



Mill Creek Watershed-based Planning

Steering Committee Kick-off Meeting

WELCOME!

Kane County Government Center, Geneva

July 18, 2018

Agenda

- Welcomes and Introductions
- Agenda Review
- Project Purpose, Requirements, Timeline
- Watershed Resource Inventory
- Visioning Exercise and Discussion of Key Issues & Opportunities
- Public Outreach Strategy & Discussion
- Watershed News, Announcements
- Next Steps

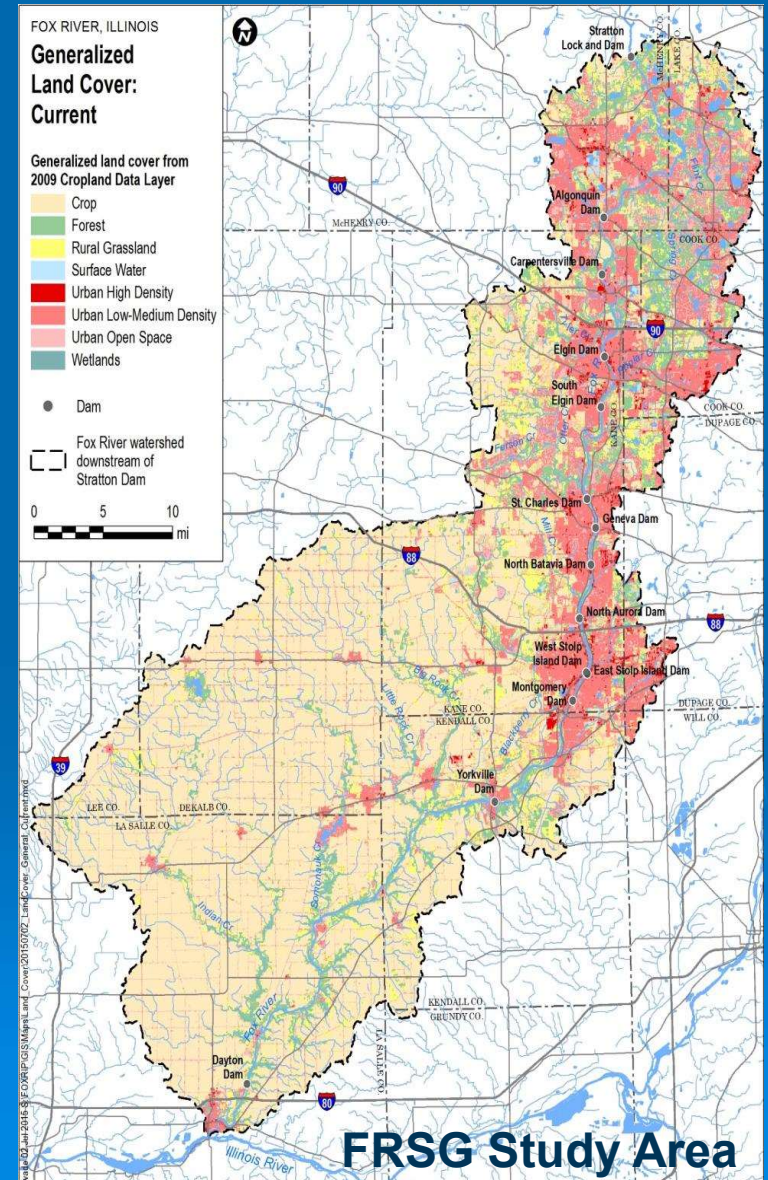
Kane County Stormwater Ordinance Update



- Process started Spring 2017
- First major update since originally adopted in 2002
- No changes to release rates / detention volumes
- Changes to BMP requirements to address WQ & IEPA NPDES Permits
- Correct inconsistencies, provide better clarifications
- Final Ordinance Expected to be adopted Spring 2019

Fox River Study Group

- Group started in 2002
- Local Government & Environmental Orgs working together to address WQ impairments in Fox River Watershed
- Extensive WQ Sampling
- WQ Model of watershed
- Recommendations to reduce phosphorus & improve dissolved oxygen in Fox River



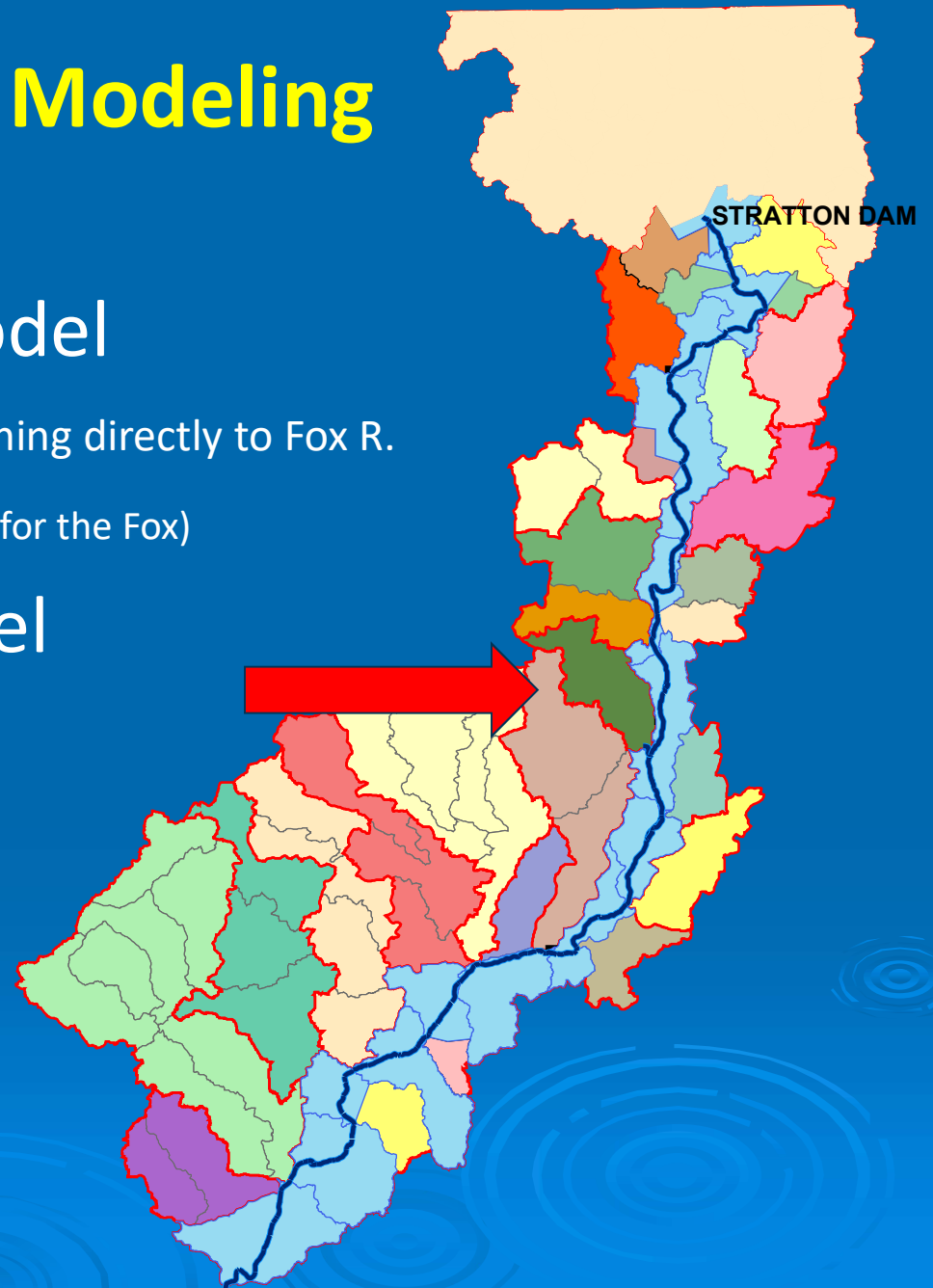
FRSG Water Quality Modeling

■ Watershed loading model

- 31 Tributaries + Areas draining directly to Fox R.
- 33 HSPF Models (Tribs + 2 for the Fox)

■ Receiving stream model

- QUAL2K (1 model)
- Steady State



Watershed-based Planning: Purpose, Requirements, Timeline

Mill Creek

Watershed-based Planning

Watershed



Why Watershed-based Planning?

- **Federal Clean Water Act**




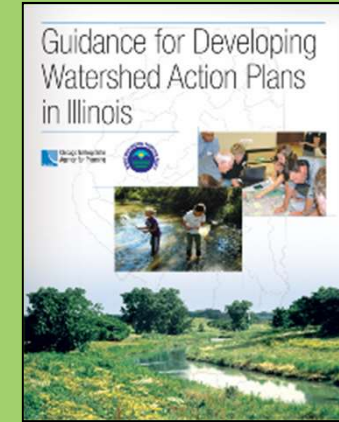
- Section 305(b), 303(d)
- Section 319(h): Nonpoint Source Management Program



9 Minimum Elements of a Watershed-based Plan (U.S. EPA, Illinois EPA)

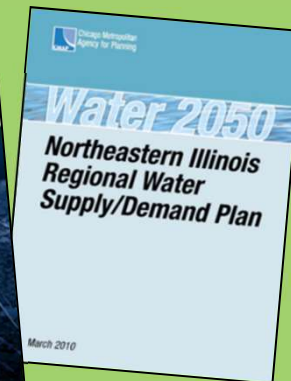


implementation 



- **Regional Planning (CMAP)**

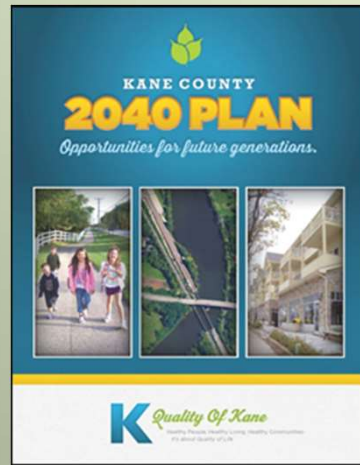
- Areawide Water Quality Management Plan
 - ✦ CWA Section 604(b) funds
- Go To 2040 → On To 2050
- Water 2050



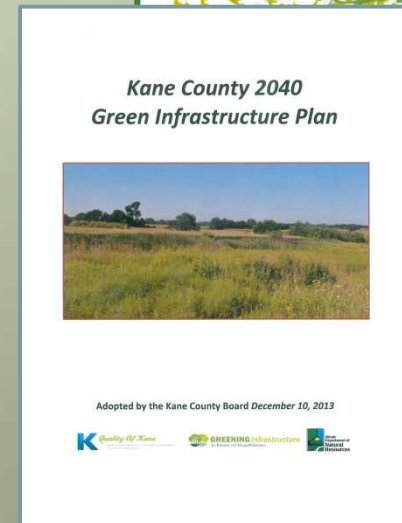
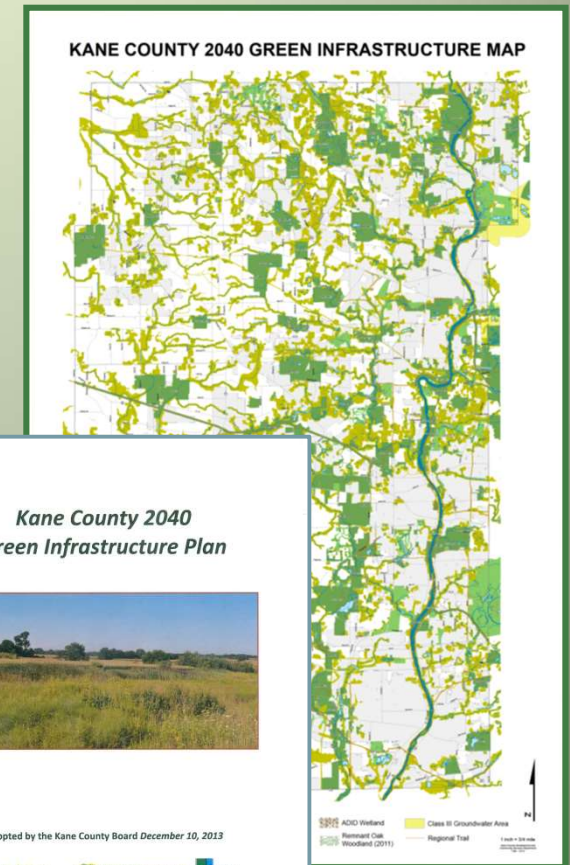
- **Local Planning & Initiatives**



Kane County 2040 Plan Green Infrastructure Plan



To enhance & expand Kane county's green infrastructure network by providing functional connections between *water resources*, natural areas, forest preserves, cultural & historic sites, and communities as part of the region's Green Infrastructure Vision.



Wisconsin-Illinois Fox River Water Trail Initiative



A distinctive national network of exemplary water trails that are cooperatively supported and sustained.

