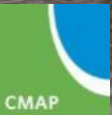


# Watershed-based Planning in the Lower Salt Creek and Mill Creek Watersheds



**CMAP Environment & Natural Resources Committee**

**January 4, 2018**



# Why Watershed Planning?

- **Federal Clean Water Act**



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



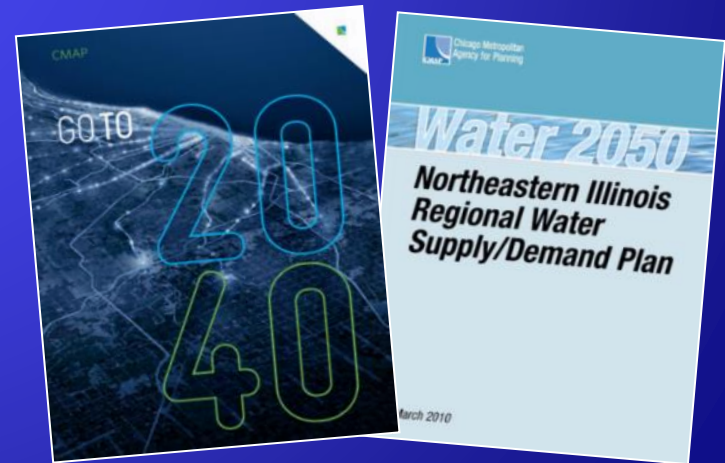
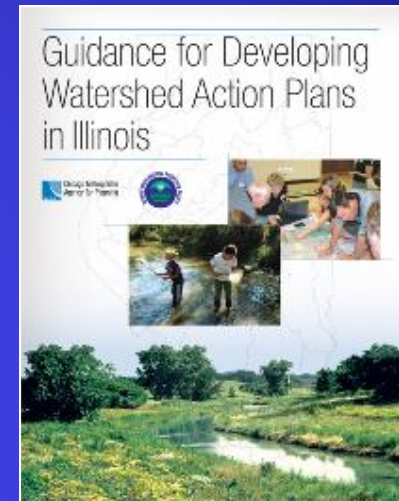
9 Minimum Elements of a Watershed-based Plan (U.S. EPA, Illinois EPA)



implementation \$\$s

- **Areawide Water Quality Management Plan (CMAP)**

- Clean Water Act Section 604(b) funds
- Go To 2040 → On To 2050 (CMAP)
- Water 2050 (CMAP)





