

**.70**

The average project could save .70 acres of developable space by purchasing stormwater credits.

**2024**

A similar program in Washington D.C., operating since 2013, will be over-subscribed by 2024.

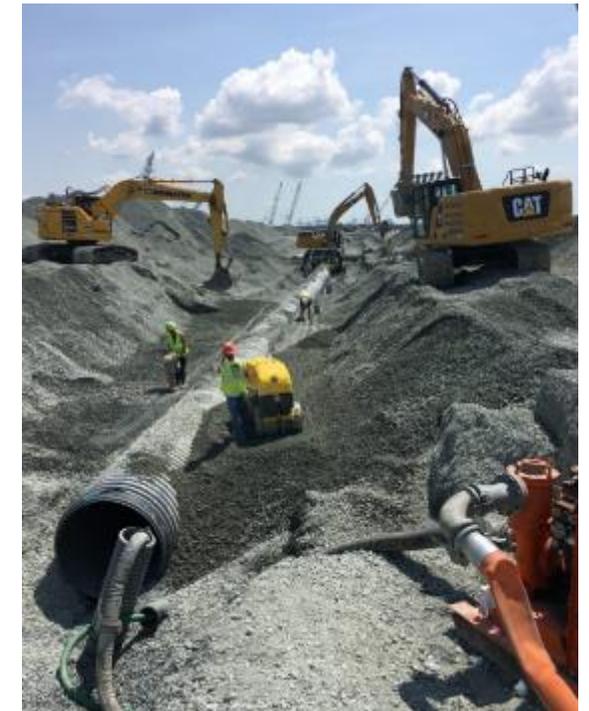
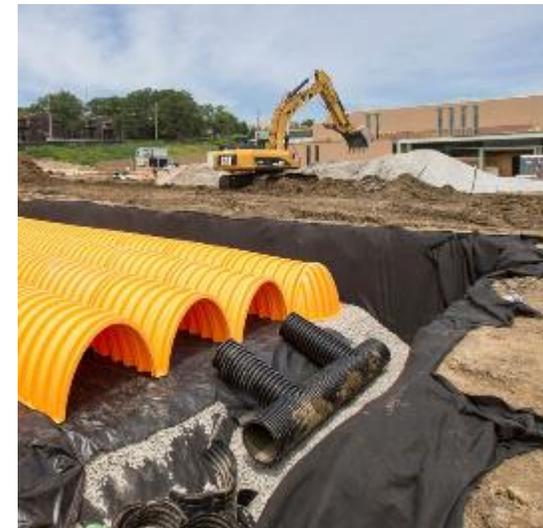
*Figures adapted from 2017 Teska analysis*

# Examples of Potential StormStore Demand

Infill developments that require use of underground detention

Properties with site constraints (poor soils, slopes, utilities, wetlands)