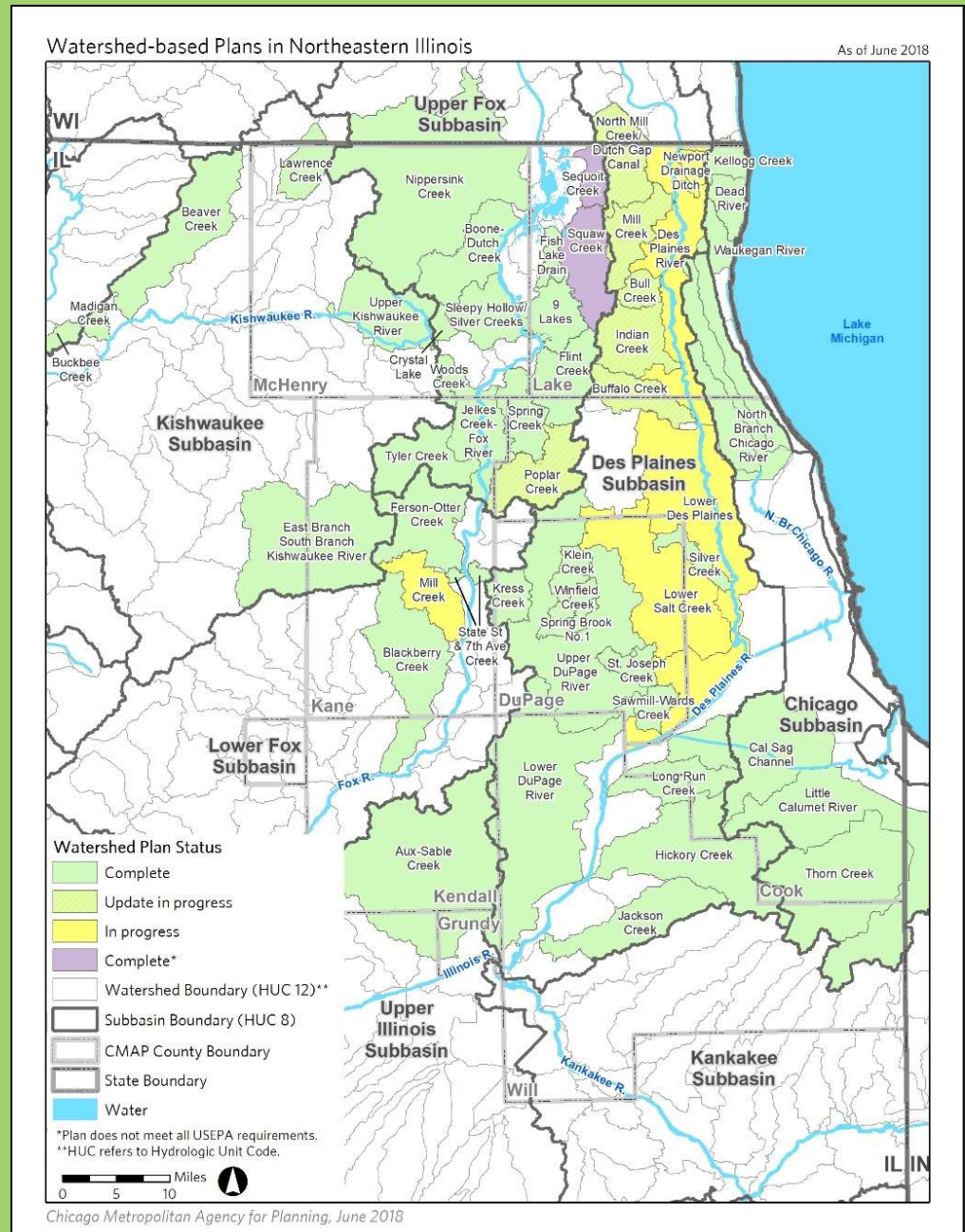


*The Fox River Water Trail from **Lisbon, Wisconsin**, to the confluence with the Illinois River in **Ottawa, IL** provides suitable **access to the public**, to enjoy the quiet and **active recreation**, **scenic beauty**, **abundant wildlife**, and **historic and cultural features**. Communities along the Fox River embrace **stewardship** and **public engagement** to provide a **sense of place**.*



Why Mill Creek?

<http://www.cmap.illinois.gov/programs/water/water-quality-management/watershed-planning>



Mill Creek Watershed-based Planning Partners

- **Illinois EPA** - Financial Assistance Agreement #604171: grant admin., plan review & approval
- **CMAQ**: project management & admin., facilitating stakeholder participation, field data collection, site visits, preparing plan
- **Kane County** - Local Technical Assistance program MOU: data/info sharing, collaboration & assistance w/ meeting and plan preparation, plan endorsement
- **Fox River Ecosystem Partnership**: public info & outreach services (website, e-newsletter, field trips)
- **Fox River Study Group**: data/info sharing, modeling support
- **Steering Committee**: representing local munis, districts, orgs; data/info/knowledge sharing; links to greater community - help w/ community outreach & education, vision, recommendations & decisions influencing the process & outcomes, plan endorsement



Watershed-based Plan Focus

address Nonpoint Source (NPS) Pollution to restore and protect impaired waters



U.S. EPA's 9 Minimum Elements of a Watershed-based Plan

- a) Identify causes of impairment & sources of pollution
- b) Estimate pollutant load reductions needed to meet WQ standards
- c) Identify the NPS management measures needed to achieve load reductions
- d) Estimate amount of technical & financial assistance needed, and sources & authorities
- e) Provide a public information and education component
- f) Include a schedule for implementing the NPS management measures
- g) Describe interim, measurable milestones to measure progress
- h) Establish criteria to determine if load reductions being achieved
- i) Provide a monitoring component to determine if progress being made toward attaining or maintaining WQ standards

Watershed Planning Steps

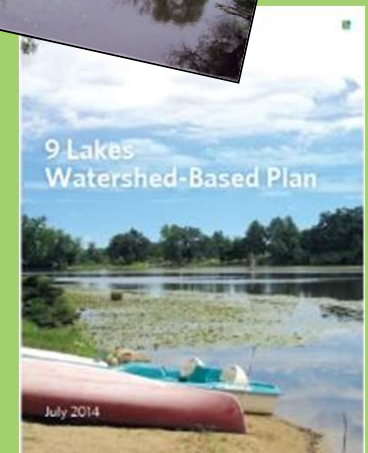
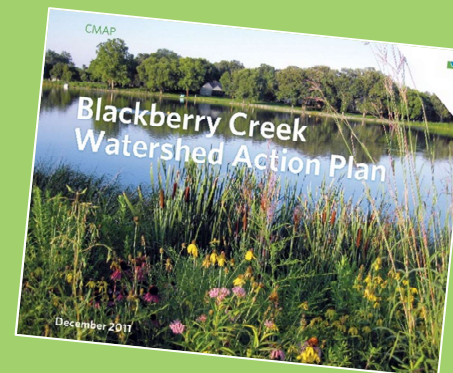
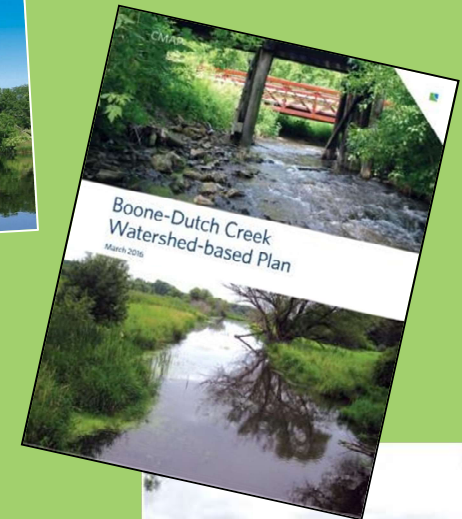
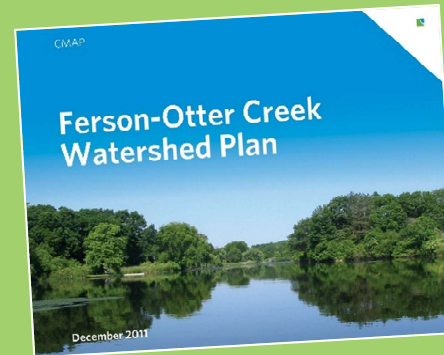


From *Handbook for Developing Watershed Plans to Restore and Protect our Waters* (USEPA, 2005)

Watershed planning is a collaborative, iterative, and adaptive process...

Watershed-based Plan Outline

- 1) Introduction
- 2) Mill Creek Watershed
- 3) Watershed Resource Inventory
 - Local Governments and Districts
 - Population and Demographics
 - Physical and Natural Features
 - Land use and Land Cover
 - Water Resource Conditions
 - Pollutant Sources
 - Land and Water Management Practices
 - Previous Watershed Planning and Implementation Activities



Watershed-based Plan Outline *cont.*

4) Watershed Protection Measures

- Planning, Policy, and Programming
- Best Management Practice (BMP) Implementation Projects
 - *“watershed-wide”*
 - *site-specific*
- Public Information and Outreach
- Funding and Tech Assistance
- Ecosystem Services Evaluation



5) Monitoring Success

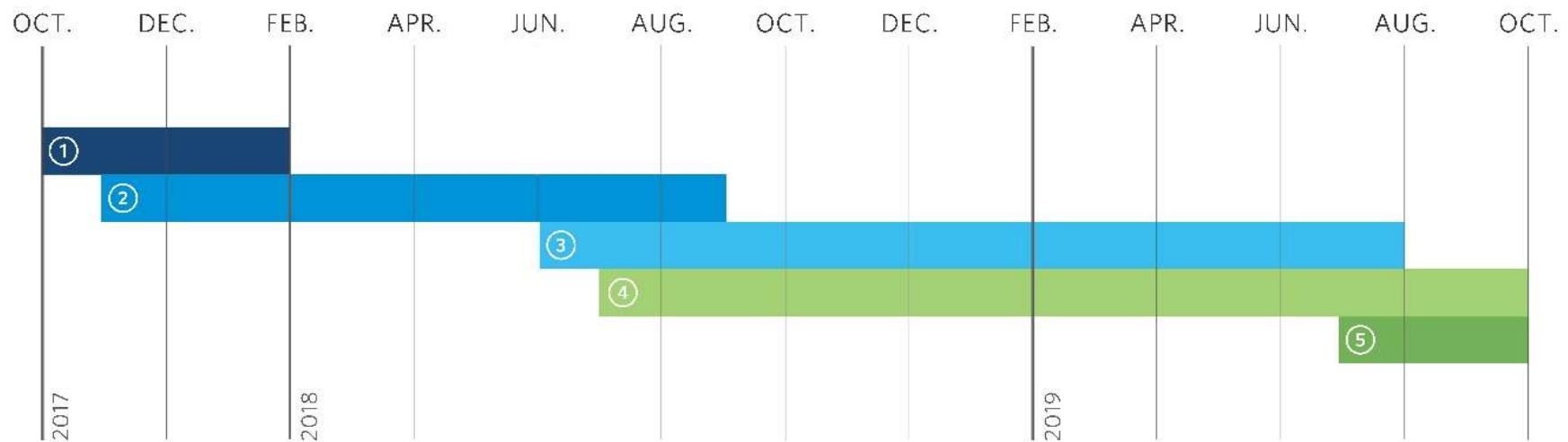
- Implementation Schedule
- Criteria for Determining Progress
- Monitoring to Evaluate Effectiveness
- Appendices