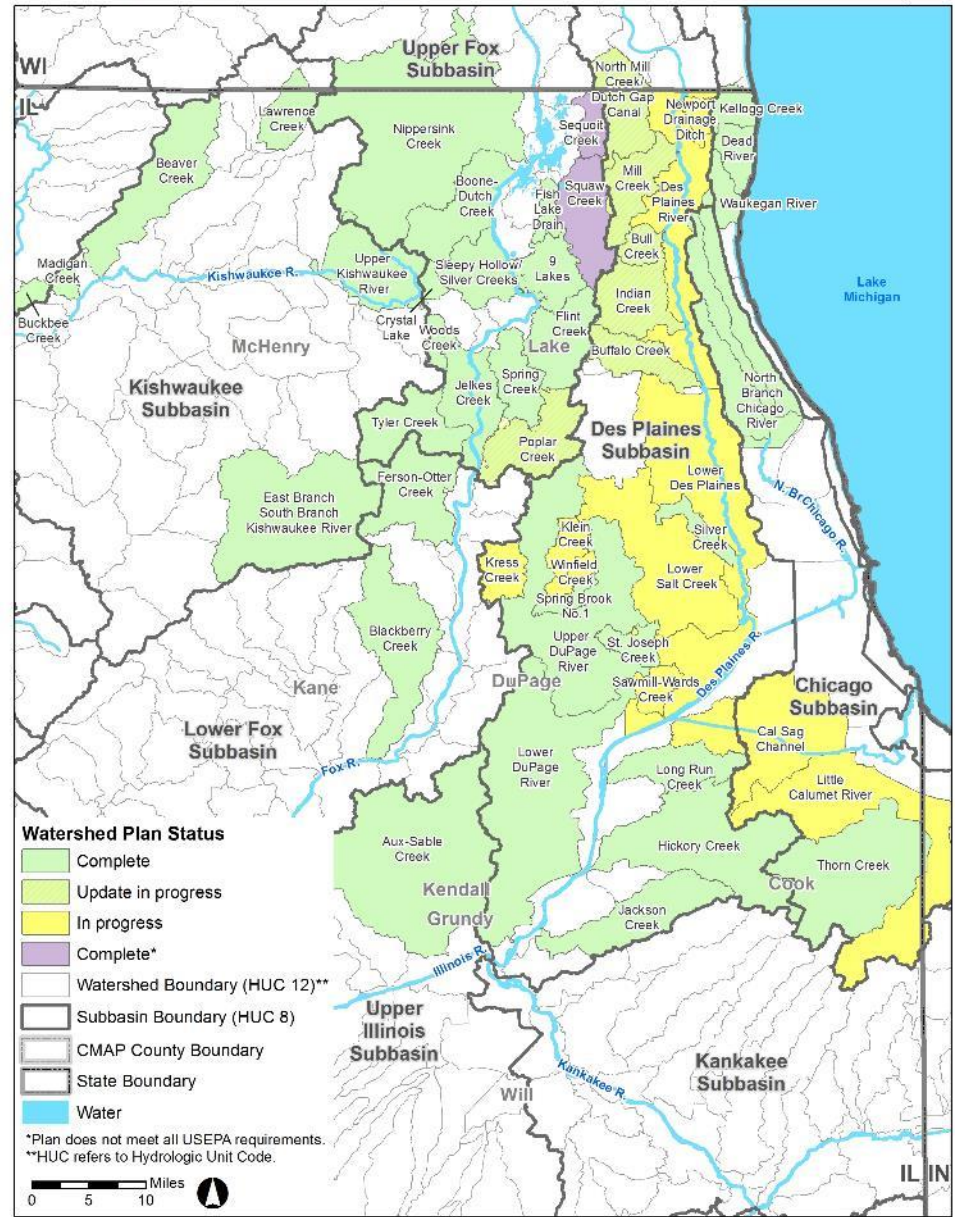
# Watershed-based Plan Focus

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

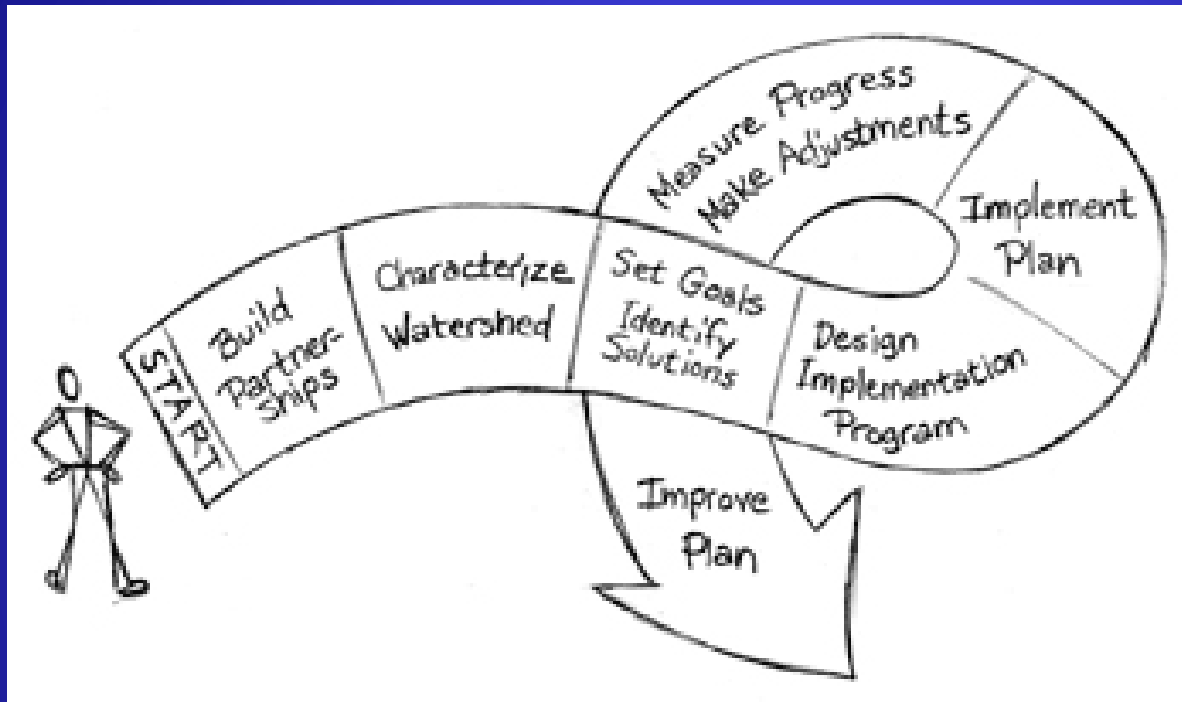




# Watershed-based Plans in NE Illinois



# Watershed Planning Steps



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

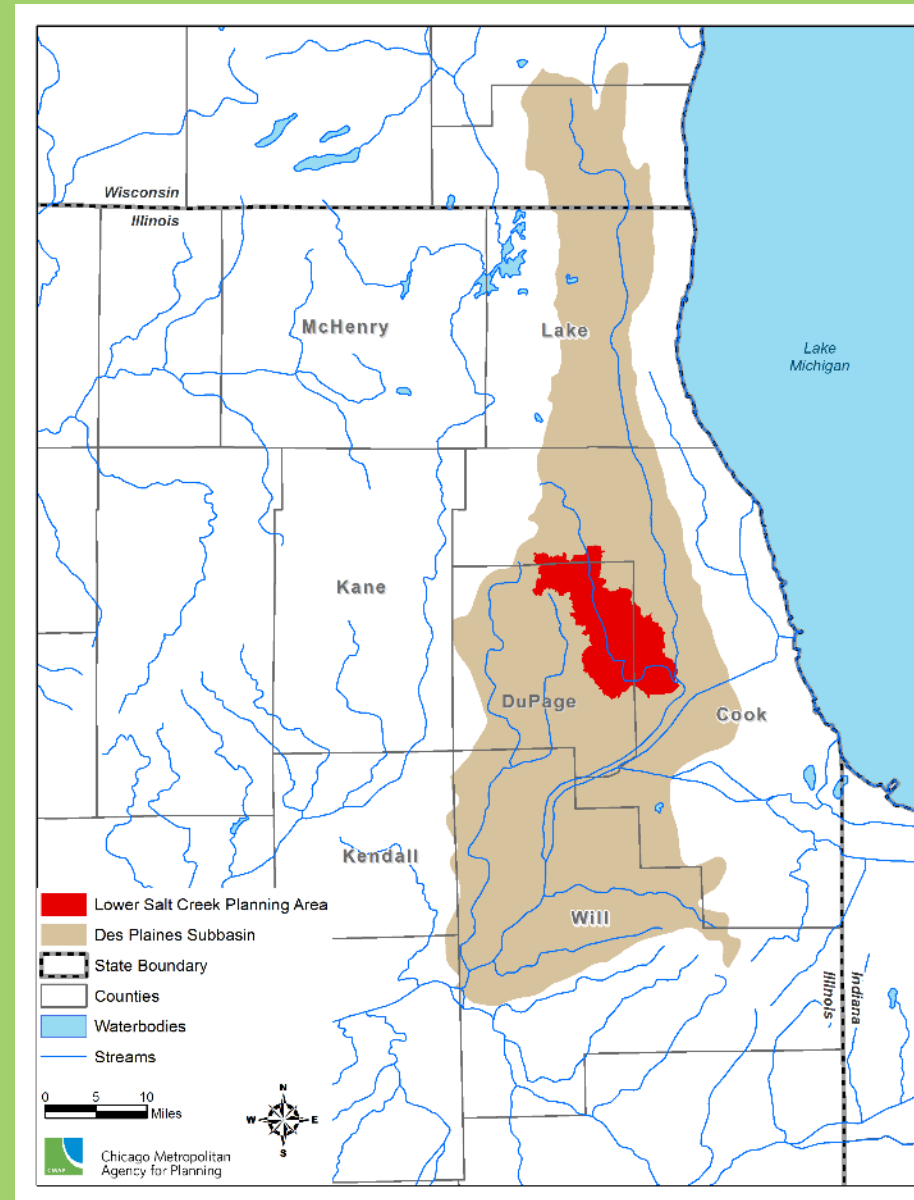
*Watershed planning is an iterative and adaptive process...*

# 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

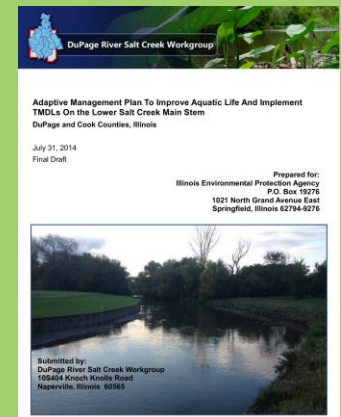
# Lower Salt Creek Watershed

- Des Plaines River Basin (HUC 8: 07120004)
- 100.7 square miles (64,432.9 acres)
- Population: ~374,600



# LSC Watershed-based Planning: Lead Partners

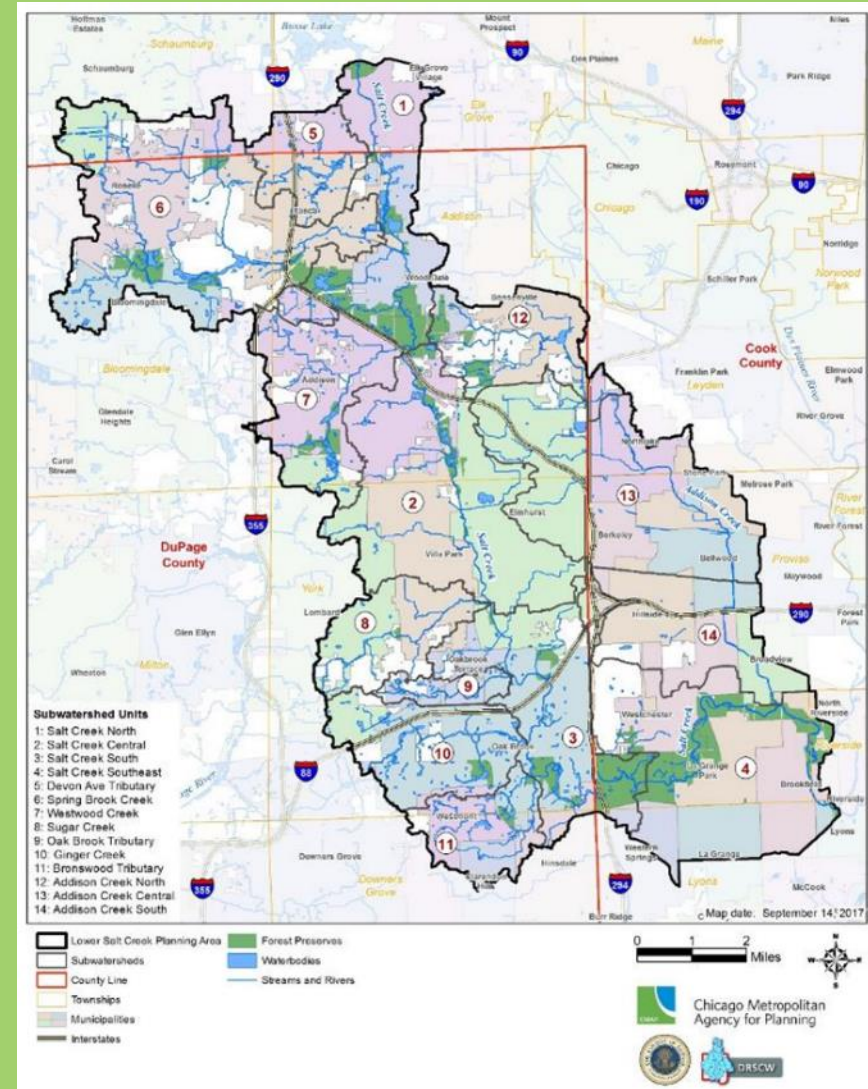
- **Illinois EPA** - Financial Assistance Agreement #604151: grant admin., plan review & approval
- **CMAP**: project management & admin., facilitating stakeholder participation, preparing plan
- **DuPage County Stormwater Management & DuPage River Salt Creek Workgroup**: Local Technical Assistance program MOU
  - data, information, GIS databases
  - pollutant loading estimate
  - detention basin inventory
  - pollutant load reduction estimates for BMPs
  - stream conditions inventory





# LSC Watershed-based Planning: Many Key Stakeholders!

- 34 Municipalities
- 2 Counties & Forest Preserve  
Districts: DuPage & Cook
- 11 Townships
- Metropolitan Water Reclamation  
District of Greater Chicago
- Salt Creek Watershed Network
- The Conservation Foundation
- Brookfield Zoo
- Sierra Club
- HOAs
- Business & Industry
- Federal, State, Local agencies &  
organizations
- Citizens
- Recreationists
- ...

