



# DUPAGECOUNTY

## STORMWATER MANAGEMENT

Love Blue. Live Green.



### Establishing a Stormwater Basin & BMP Inventory for DuPage County

# Background

## DuPage County, IL

- Located just west of Chicago/ Cook County
- Population: 926,000 (2<sup>nd</sup> most populous in IL)
- 336 square miles



# Who Are We?



## Stormwater Management in DuPage County

- Countywide program established in 1989
- Guided by the Stormwater Management Planning Committee & Plan
- Enforce the Countywide Stormwater Management & Floodplain Ordinance
- Flood Control Facilities have a floodwater capacity of nearly 6 billion gallons

### Programs

- Watershed Management
- Water Quality
- Floodplain Mapping
- Regulatory Services
- Flood Control Operations & Maintenance

# Countywide NPDES Partnership

## Over 40 MS4s in DuPage County

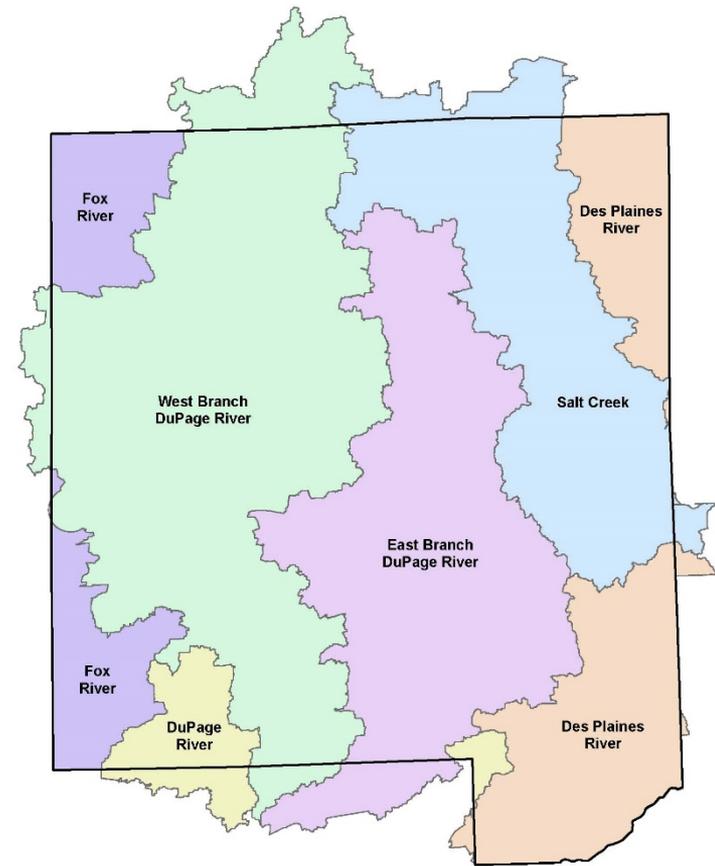
- Municipalities, Townships, County

### Major Watersheds

- East Branch DuPage River
- West Branch DuPage River
- Salt Creek

### Partial Watersheds

- Des Plaines River, Fox River, DuPage River mainstem



# Watershed Planning

## Watershed Plan Development for Impaired Waterways

- Klein Creek, Kress Creek, Winfield Creek, Sawmill Creek, St. Joseph Creek
- Lower Salt Creek Watershed Plan with Chicago Metropolitan Agency for Planning
- Lots of outreach and stakeholder meetings