Watershed-based Plan Timeline



Mill Creek Watershed-Based Plan



1. Project initiation

2. Watershed resource inventory

3. Draft plan development

4. Public meetings and input

5. Plan completion and approvals

<http://www.cmap.illinois.gov/programs/lta/mill-creek>



Watershed Resource Inventory Overview

Mill Creek

Watershed-based Plan

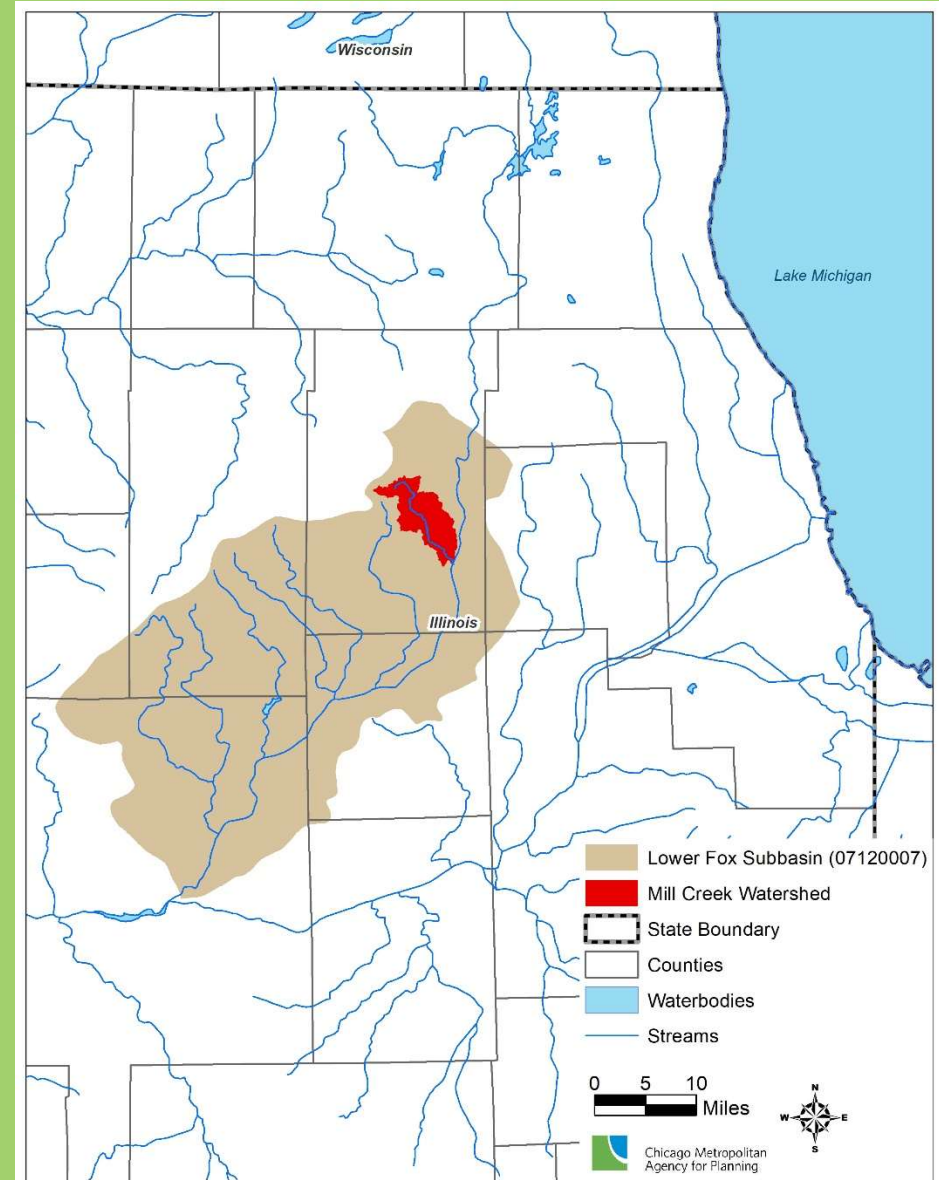
Watershed Resource Inventory Overview

Mill Creek

Watershed-based Plan

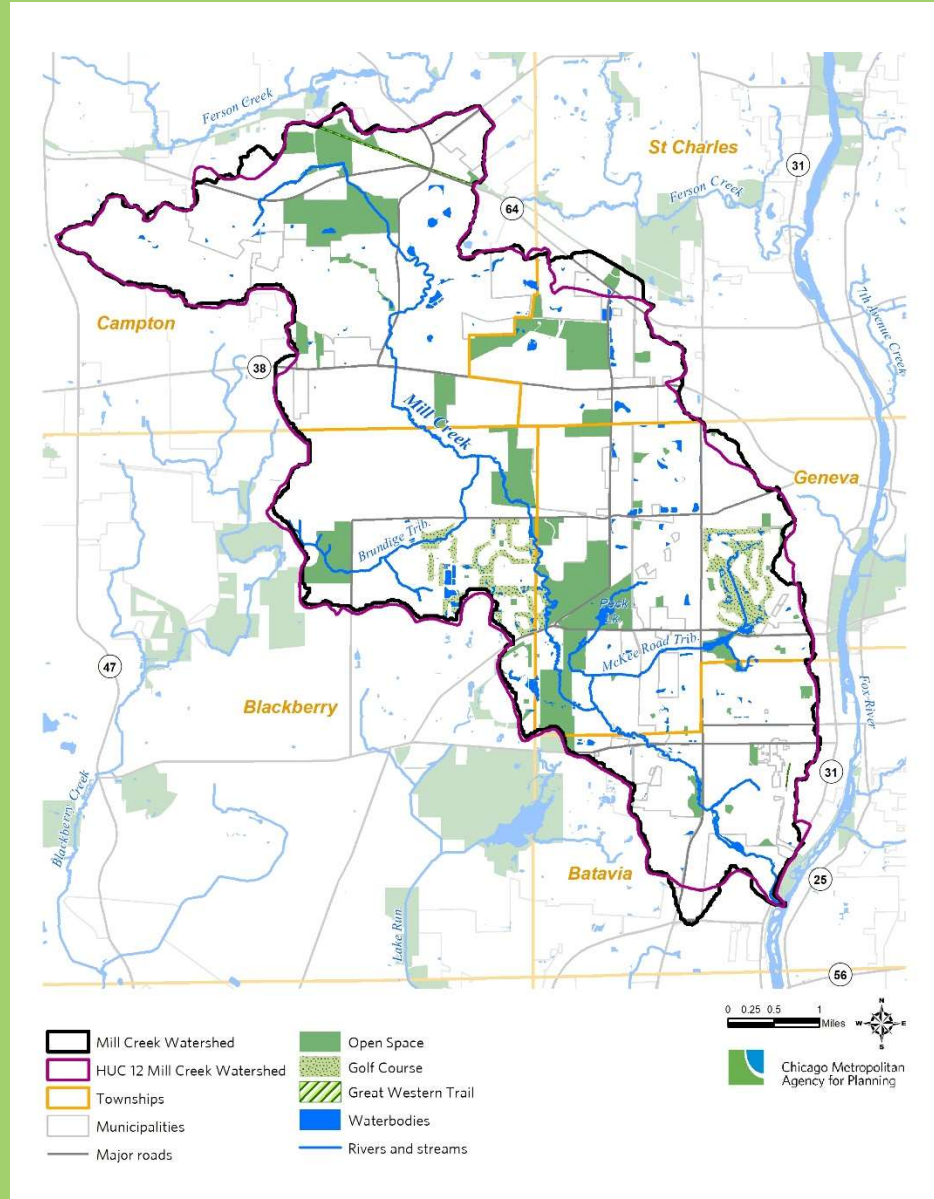
Mill Creek Watershed

- Lower Fox Subbasin (HUC 8: 07120007)
- 31.2 square miles (19,990.8 acres)
- Population: ~47,383



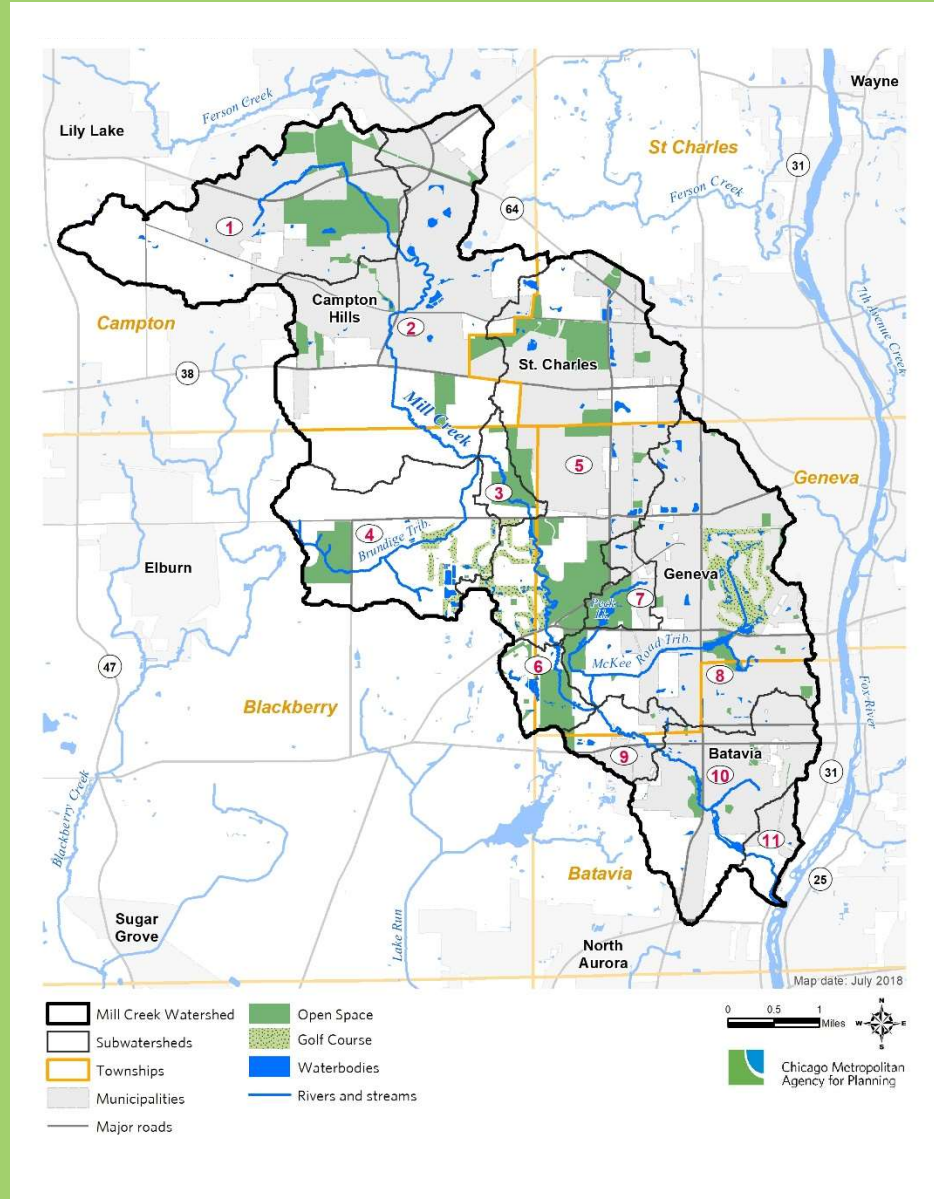
Mill Creek Watershed

- Mill Creek –
 - 16 miles long
 - Tributary to the Fox
- Other major waterbodies
 - Peck Lake
 - Brundige Tributary
 - McKee Rd. Tributary



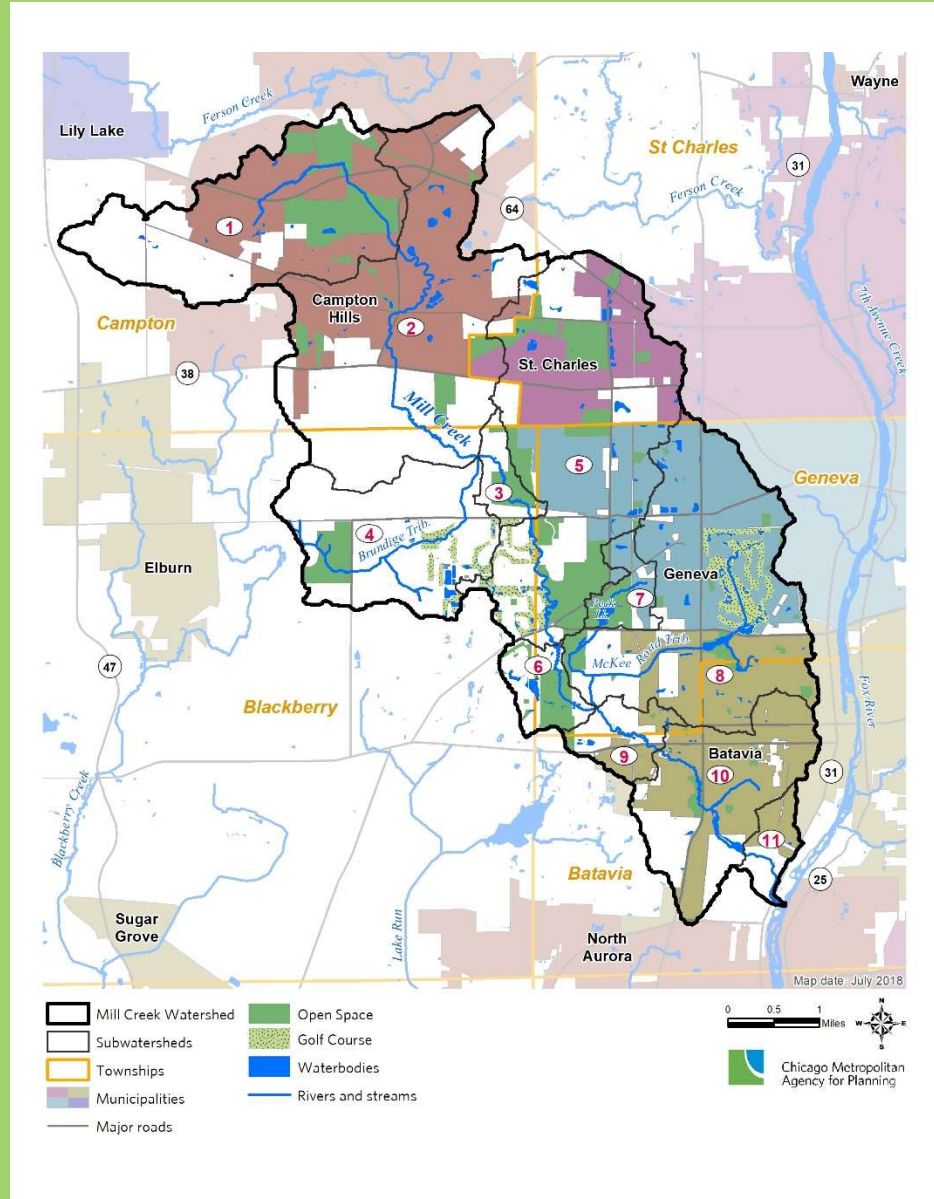
Mill Creek Watershed

- Major HUC 12 watershed:
 - Mill Creek } 16 miles
 - Major waterbodies
 - Peck Lake
 - Brundige Tributary
 - McKee Rd. Tributary
- 11 subwatersheds