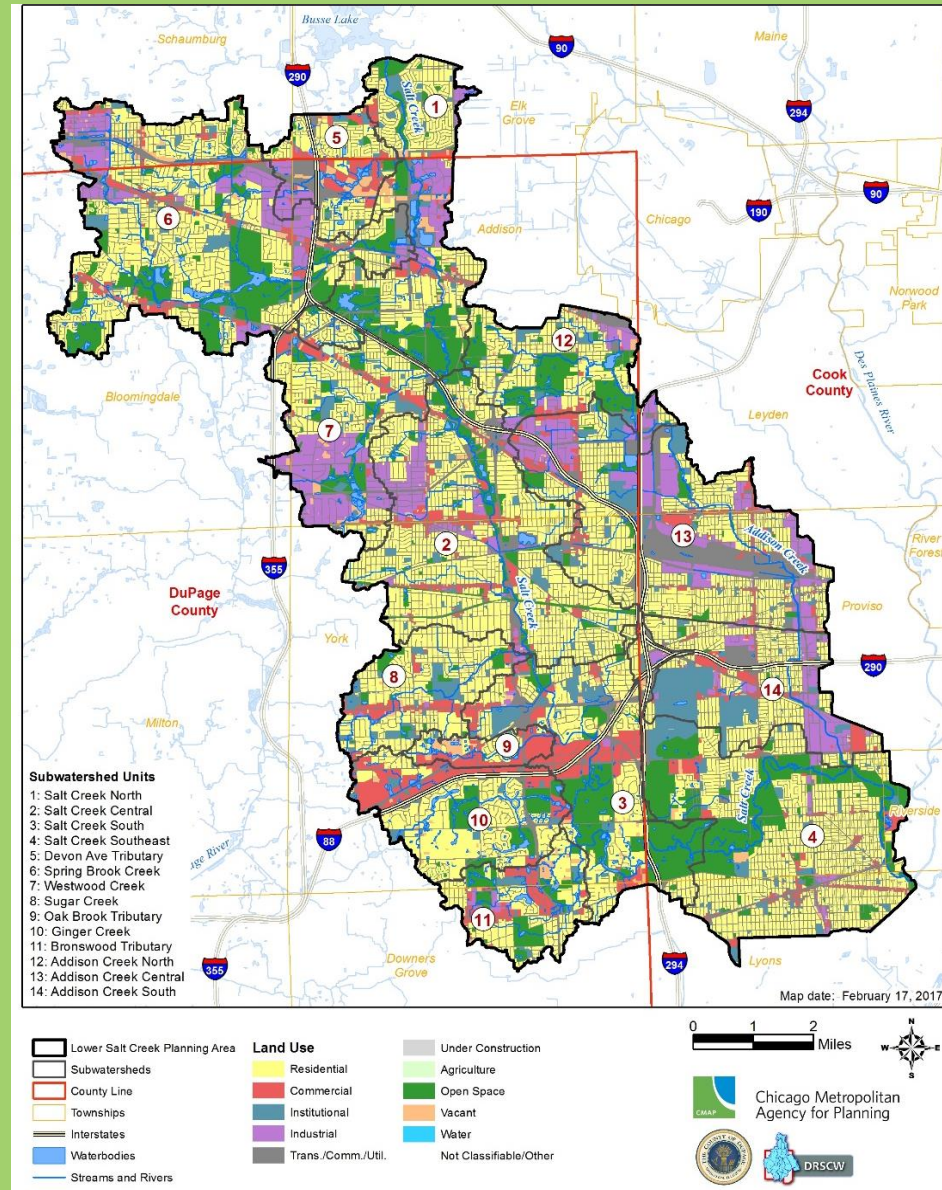


# Watershed Resource Inventory

- Population and Demographics
- Local Governments and Districts
- Land Use and Land Cover
- Physical and Natural Features
- Water Resource Conditions
- Land Management Practices
- Pollutant Sources and Loadings