High-value properties looking to maximize buildable area



# Examples of Cost-Effective StormStore Supply

Parking Lot  
Retrofits



Streetscape  
Improvements

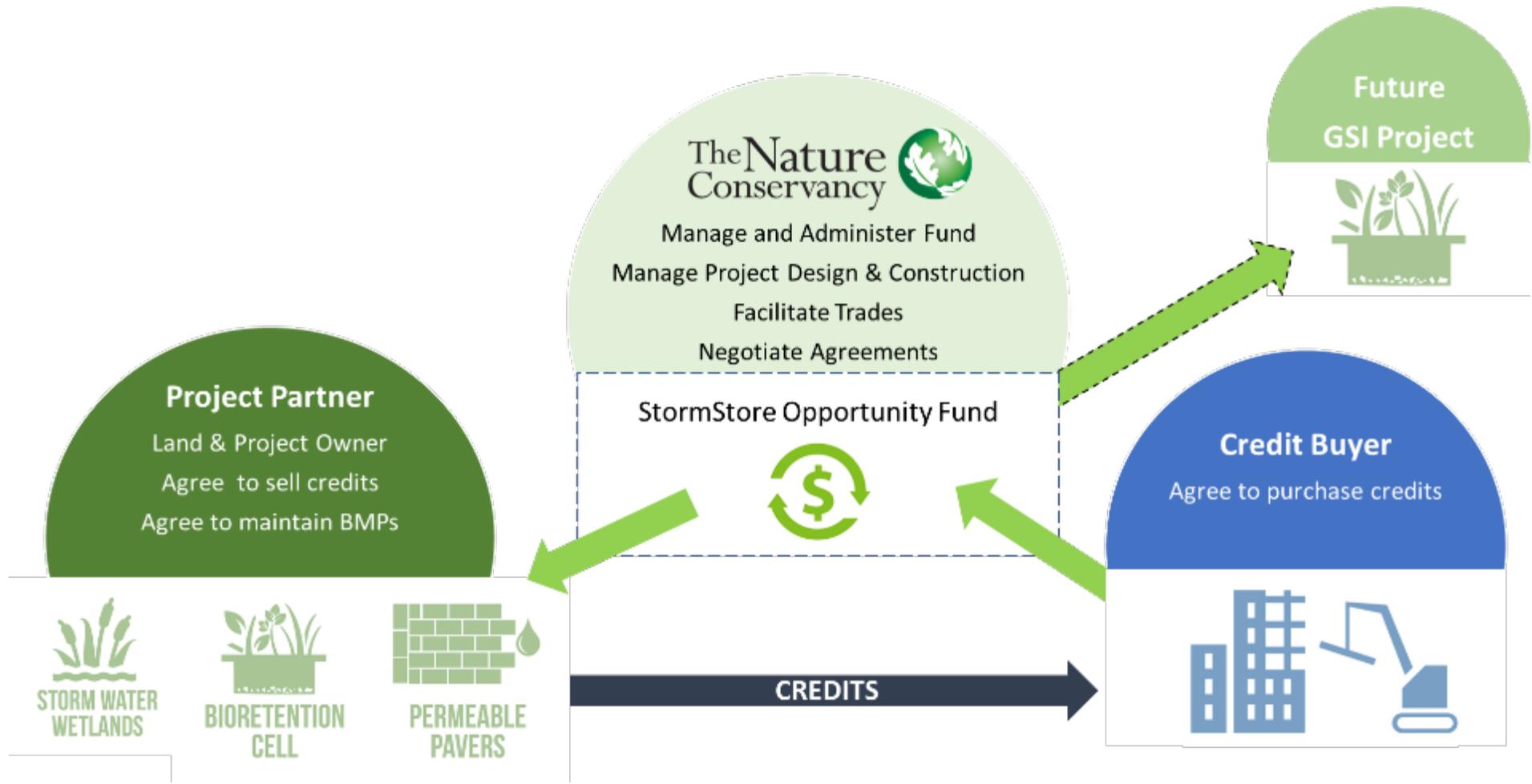


Use of Trees &  
Green  
Infrastructure  
at Parks

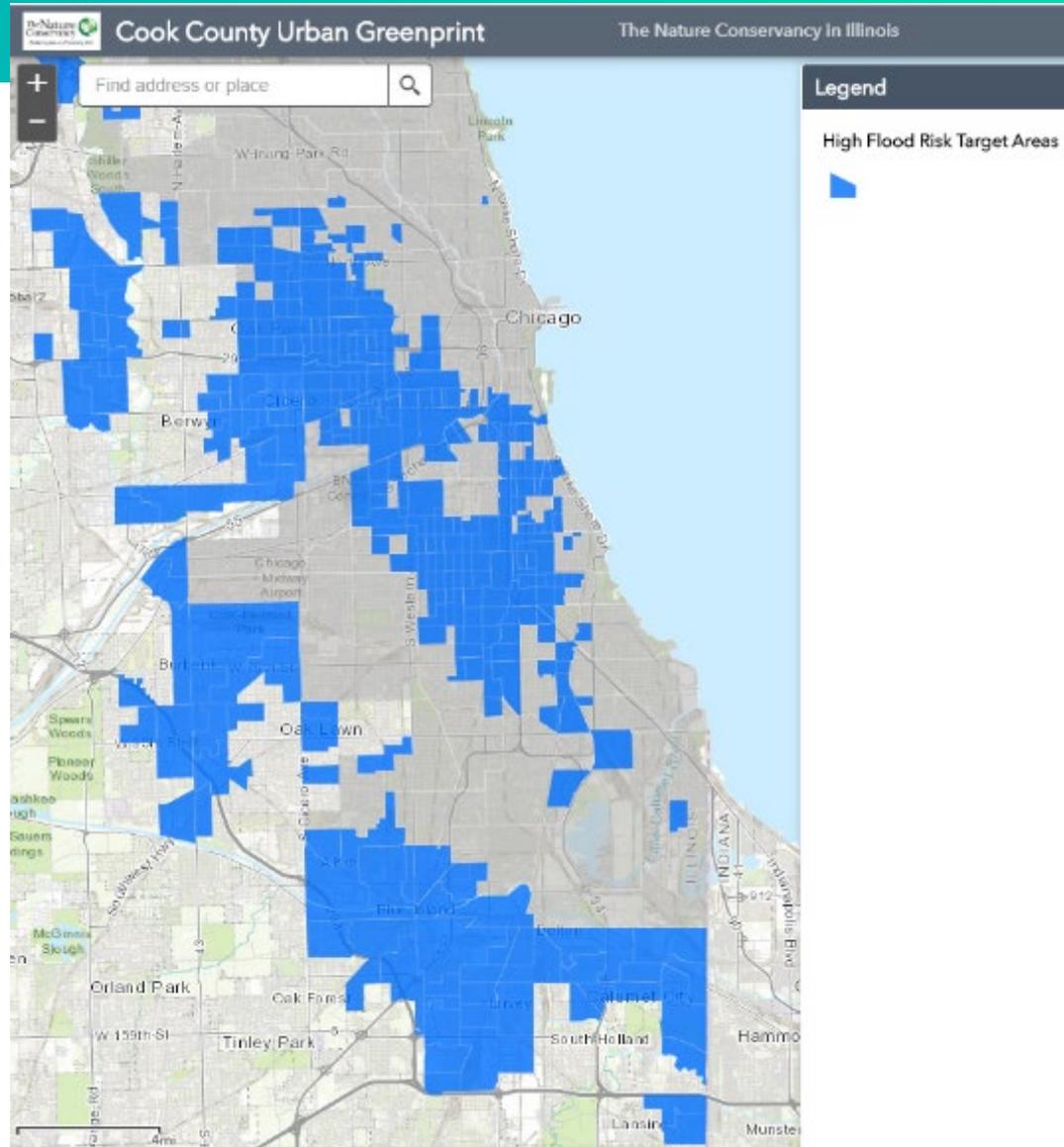


School gardens  
& playground  
retrofits

# TNC is Catalyzing Supply – StormStore Opportunity Fund



# Selection of StormStore Opportunity Fund Projects



TNC is using a **Greenprint** to select project in communities that are most impacted by flooding

These are areas where natural infrastructure could bring the greatest benefit

**By enhancing nature, more rainfall will be absorbed into the ground and more of the water flowing into our waterways will be cleaner.**

<https://bit.ly/ChicagoGreenprint>

# Next Steps for StormStore™

- **SUMMER 2021: Launch online trading portal | StormStore.org**
- SUMMER 2021: Continue pilot watershed stakeholder outreach
- **FALL 2021: Selection for TNC's Demo Supply Project**
- FALL 2021: Conduct stakeholder interviews and focus groups to explore expansion of market into Chicago
- WINTER 2021: Begin design of pilot supply project
- WINTER 2021: Conduct policy and feasibility research for Chicago market expansion

# QUESTIONS?



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