Local Governments & Districts

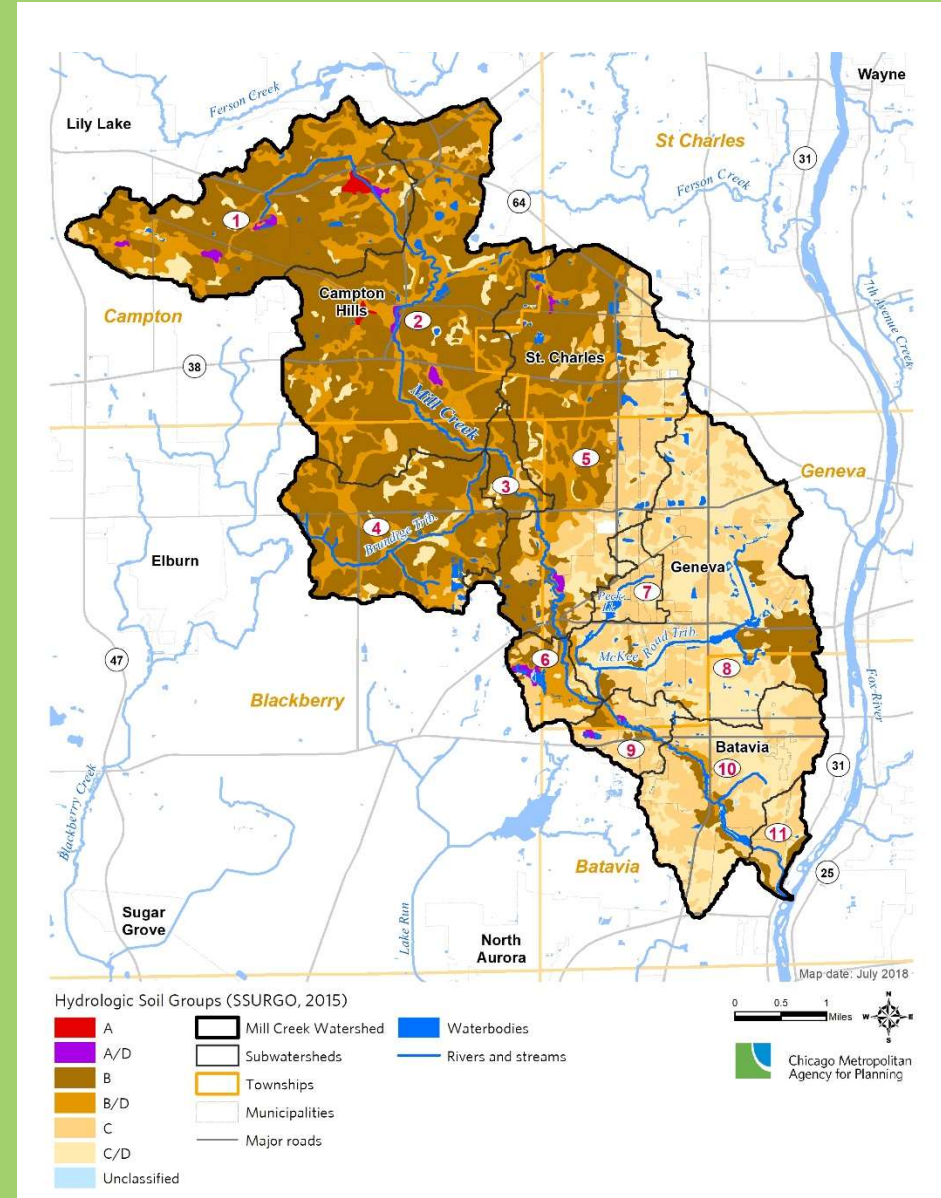
- 49 jurisdictions
 - 1 county, 5 municipalities, 5 townships
 - 5 library districts, 2 libraries
 - 5 school districts, 13 schools (elementary/secondary, community college)
 - 4 sanitary districts, 2 WWTP facilities
 - 1 mosquito abatement district
 - 4 park/open space districts, 1 forest preserve district
 - 1 soil conservation district



Soils – Hydrologic Soil Groups (HSGs)

- Soils have relatively high runoff potential
 - B: 8,524 acres (43%)
 - C: 4,157 acres (21%)

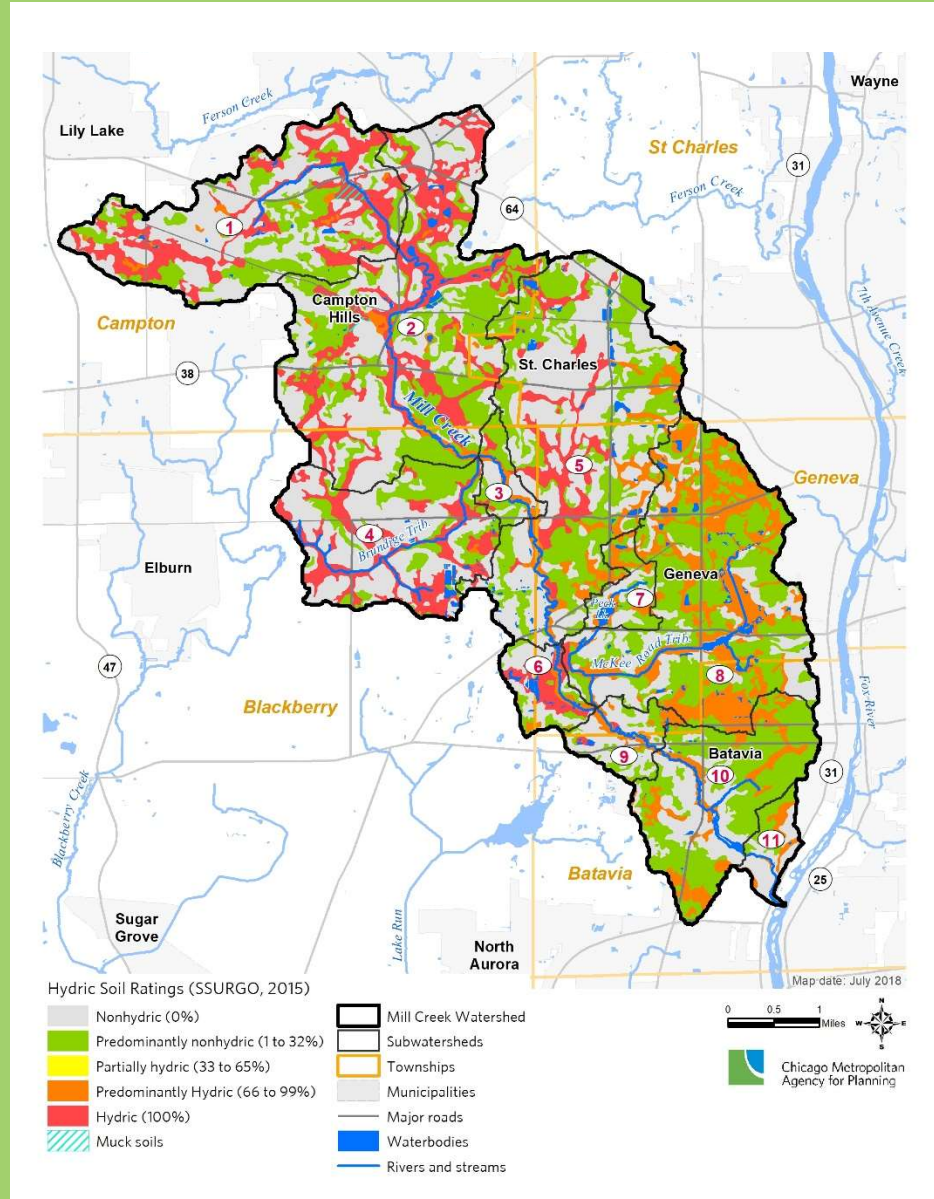
HSG	Definition/Characteristics
A	Soils have a low runoff potential when thoroughly wet. Water is transmitted freely through the soil.
A/D	The first letter applies to the drained condition and the second to the undrained condition.
B	Soils have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.
B/D	The first letter applies to the drained condition and the second to the undrained condition.
C	Soils have moderately high runoff potential when thoroughly wet. Water transmission through soil is somewhat restricted.
C/D	The first letter applies to the drained condition and the second to the undrained condition.
Unclassified	n/a



Soils – Hydric Soils

- 40% of the watershed features “not hydric” soils
- 15% of the watershed features “all hydric” soils

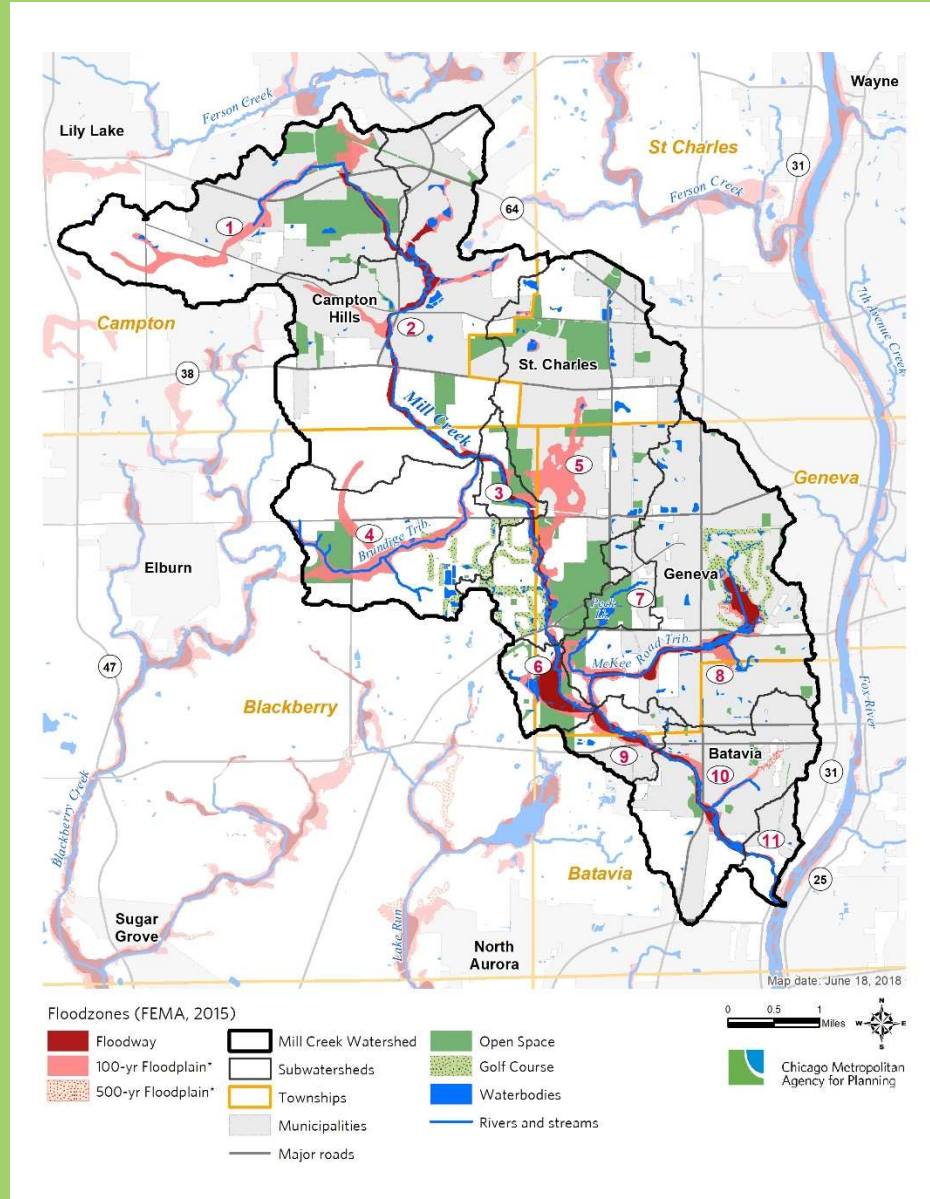
Hydric Soil Class	Area (ac.)	Percent of Planning Area
Nonhydric (0%)	7,914.4	39.6
Predominantly nonhydric (1-32%)	6,691.7	33.5
Partially hydric (33-65%)	0.0	0.0
Predominantly hydric (66-99%)	2,330.7	11.66
Hydric (100%)	3,054.0	15.28
Totals	19,990.8	100.0