**DUPAGE**  
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St. Joseph Creek  
Watershed-Based Plan

August 2017



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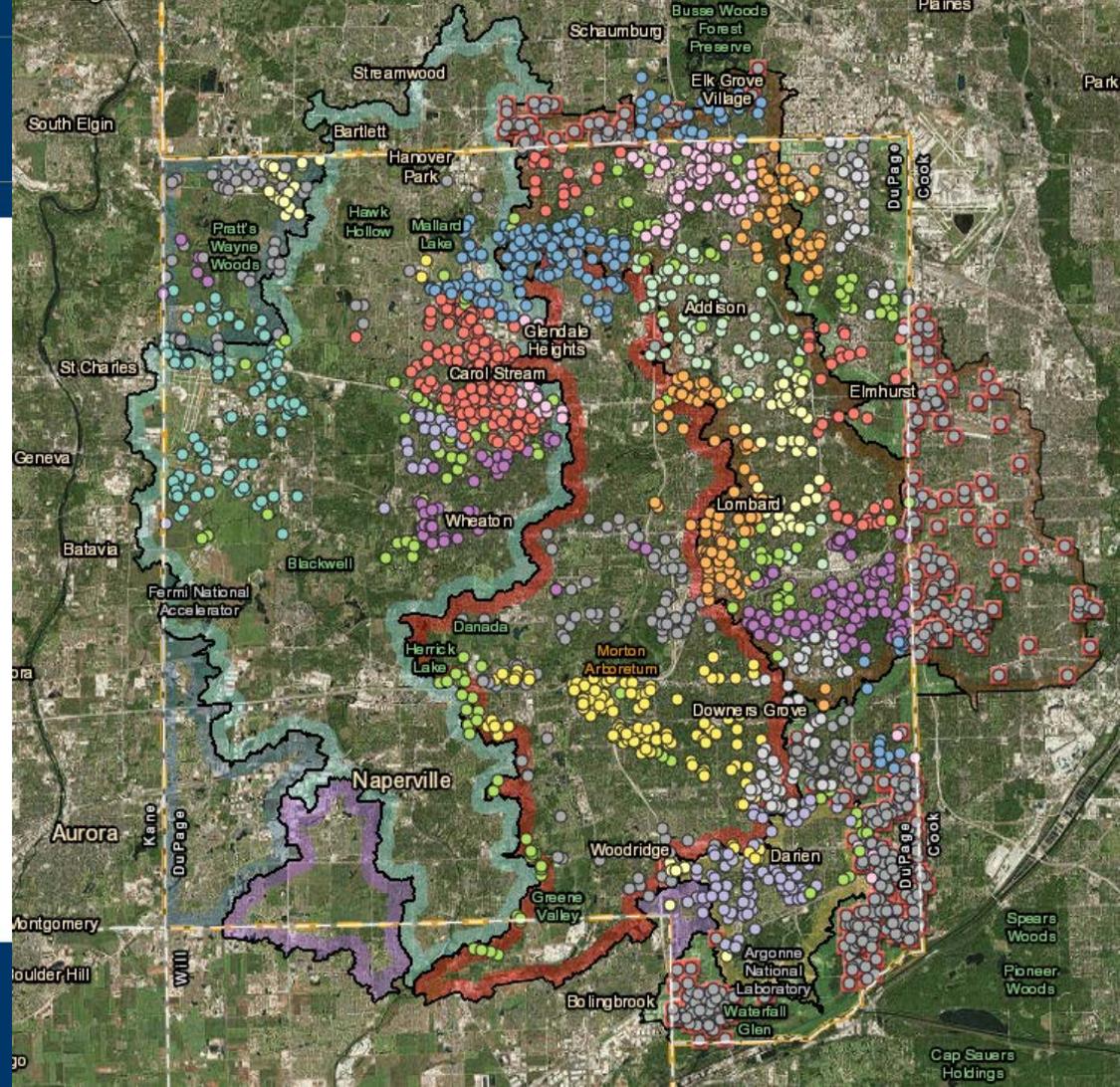


STORMWATER MANAGEMENT

# Watershed Planning

## Detention Basin Assessments

- Over 2,400 basins within the completed watersheds
- Engaged stakeholders to assist



# Watershed Planning



## Detention Basin Reconnaissance

- Evaluate detention ponds for water quality benefit
- Good, Fair, Poor Rating

Salt Creek Watershed Planning Area - Detention Basin Reconnaissance																	
Municipality										GPS Coordinates							
Location Description										GPS Coordinates							
Type					Onstream				Ownership		Lat:	Long:					
W	W-ED	Dry-T	Dry-N	CWL	Y	N			Public	Private	Lat:	Long:					
Side Slope Cover					Side Slope Angle				Native Plant Buffer Width (ft.)								
TG	NP	IP	RR														
Waters Edge Cover					Basin Bottom Cover				Shoreline Erosion								
TG	N/WLP	IP	RR	SW	N/A	Unk	TG	N/WLP	SAV	FAV	IP	CLC	N/A	Min	SI	M	H
Safety Shelf					Short Circ				Sediment Forebay				Inlets Stilling Basins				
N/A	Unk	Y	N	Y w/WL Veg	Y	N			Unk	Y	N	Unk		Y	N	Rk Apr	
Outlet Stilling Basins					Connection to Other Basins				Overall Water Quality Benefits								
Unk	Y	N		Rk Apr	Y	N			US		DS	Good		Fair		Poor	
Maintenance Comments/Other Basin Uses:																	
Retrofit Opportunities (In Basin and Contrib Area):																	

# Good for water quality



Native plants, buffers, varying water levels/ zones, lots of plant/ soil/ water interaction

# Poor for water quality



Severe shoreline erosion, turfgrass, waterfowl, little to no plant/ soil/ water interaction, trash