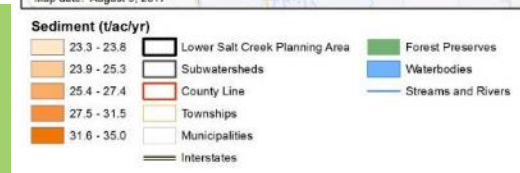
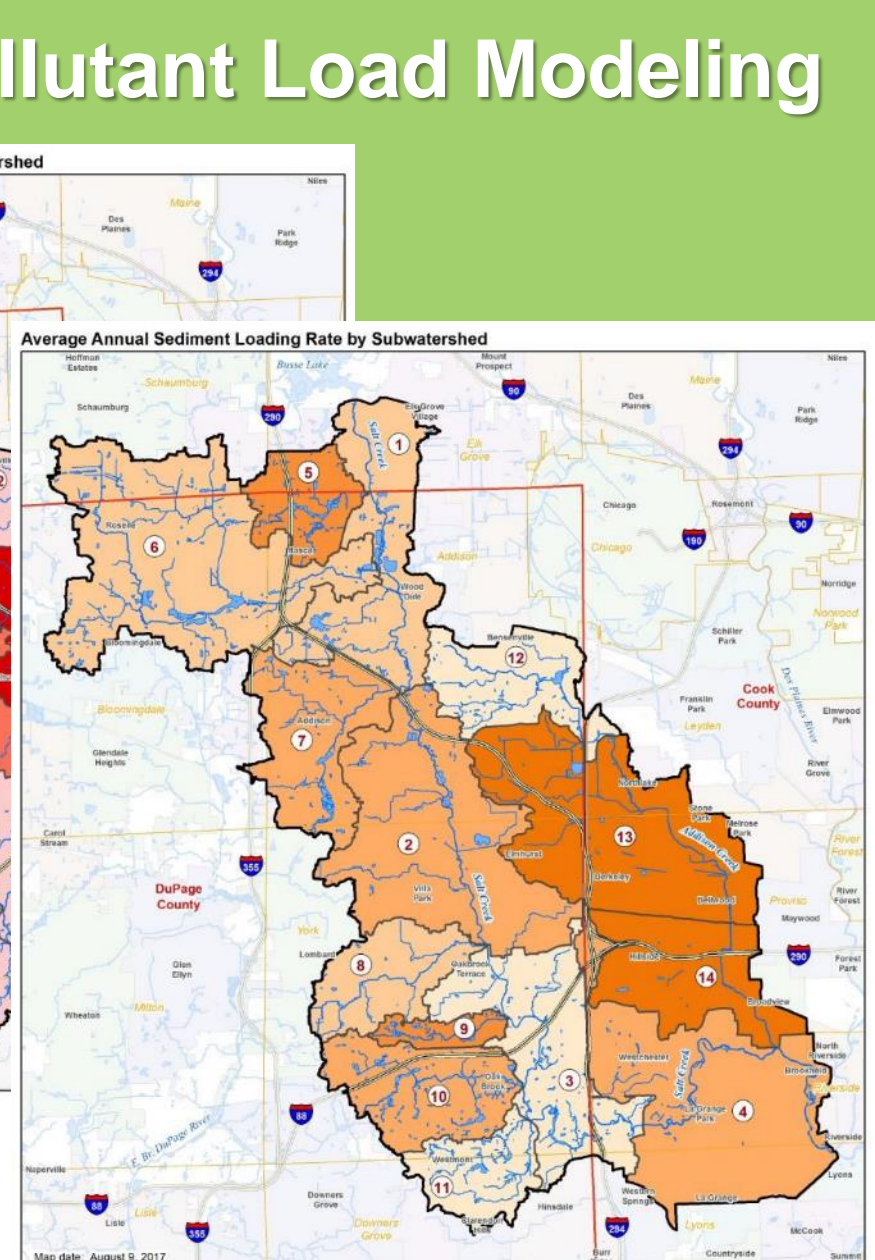
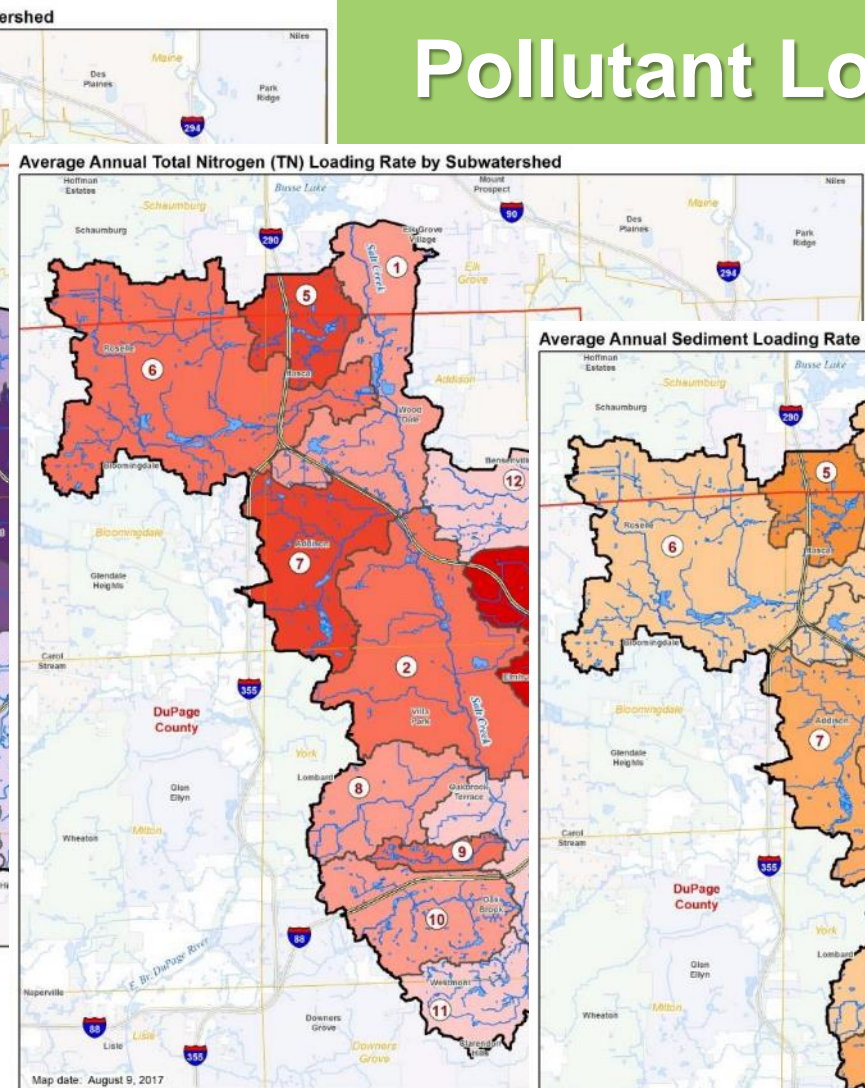
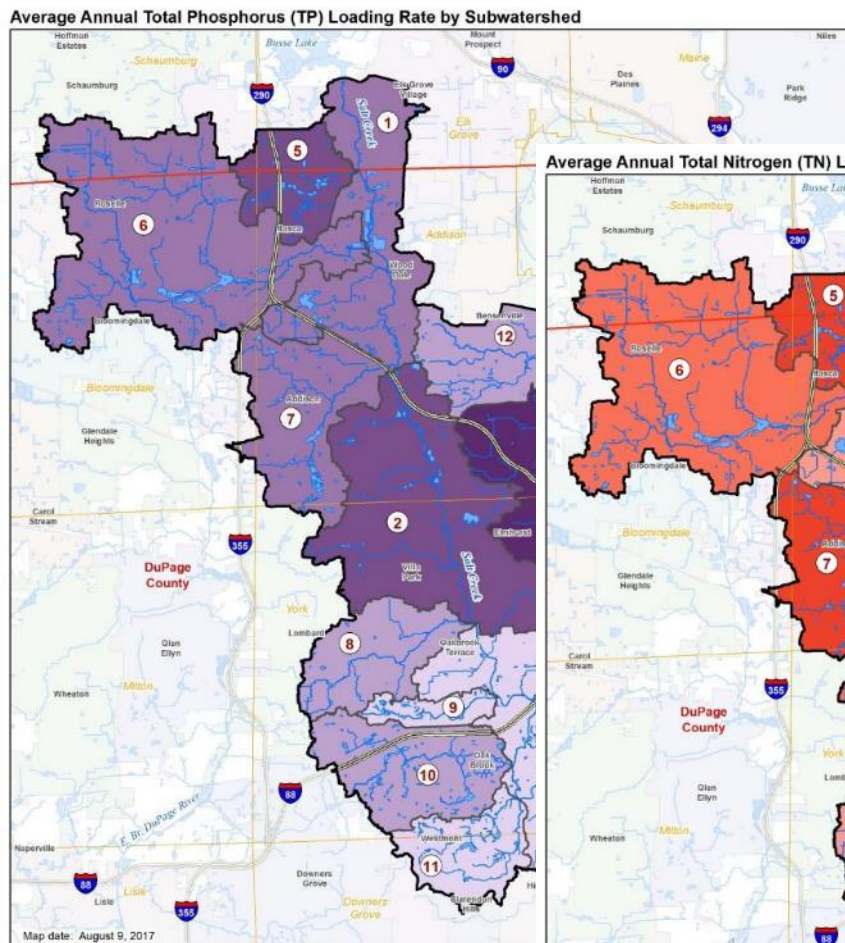
# LSC Land Use

Land Use Category	Area (acres)	Area (sq. miles)	Percent of Planning Area
Residential	24,492.4	38.27	38.01
Commercial	4,527.3	7.07	7.03
Institutional	3,736.3	5.84	5.80
Industrial	4,919.1	7.69	7.63
Open Space	9,937.1	15.53	15.42
Agriculture	29.5	0.05	0.05
T/C/U	15,379.8	24.03	23.87
Vacant	1,366.2	2.13	2.12
Under Construction	14.5	0.02	0.02
Unclassifiable/other	12.4	0.02	0.02
Water	18.3	0.03	0.03
<b>Totals</b>	<b>64,432.9</b>	<b>100.7</b>	<b>100</b>