Floodplains

- 1,991 acres of floodplains
 - #5: 343.18 acres
 - #8: 323.12 acres

Floodplain	Area (acres)	Percent of Planning Area
Floodway	653.59	3.27
100-year	1,275.74	6.38
500-year	61.75	0.31
Totals	1,991.09	9.96

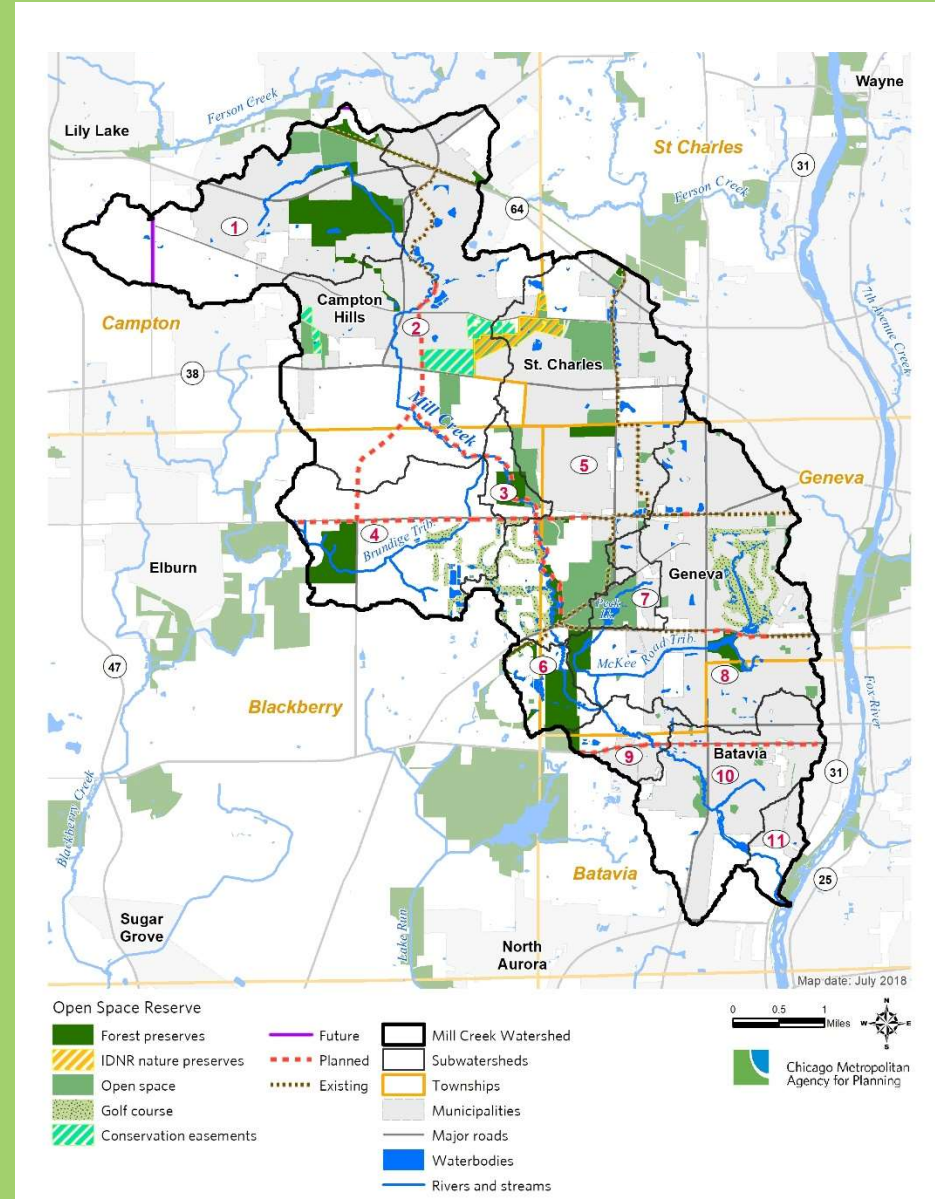


Open Space Reserve

- ~3,070 acres of dedicated open space

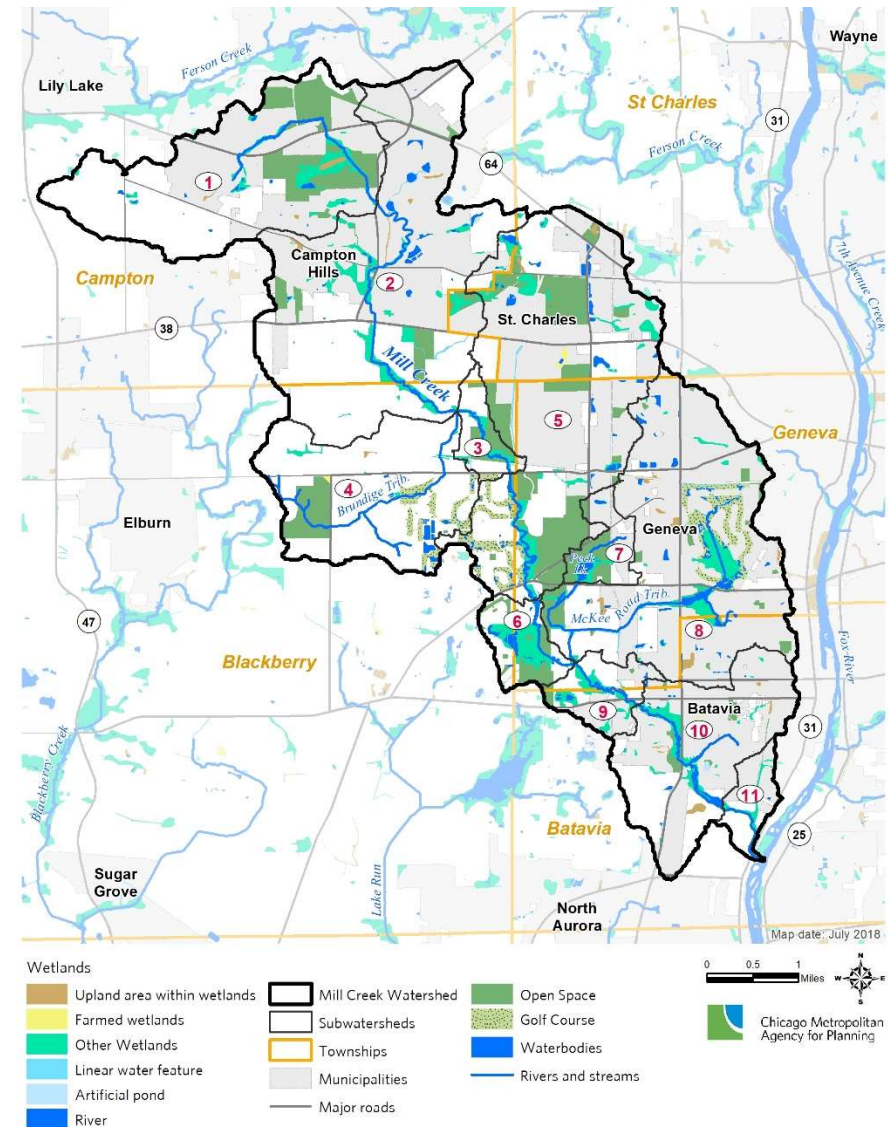
Open Space Reserve	Area (acres)	Percent of Planning Area
Forest preserves (Kane County)	1,192.05	5.0
Nature preserves (IDNR)	116.07	6.0
Parks (Municipal/Township)	991.50	0.6
Greenways and trails	24.32	0.1
Golf courses / other	573.12	2.9
Conservation easements	176.00	0.9
Totals	3,069.77	15.5

- Supporting ecosystems:
 - Oak communities: 830.4 acres
 - Prairie: 556.9 acres
 - Wetlands: 1,630.4 acres



Wetlands

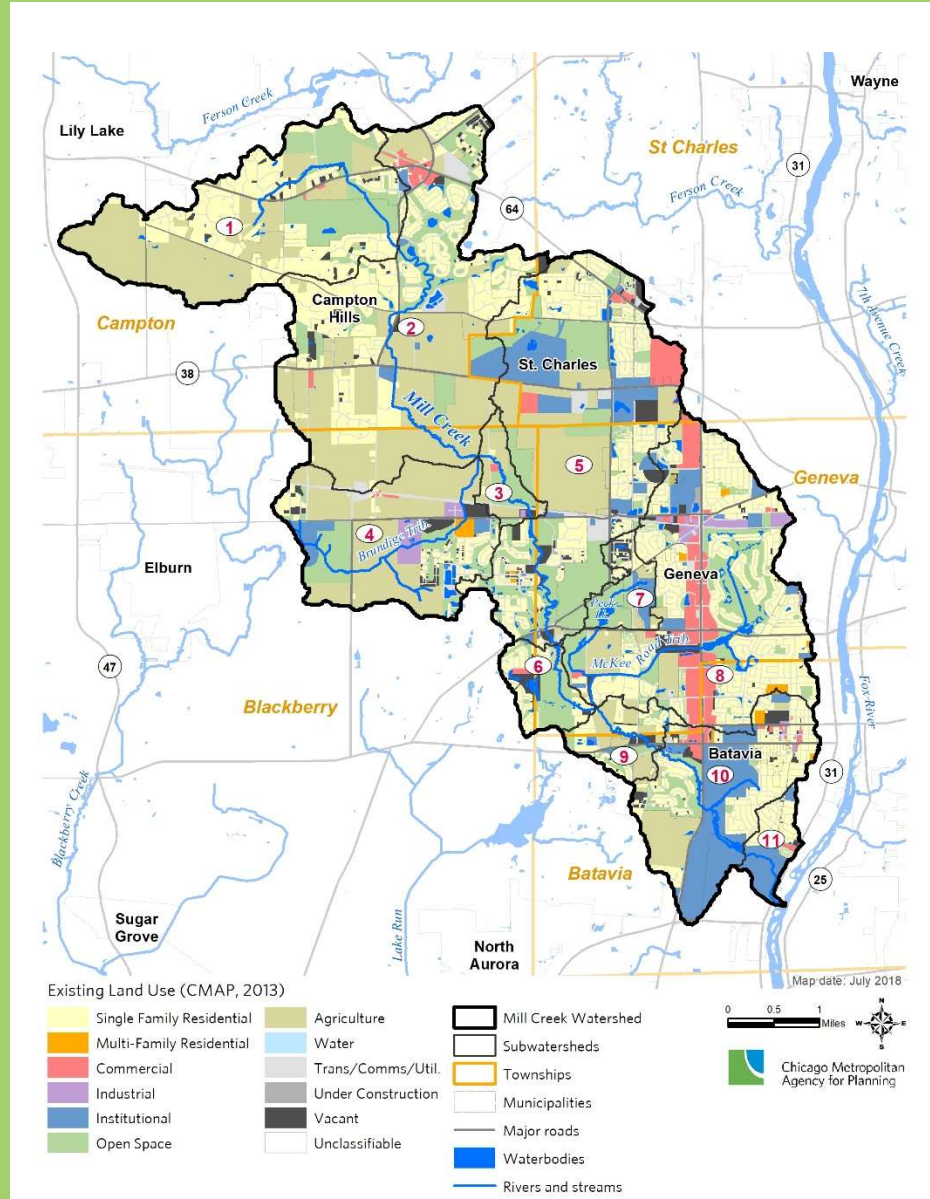
- 1,630.4 acres of wetlands
 - Subwatersheds #2 and #8 have the most wetlands
 - 89.5 acres of artificial ponds intersect hydric soils



Wetland Type	Area (acres)	Percent of Planning Area
Upland area within wetlands	101.5	0.5
Farmed wetlands	15.9	0.1
Other wetlands	1,338.9	6.7
Linear water feature	63.4	0.3
Artificial ponds	110.7	0.6
Totals	1,630.4	8.2