# Standardizing the assessments



## Water Quality Review



# Detention Basin Assessment

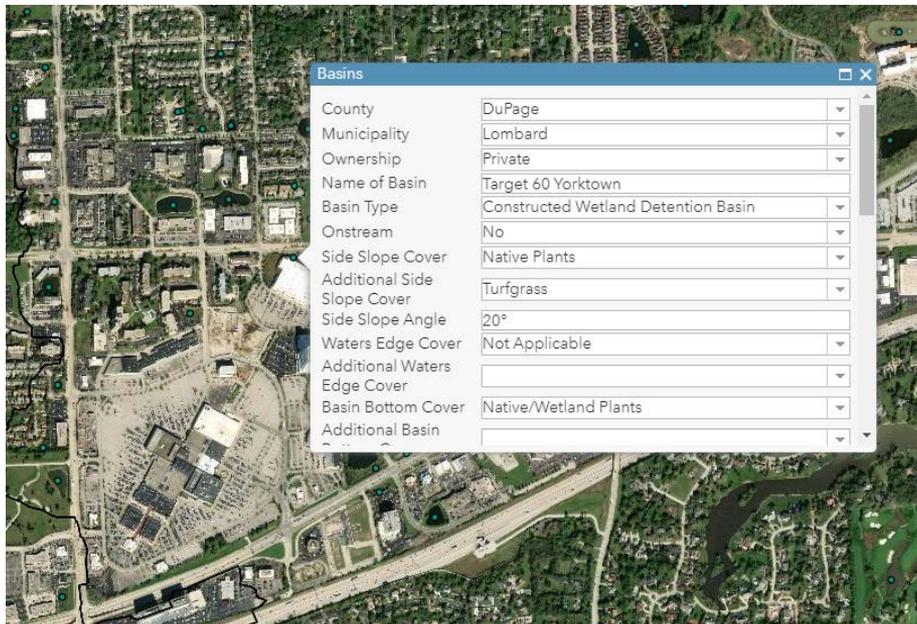


## Arc GIS Online

- Need Arc GIS Online account
- Share with other agencies

## Arc Collector App

- Add points, create and edit basin attributes in the field
- Enter directly into database
- Tablets or smartphones



# Water Quality Projects Map



## DuPage County Water Quality Improvement Program Grant

Projects that provide a water quality benefit

- Assistance program since 2000
- Fund up to 25% of construction

### Eligible projects include:

- Streambank stabilization and rehabilitation
- In stream habitat improvements
- Detention basin retrofits
- Riparian or wetland buffer creation or enhancements
- Green roofs
- Rain gardens
- Permeable pavers

# Previously Funded Projects



## Green Infrastructure



Elmhurst Police Department Rain Garden (2017)



Jay Stream School Permeable Paver Parking Lot, Carol Stream (2016)



Jefferson Junior High Green Initiatives, Woodridge (2016)

# Previously Funded Projects



## Stream, Riparian Restoration & Basin Retrofits



Elizabeth Court Detention Basin, Wood Dale (2015)



Arboretum Woods Shoreline Stabilization, Lisle Park District (2015)

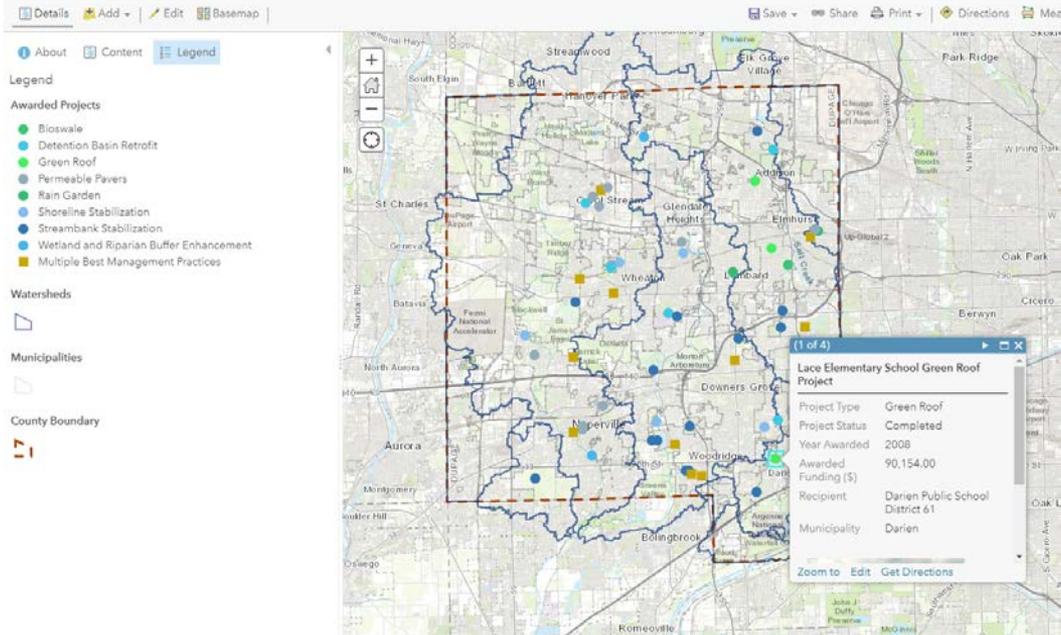


Caddie Corner Park Streambank Stabilization, Woodridge Park District (2013)

# Water Quality Improvement Program Grant



Home ▾ Water Quality Improvement Program Awarded Projects



# Next Steps



## Creating a Comprehensive BMP Inventory

- Combine WQIP and Detention Basin maps, then add BMP projects from permit files
- 10 years of permit data with no comprehensive database
- Historic file search
- Started tracking BMPs in 2018 thanks to new software

## Pollutant Load Reduction Modeling

Type of model to be determined

- STEPL, WinSLAMM, SWMM, HSPF, Other

# Questions?



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