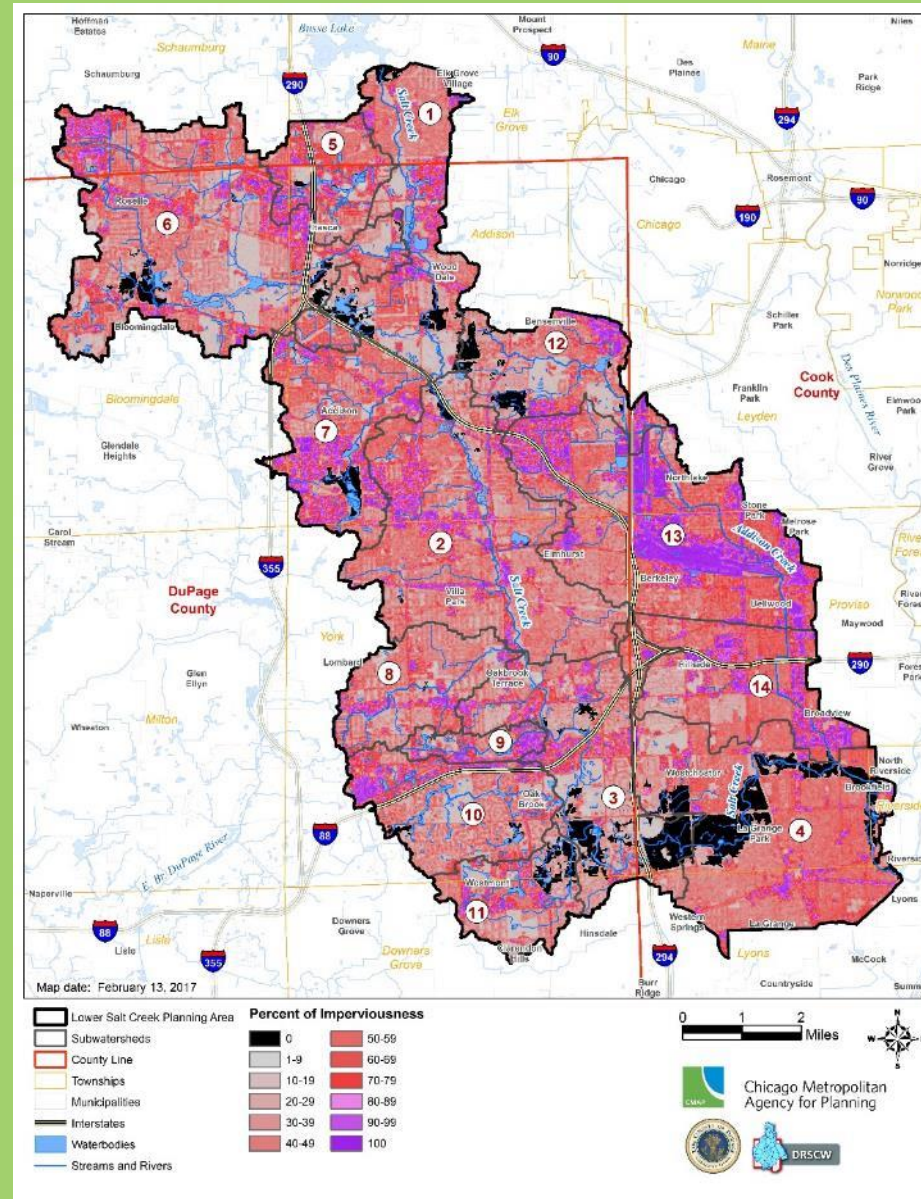
# Pollutant Load Modeling





# Impervious Cover

- 95% of planning area is impervious to varying degrees
- 43% of planning area is completely impervious

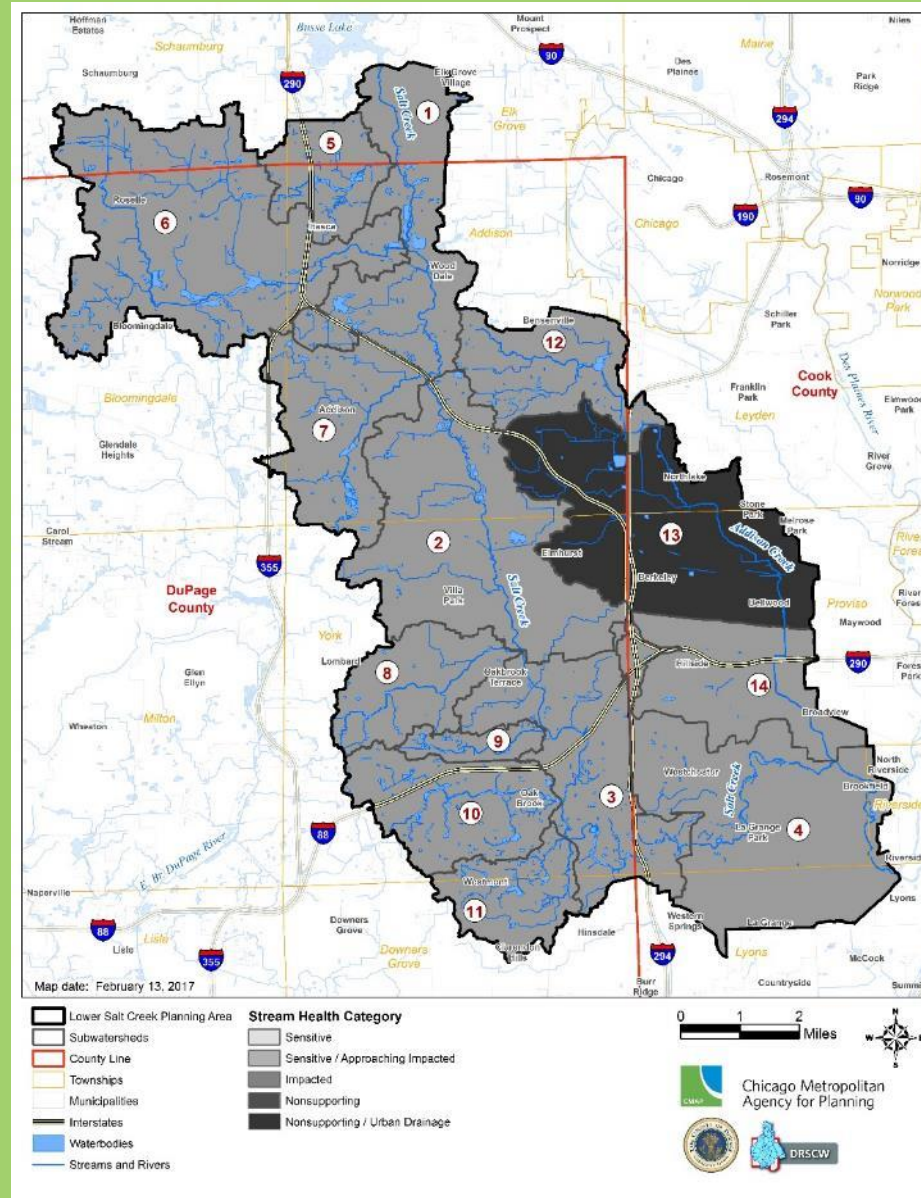
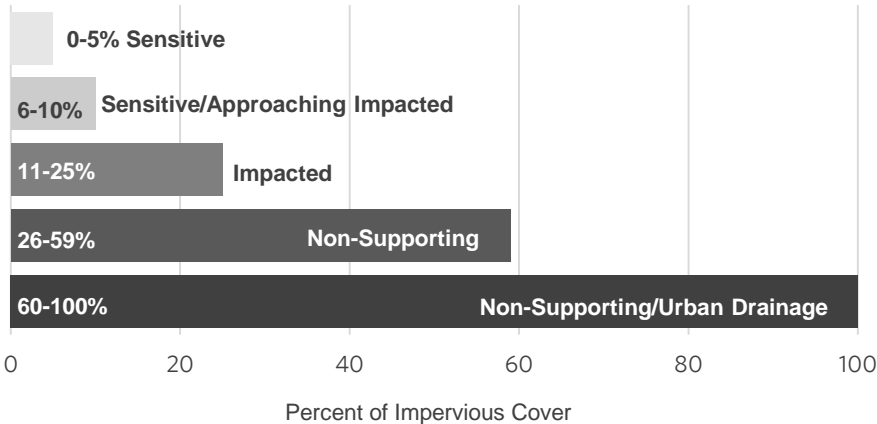


Source: National Land Cover Database (NLCD), Multi-Resolution Land Characteristics (MRLC) Consortium, 2011.