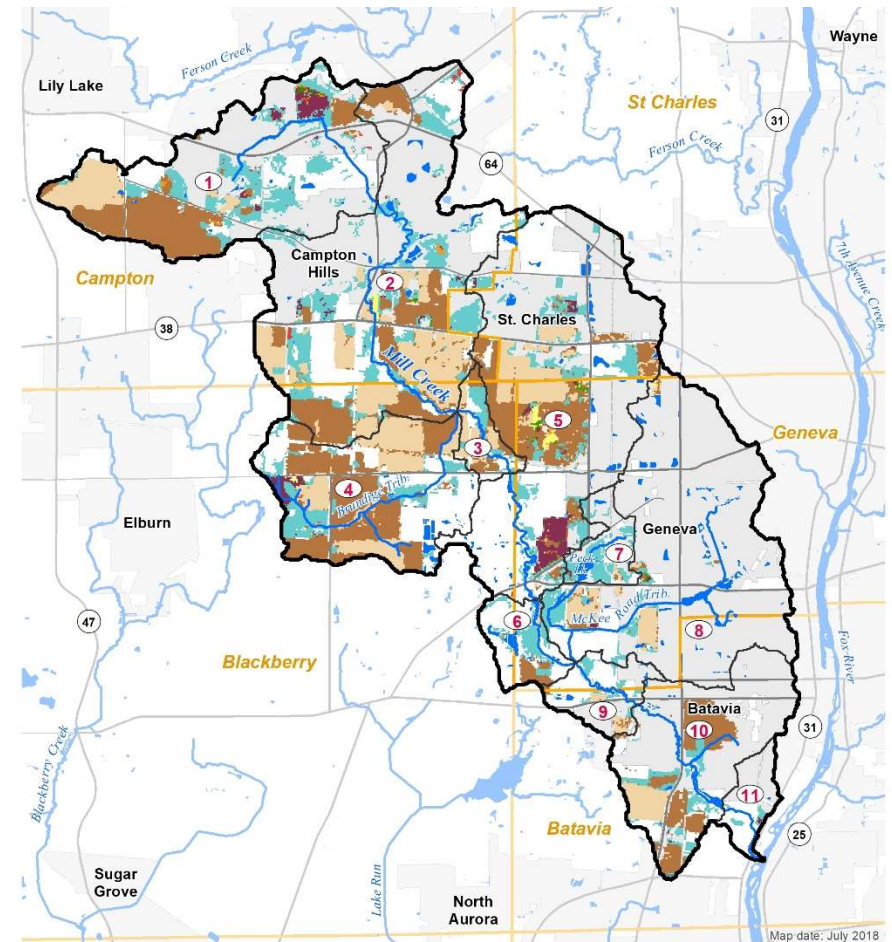
Land Use

Land Use Category	Area (acres)	Area (sq. mi.)	Percent of Planning Area
Single Family Residential	5,077.2	7.933	25.4
Multi-family Residential	76.3	0.119	0.4
Commercial	682.9	1.067	3.4
Institutional	1,640.6	2.563	8.2
Industrial	188.2	0.294	0.9
Open Space	3,761.8	5.878	18.8
Agriculture	5,578.4	8.716	27.9
T/C/U	2,324.5	3.632	11.6
Vacant	635.6	0.993	3.2
Under Construction	22.8	0.036	0.1
Unclassifiable/other	0.0	0.000	0.0
Water	2.4	0.004	0.0
Totals	19,990.8	31.2	100.0



Agriculture Composition

Cropland Type	Area (acres) by year		
	2007	2012	2017
Alfalfa	50.4	86.1	18.7
Barren	54.2	26.5	33.4
Corn	2,906.7	3,472.9	2,798.2
Double crop: Winter wheat/soybeans	0.8	--	--
Fallow/idle cropland	34.1	26.7	1.6
Grass/pasture	3,524.3		2,204.2
Oats	10.8	1.3	1.1
Other crops	27.1		--
Other hay/non alfalfa	--	2.4	221.3
Peas	--	--	0.2
Potatoes	2.3	--	--
Sod/grass seed	--	0.02	25.6
Soybeans	1,309.6	1,473.1	1,988.6
Spring wheat	2.3		--
Sweet corn	--	0.2	--
Totals	64,432.9	100.7	100

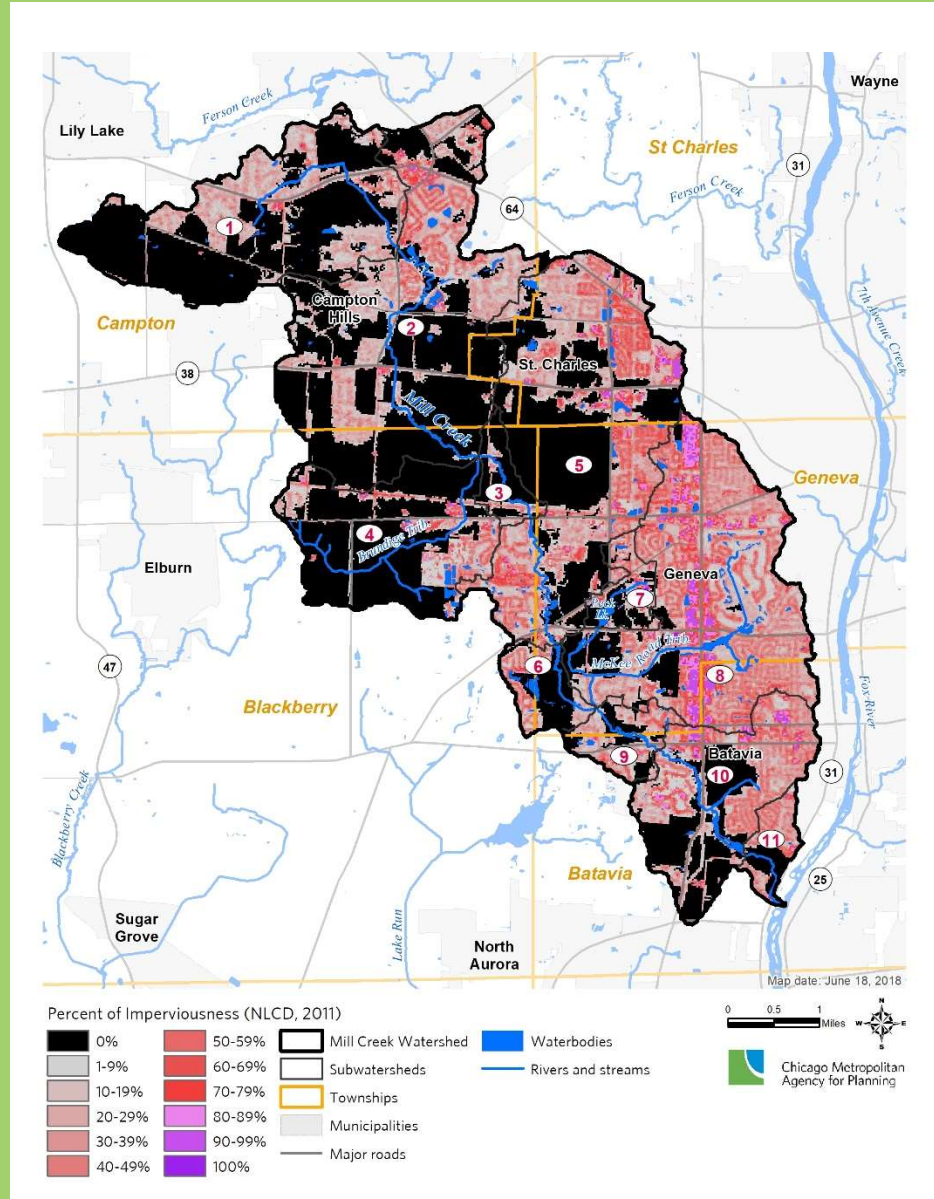


Types of Cropland (USDA NASS, 2017)



Impervious Cover

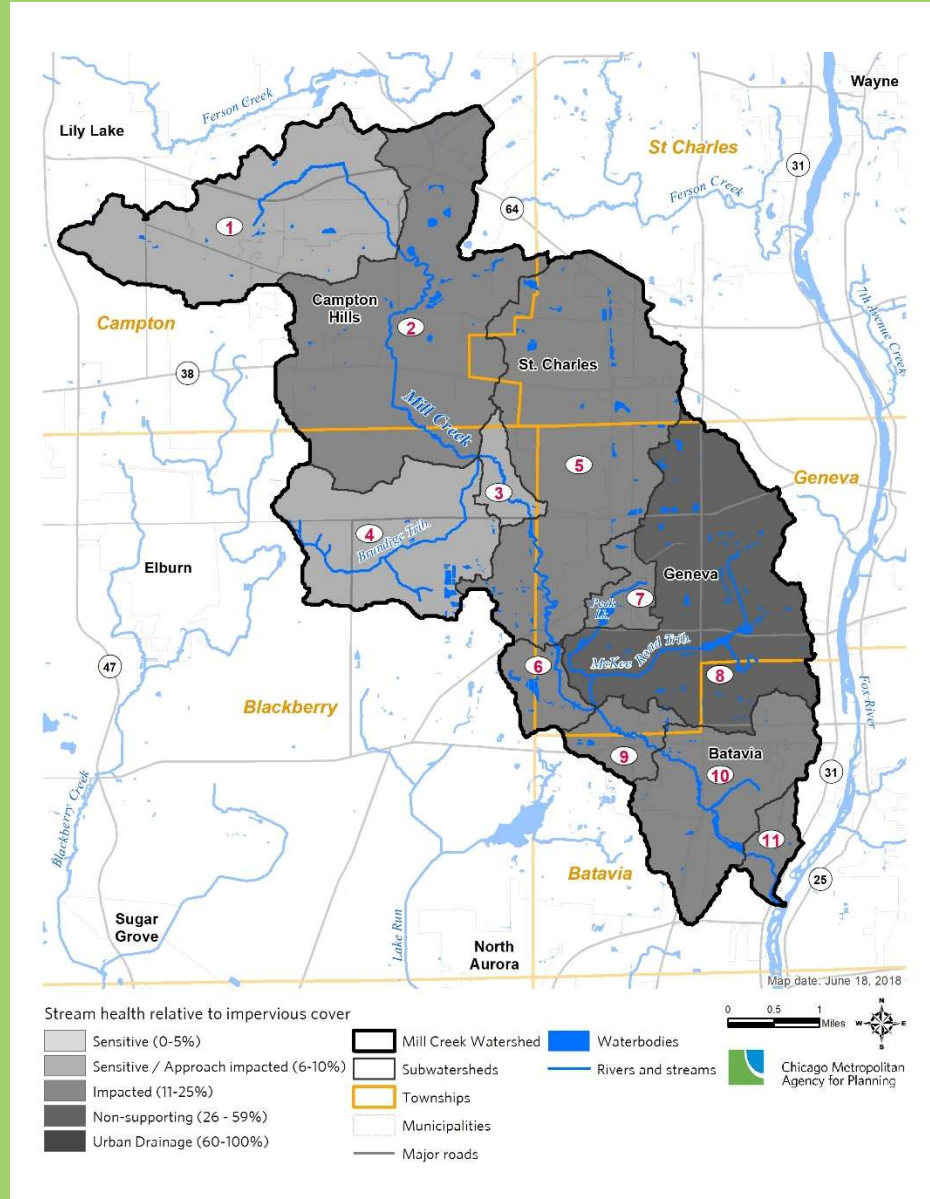
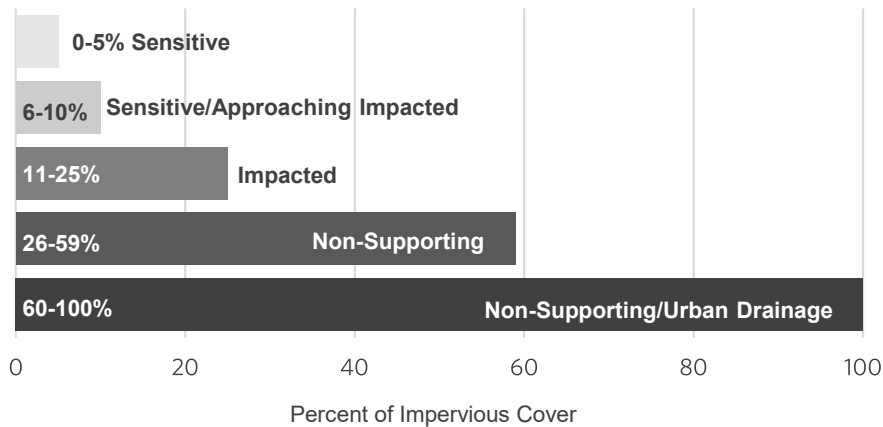
- 57% of planning area is impervious to varying degrees
 - 18% is completely impervious