# Stream Health

- 13 subwatershed units: “non-supporting” category
- Addison Creek Central (#13): “non-supporting/urban drainage”

Stream Health Categories relative to extent of Impervious Cover

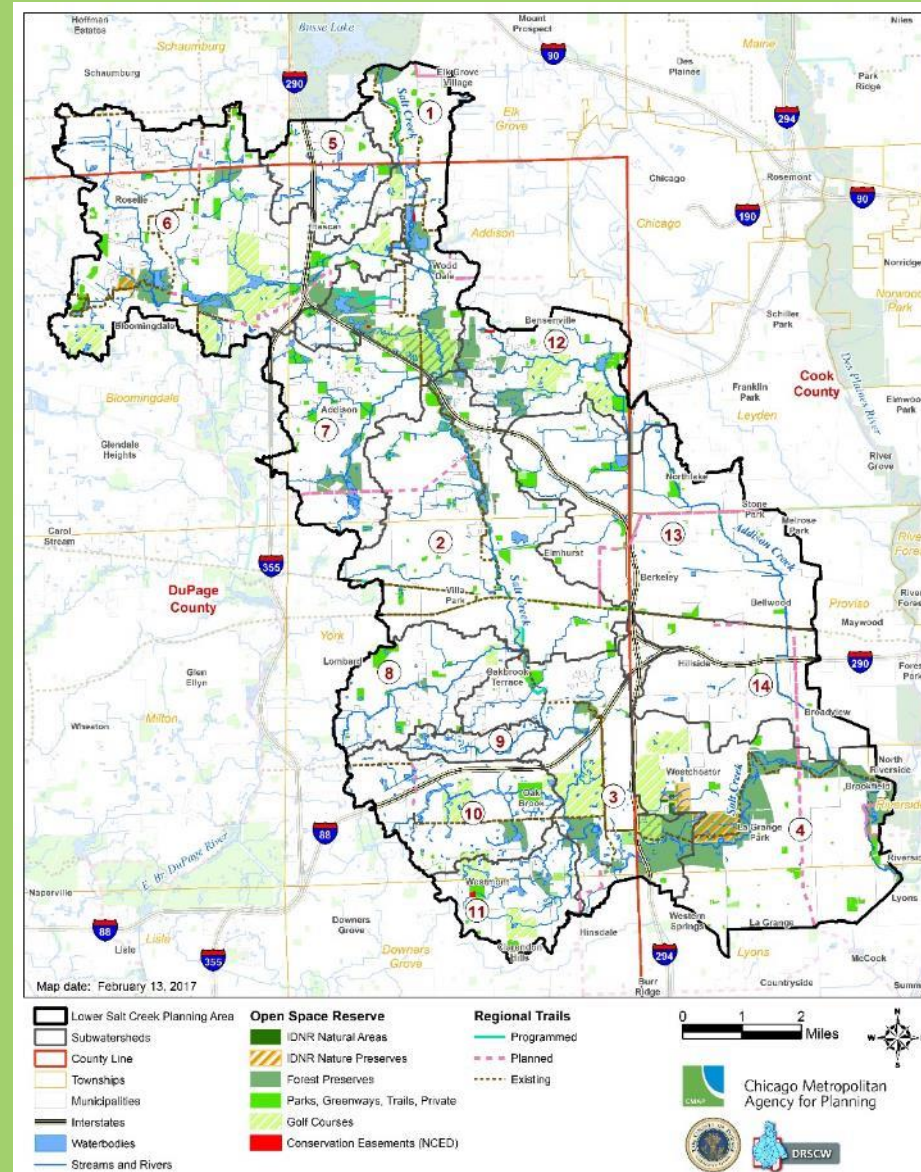


adapted from Center for Watershed Protection (2003)



# Open Space Reserve

- ~9,937 acres of dedicated open space
  - 4,817 acres forest preserves
  - 3,438 acres golf courses
  - 2,213 acres parks, greenways, & trails
  - 353 acres IDNR natural areas / nature preserves
  - 16 acres conservation easements



# Watershed Protection Measures

- Plans, Policies, Programs
- Best Management Practice (BMP) Implementation Projects
  - *site-specific*
  - “*watershed-wide*”
- Public Information and Outreach

# Planning Recommendations

- Develop Comprehensive Plan: 5 munis and both counties
- Update older Comprehensive Plans: 11 munis
- Update or amend Comprehensive Plans to include recommendations for/to:
  - Natural resource management: Bellwood, Bloomingdale, Broadview, Brookfield, LaGrange Park, Oakbrook Terrace
  - Transit-oriented development: Bloomingdale, LaGrange Park
  - Walking and biking as alt. transportation modes: Broadview
  - Groundwater protection: all munis
- Develop natural resources mngmnt plan: FPD of DuPage Co.
- Review and update ordinances to improve WQ protections



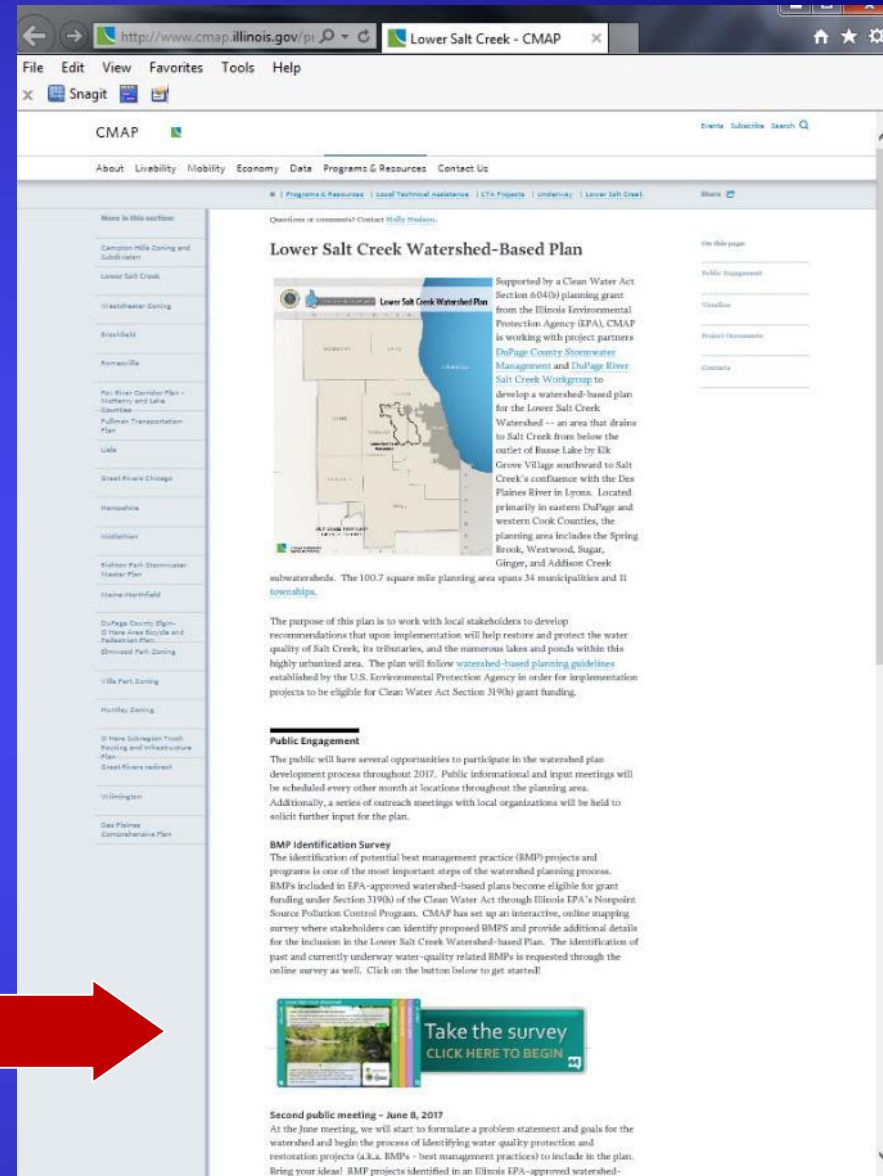
# Lower Salt Creek BMP Identification Survey

Access via button on LSC  
page on CMAP website:

<http://www.cmap.illinois.gov/programs-and-resources/ita/lower-salt-creek>

or

<https://LowerSaltCreek-BMPsurvey.metroquest.com>



The screenshot shows a web browser window with the URL <http://www.cmap.illinois.gov>. The page title is "Lower Salt Creek - CMAP". The main content area is titled "Lower Salt Creek Watershed-Based Plan". It includes a map of the watershed and text describing the plan's purpose and public engagement opportunities. A prominent "Take the survey" button with the text "CLICK HERE TO BEGIN" is visible at the bottom of the page. A large red arrow originates from the URL in the text and points directly to this button.



# Lower Salt Creek Watershed

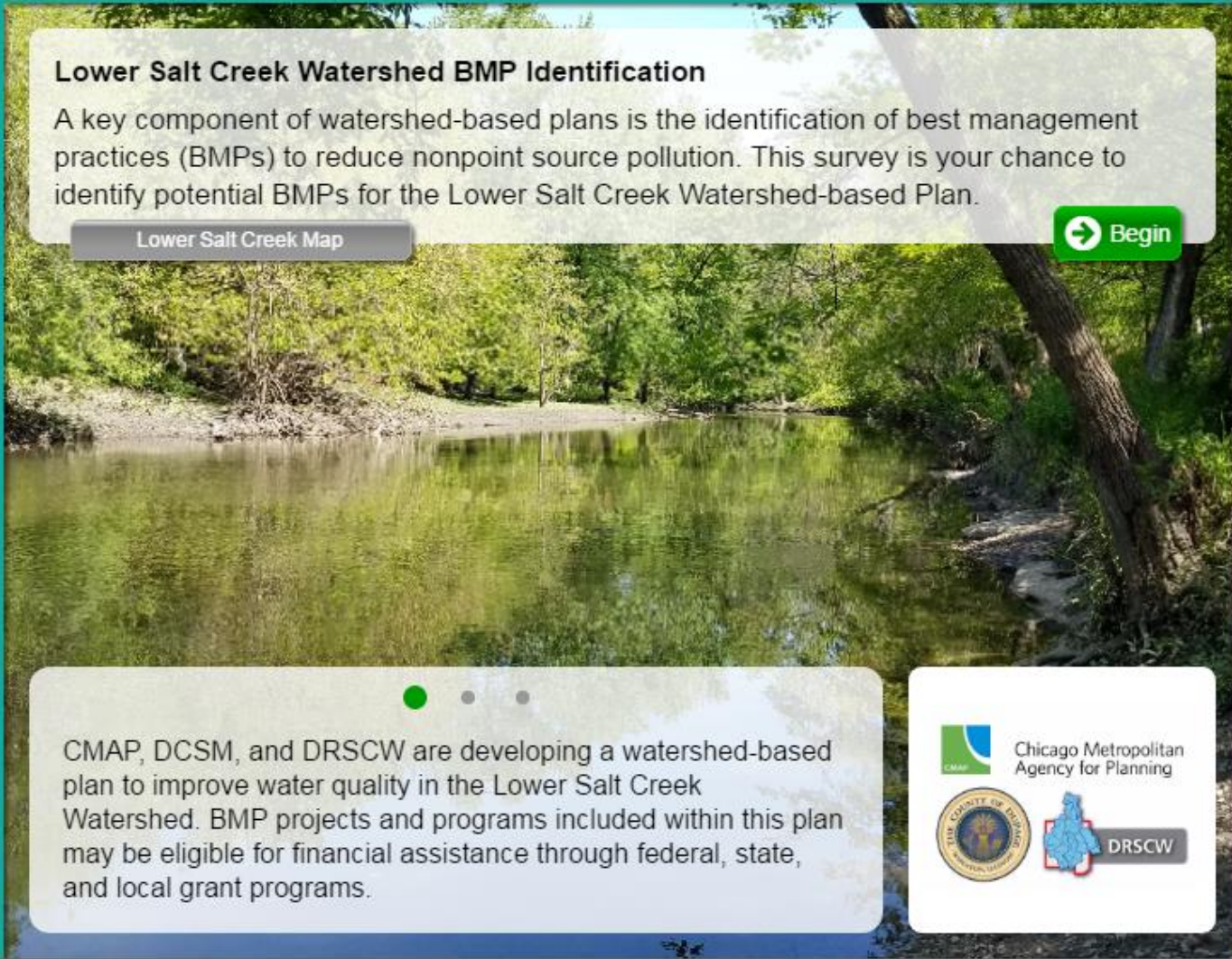
WELCOME

## Lower Salt Creek Watershed BMP Identification

A key component of watershed-based plans is the identification of best management practices (BMPs) to reduce nonpoint source pollution. This survey is your chance to identify potential BMPs for the Lower Salt Creek Watershed-based Plan.

Lower Salt Creek Map

Begin



CMAP, DCSM, and DRSCW are developing a watershed-based plan to improve water quality in the Lower Salt Creek Watershed. BMP projects and programs included within this plan may be eligible for financial assistance through federal, state, and local grant programs.



Chicago Metropolitan Agency for Planning



2

BMP OPPORTUNITIES

3

BMPS UNDERWAY

4

BMPS COMPLETED

5

WRAP UP







2

# Identify Water Quality BMPs

? What to do

➔ Next Task

3

4

5

WELCOME

BMP OPPORTUNITIES

BMPs UNDERWAY

BMPs COMPLETED

WRAP UP

Please drag and drop at least 3 markers on the map.



Agriculture



Urban



Hydrologic



Livestock



Education & Outreach



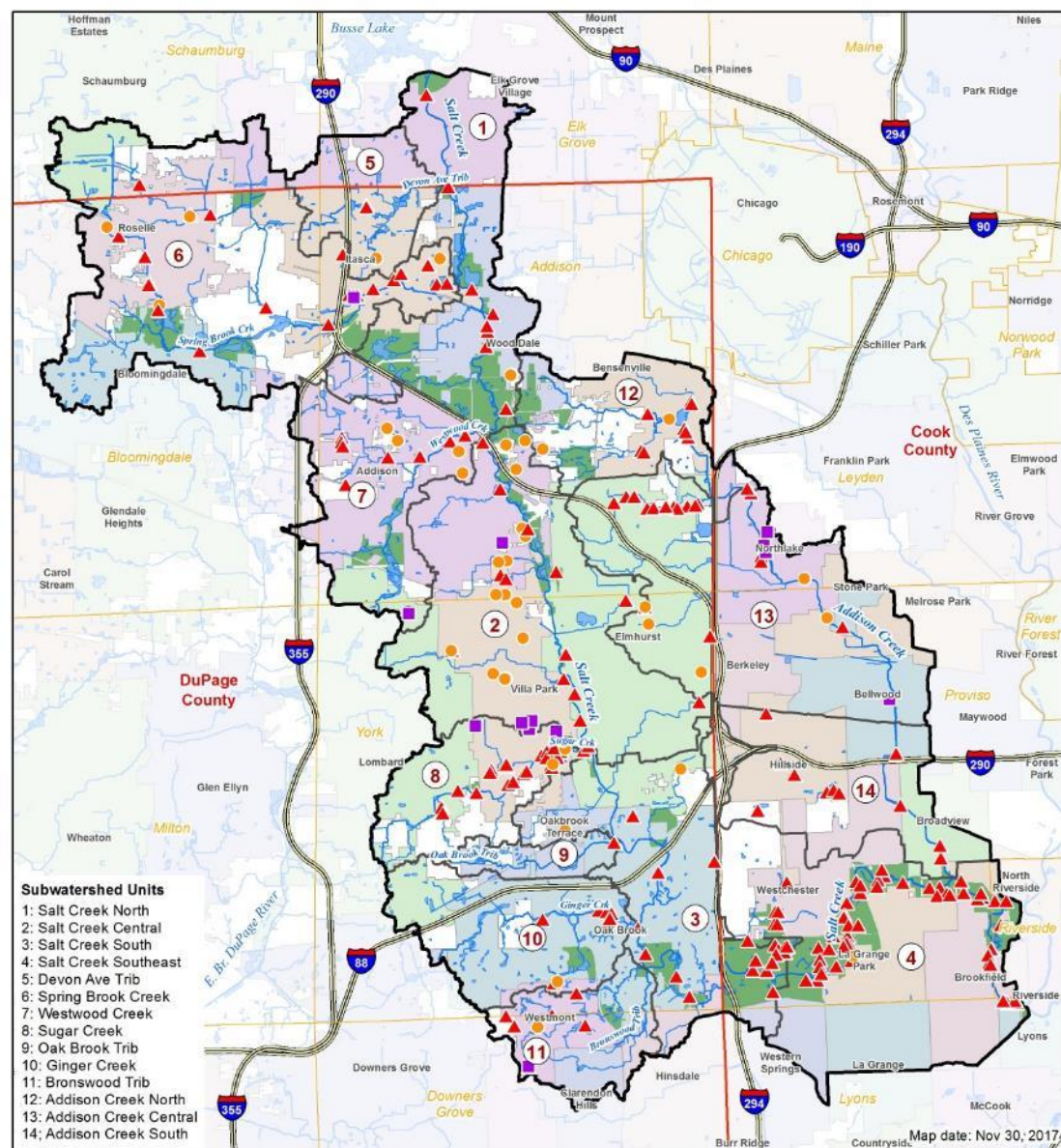
Other





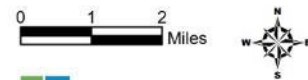
# BMPs Identified

- Participants: 37
- BMPs Identified:
  - ▲ Opportunities: 208
  - Underway: 14
  - Completed: 41