Stream Health

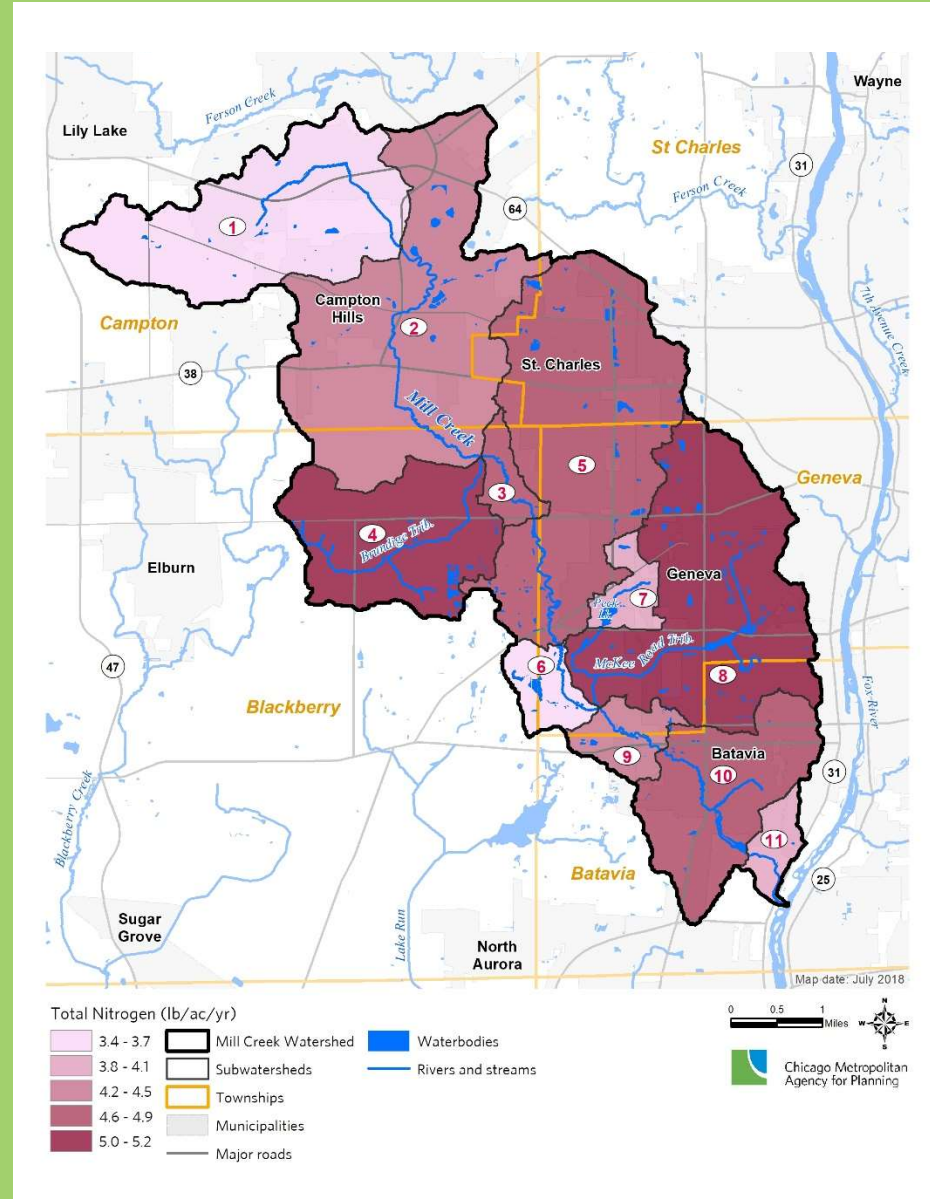
- “Sensitive/approaching impacted” - #1, 3, 4
- “Impacted” - #2, 5, 6, 7, 9, 10, 11
- “Non-supporting” - #8

Stream Health Categories relative to extent of Impervious Cover



Pollutant Load Modeling

- STEPL
 - Spreadsheet Tool for Estimating Pollutant Loads
 - Compiled on a subwatershed scale
 - Limited to N, P, TSS, BOD



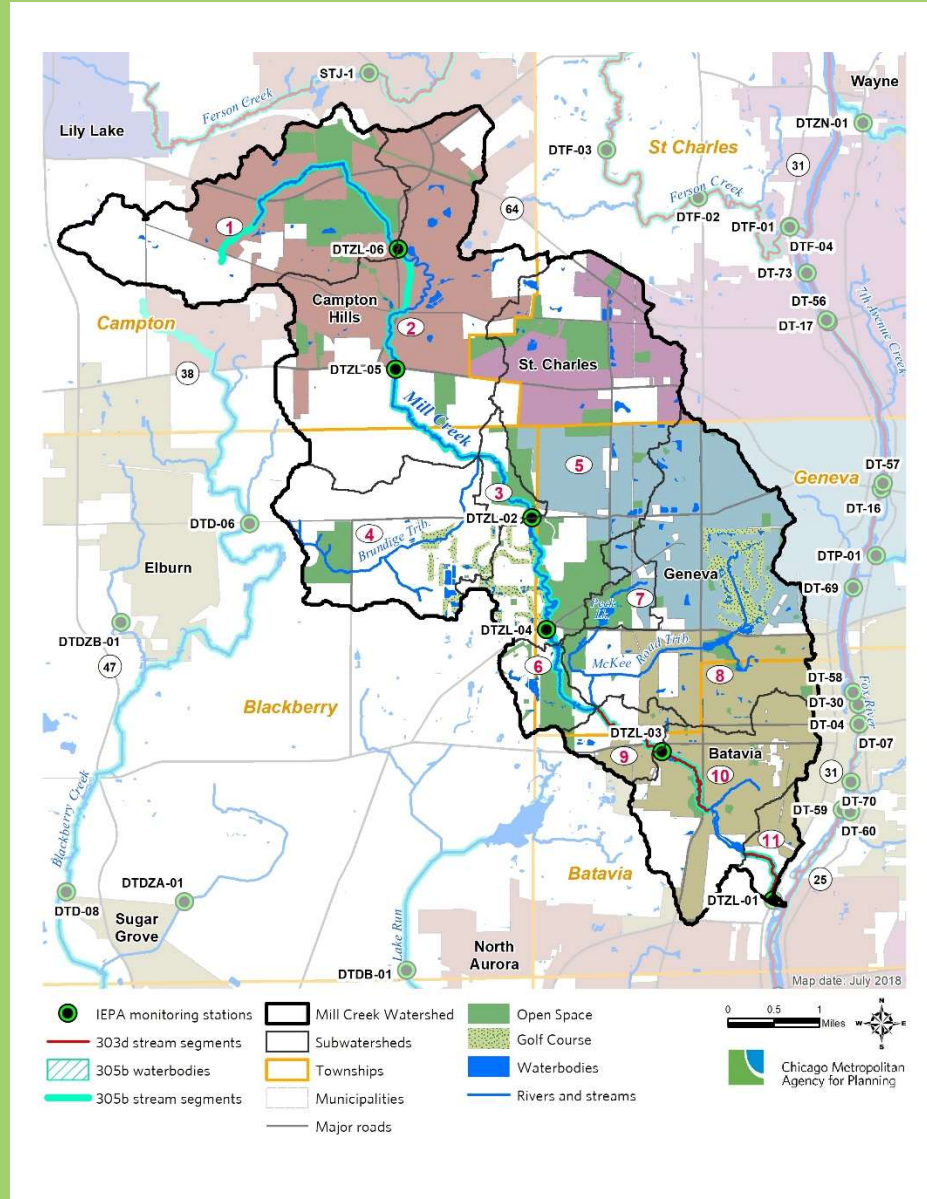
Stream and Lake Impairment Status

- 6 IEPA water quality monitoring stations
- 3.34 miles of streams assessed, primary contact

AUID	Stream Name	Miles	Use Attainment	Causes	Sources
IL_DTZL-01*	Mill Creek-North	3.34	X582, X583, N585, X590	400 – Fecal Coliform	177 – Urban Runoff / Storm sewers
IL_DTZL-02	Mill Creek-North	11.10	X582, X583, X585, X590	N/A	N/A

- No lakes assessed

AUID	Lake Name	Acres	Use Attainment	Causes	Sources
IL_STE	Peck Lake	19.40	X582, X583, X585, X590	N/A	N/A



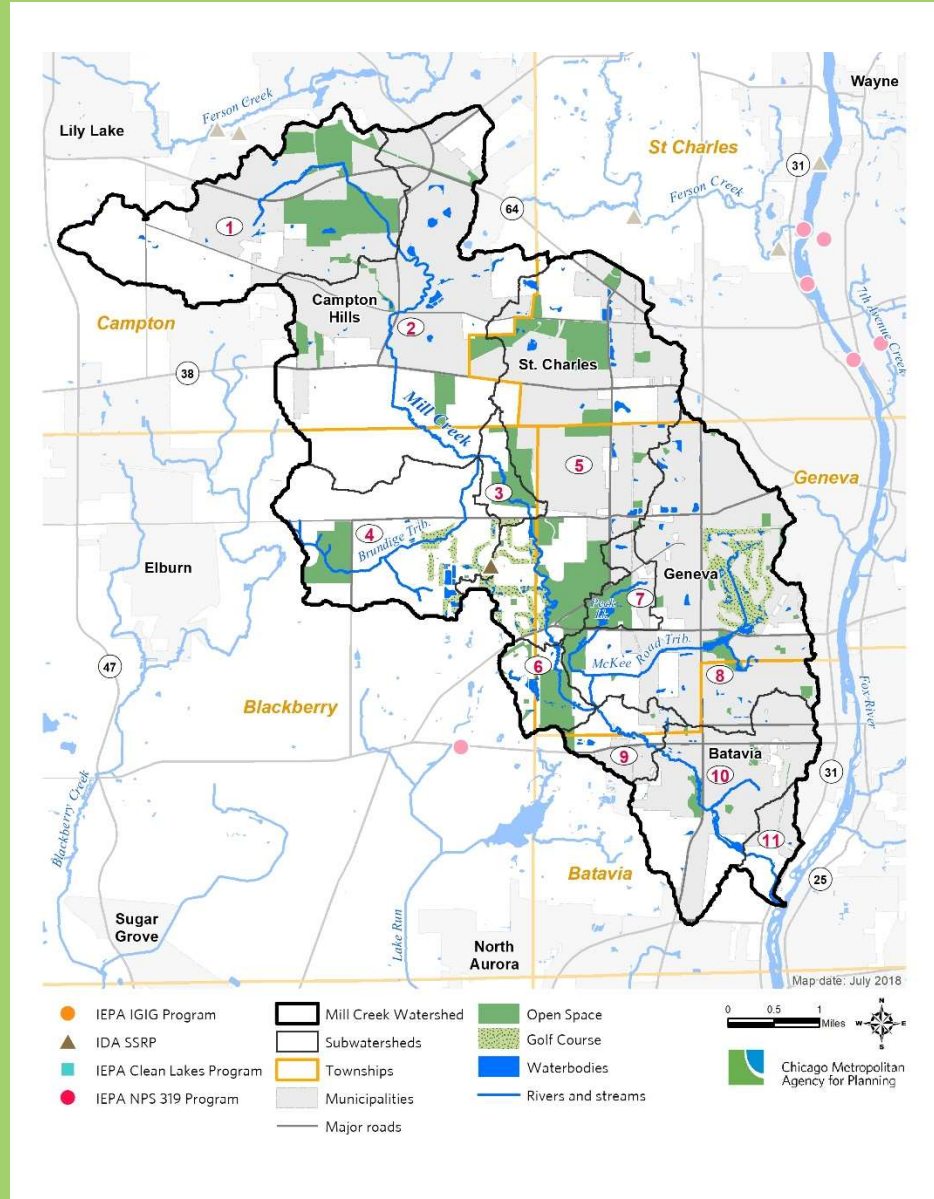
Land Management Planning

- 14 local plans
 - Municipalities
 - Park Districts
 - Forest Preserve District
 - Kane County
 - 176 acres under conservation easements
- Soil erosion & sediment control
 - Floodplain management
 - Native landscaping
 - Stream & wetland protection
 - Natural areas & open space
 - Water access & recreation
 - Transportation
 - Parking
 - Pollution Prevention
 - Education and outreach
 - Development



WQ Implementation projects

- 1 IDA SSRP project

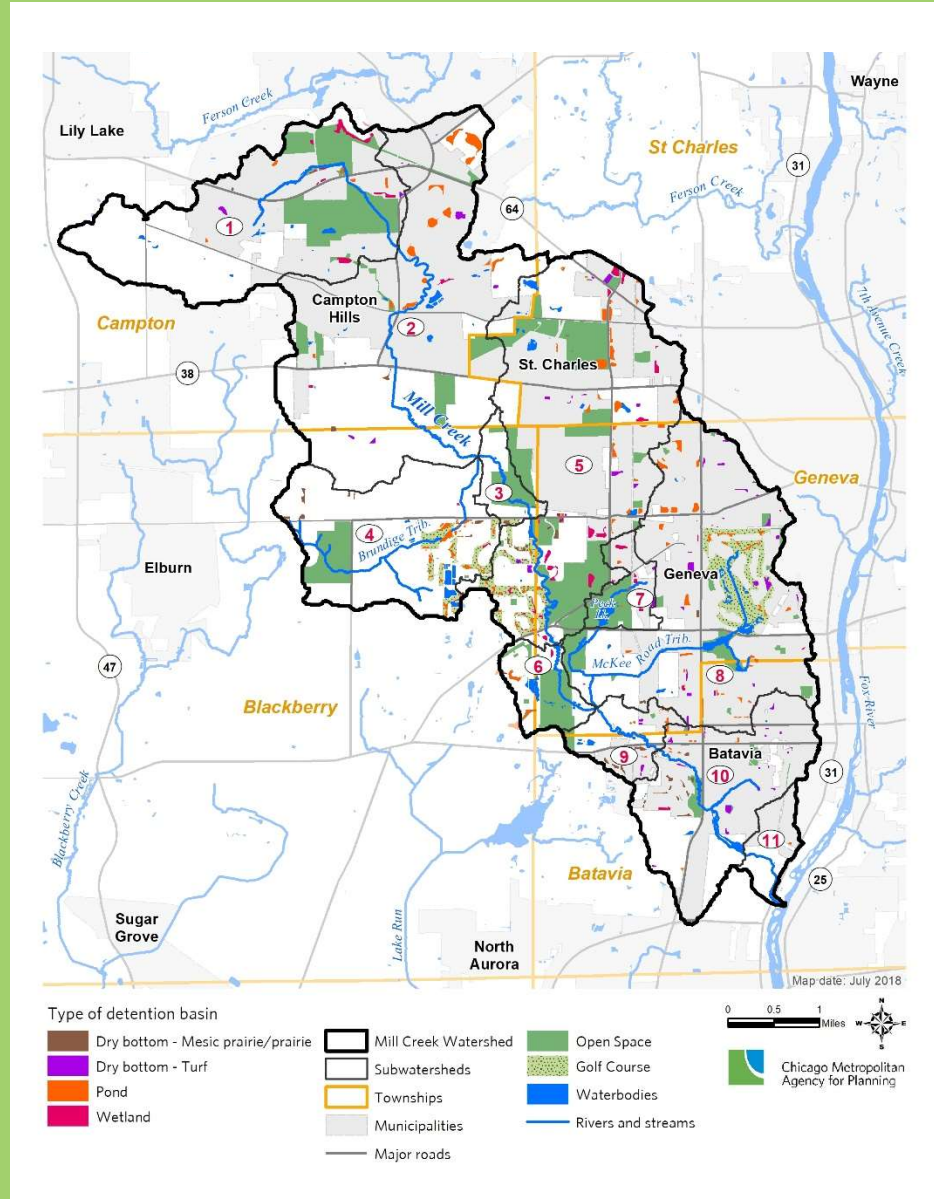


Additional WRI topics

- **Topography / elevation**
- **Ecosystems** – wetlands, prairies, oak communities
- **Water supply** – wells, well setbacks, groundwater use restrictions
- **Wastewater management** – FPAs, WWTPs, NPDES permits

Upcoming fieldwork

- Detention basin assessments
- Streambank assessments



Visioning Exercise and Discussion of Key Issues & Opportunities

Mill Creek

Watershed-based Planning

Visioning Exercise

- 1) Your vision for the future of Mill Creek
~10 years from now
- 2) Strengths of the Mill Creek Watershed
- 3) Key issues of concern
- 4) Specific projects or actions to address
your concerns or issues
- 5) Names of key persons or groups from
which we should gain input



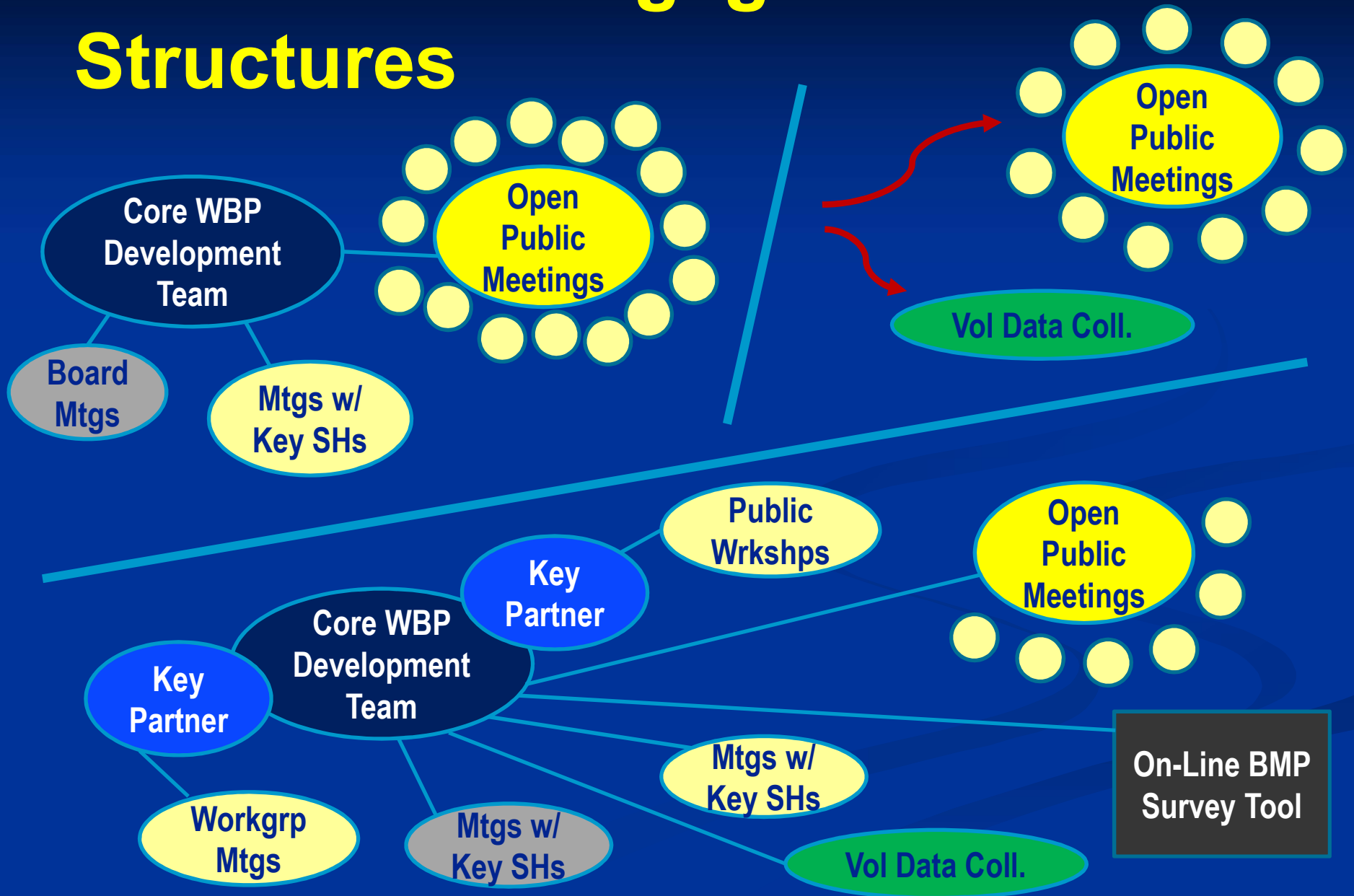
Discussion of Issues & Opportunities

Public Outreach Strategy and Discussion

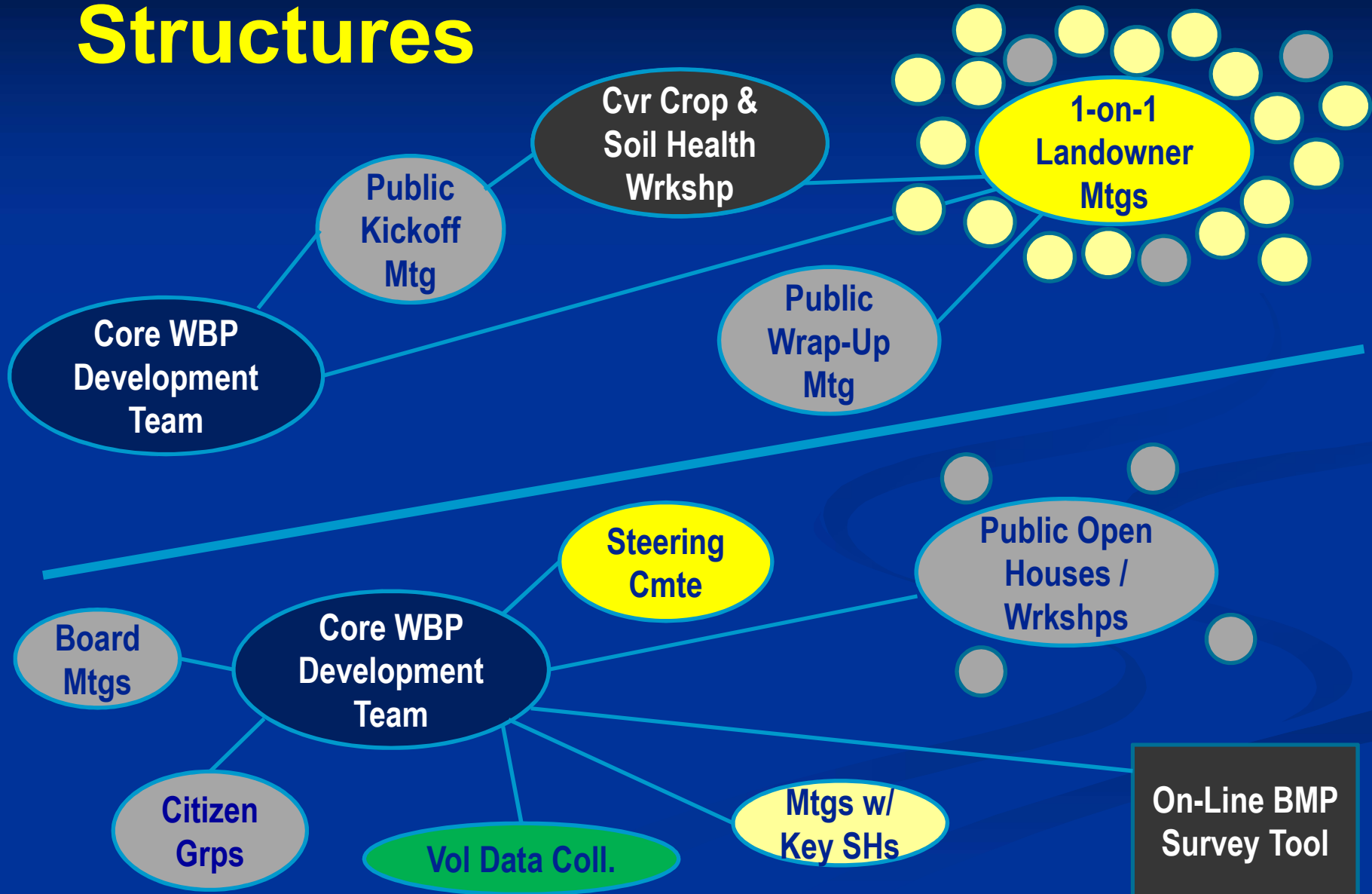
Mill Creek

Watershed-based Planning

Stakeholder Engagement Structures



Stakeholder Engagement Structures



Stakeholder Categories



Technical Experts

Specific knowledge & skills, Advisors, Decision makers



Interested Folks

Want to contribute



General Public

“Population uninterested or unaware of environmental implications of their everyday actions.”

* slide modified from presentation by Mary Mitros, DuPage Co.

Watershed Stakeholders – *a diversity of people and groups*

- Homeowners, HOAs
- Farm owners, operators
- Business & industry reps
- Schools, Colleges, Universities
- Community service orgs
- Religious orgs
- Libraries
- Land trusts
- Native American tribes
- Environ/Conserv groups
- Vol monitors/stewards
- Recreation-based clubs:
fishing, hunting, sailing,
canoeing, rowing ...
- Municipal, Twp, County, State, Fed gov't agencies
- Regional planning cmsn.
- Park / Forest Preserve Districts
- Soil & Water Cons. Dists.
- Irrigation Dists.
- ...

Watershed News, Announcements

Mill Creek

Watershed-based Planning

Next Steps

Mill Creek
Watershed-based Planning

Key Activities	2018 - 2019
<i>Steering Committee meeting #1 - TODAY</i>	July 18, 2018
Project page on FREP website	Aug
Field data collection by CMAP: Physical stream conditions, Detention basin assessments	July - Aug
Data & info from SC (ph, email; surveys, questionnaires)	July - Sept
HSPF modeling of pollutant loads, BMP framework	Aug - Dec
Public Outreach: Key stakeholder interviews, Open house	Sept
Public Outreach: Board/cmte./org. presentations	Aug - Oct
Revised draft WRI	Sept/Oct
<i>Steering Committee meeting #2</i>	Oct/Nov
Plan recommendations development	Sept-July
<i>Steering Committee meeting #3</i>	Feb/Mar
<i>Steering Committee meeting #4</i>	June
Draft watershed plan due to IEPA	July 1, 2019
<i>Steering Committee meeting #5</i>	Aug
Final draft watershed plan due to IEPA	Sept 1, 2019
Final watershed plan	Sept 30, 2019

Questions and Comments

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