Lower Salt Creek BMPs Identified (Nov 30, 2017)

- |                   |                                  |                      |
|-------------------|----------------------------------|----------------------|
| ▲ BMP Opportunity | ▭ Lower Salt Creek Planning Area | ▭ Municipalities     |
| ■ BMP Underway    | ▭ Subwatersheds                  | ▭ Waterbodies        |
| ● BMP Completed   | ▭ County Line                    | ▭ Streams and Rivers |
|                   | ▭ Townships                      | ▭ Forest Preserves   |



Chicago Metropolitan Agency for Planning



Map date: Nov 30, 2017

# Pollutant Load Reduction Estimates

## *BMP Implementation Projects*

- *site-specific*
- *“watershed-wide”*

## Pollutant Load Modeling



### STEPL

- Spreadsheet Tool for Estimating Pollutant Loads
- EPA provided tool to model pollutants from different land uses and streambank erosion
- Compiled on a watershed/ subwatershed scale
- Also estimates potential reductions
- Limited to N, P, TSS, and BOD







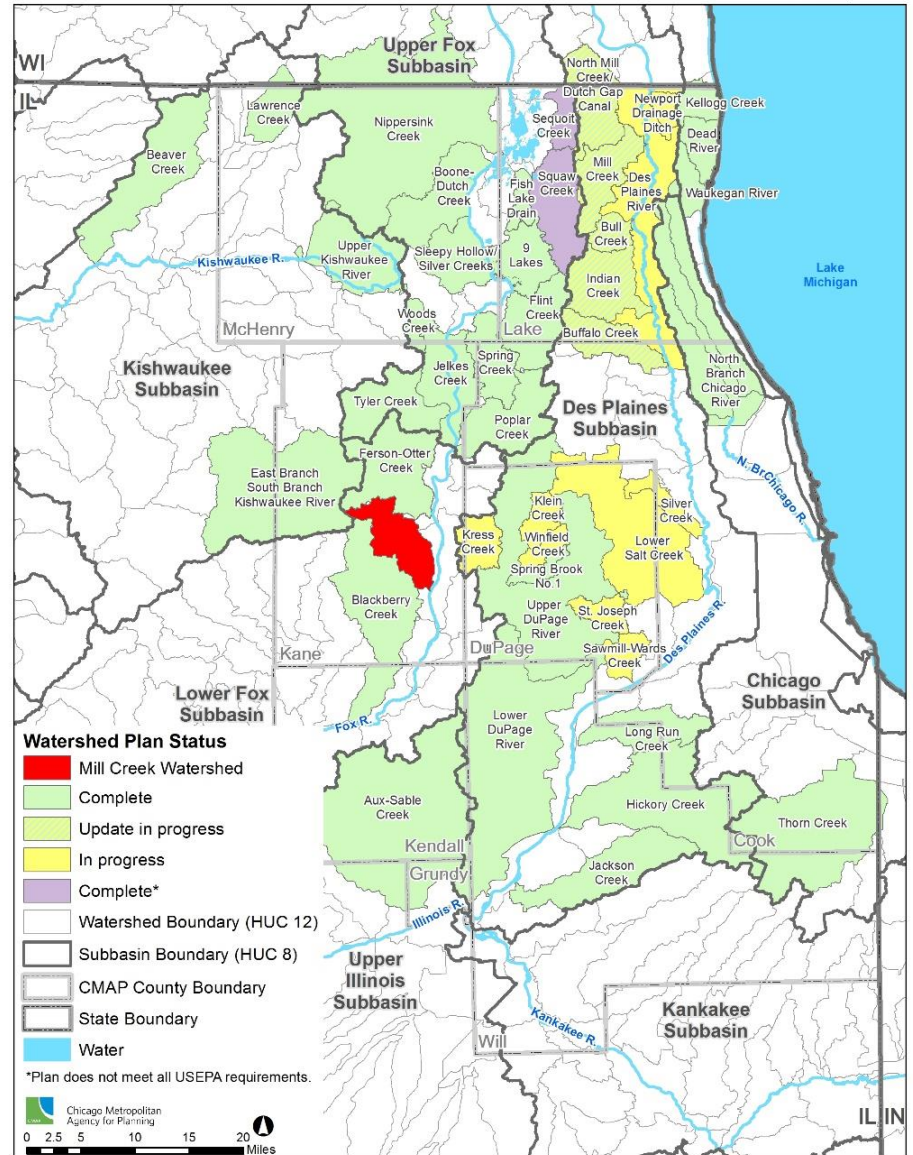


# Mill Creek Watershed (Kane County)

- Lower Fox River Basin (HUC 8: 07120007)
- 31 square miles (19,840 acres)

Watershed-based Plans in Northeastern Illinois

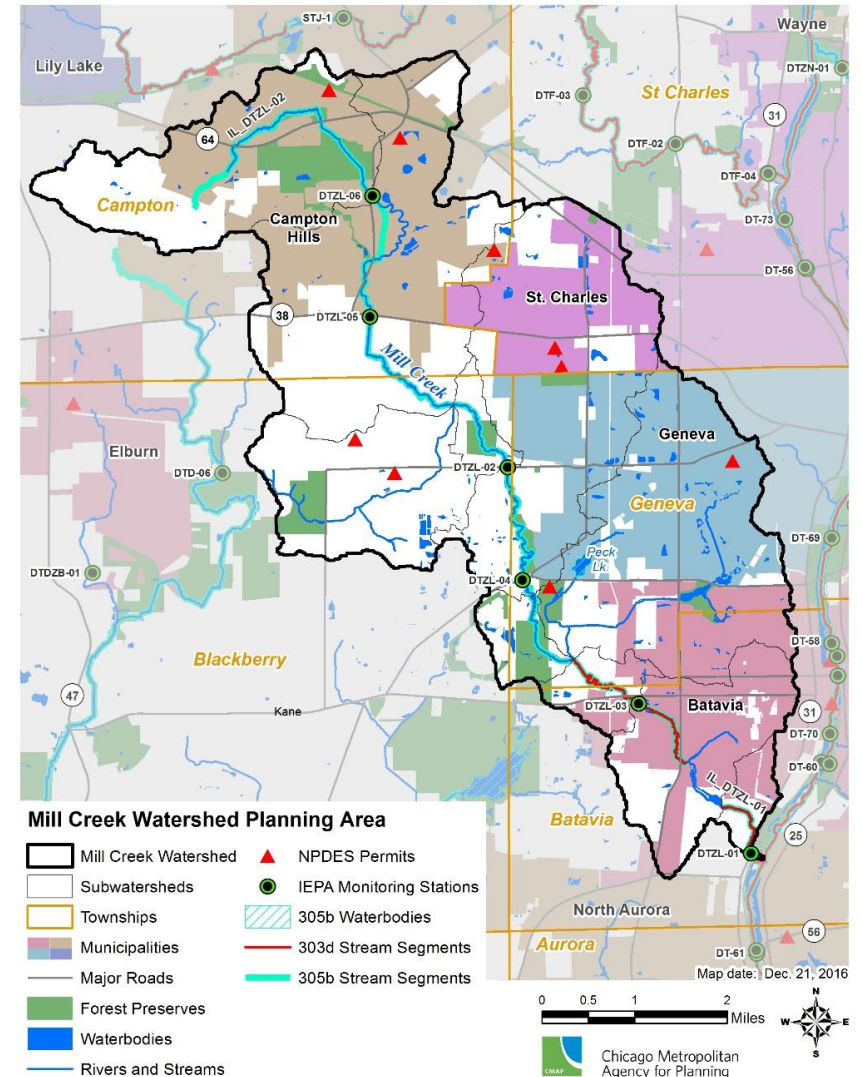
As of August 2016



# Mill Creek Watershed (Kane County)

- 1 county, 4 municipalities, 4 townships
- 1 forest preserve & 3 park districts
- Planning period:  
Oct. 2017 – Sept. 2019

Mill Creek Watershed - Kane County, IL



# Engaging Stakeholders in Watershed Planning

No “one size fits all” approach

Each process ~ unique



## Technical Experts

Specific knowledge & skills,  
Advisors, Decision makers



## Interested Folks

Want to contribute

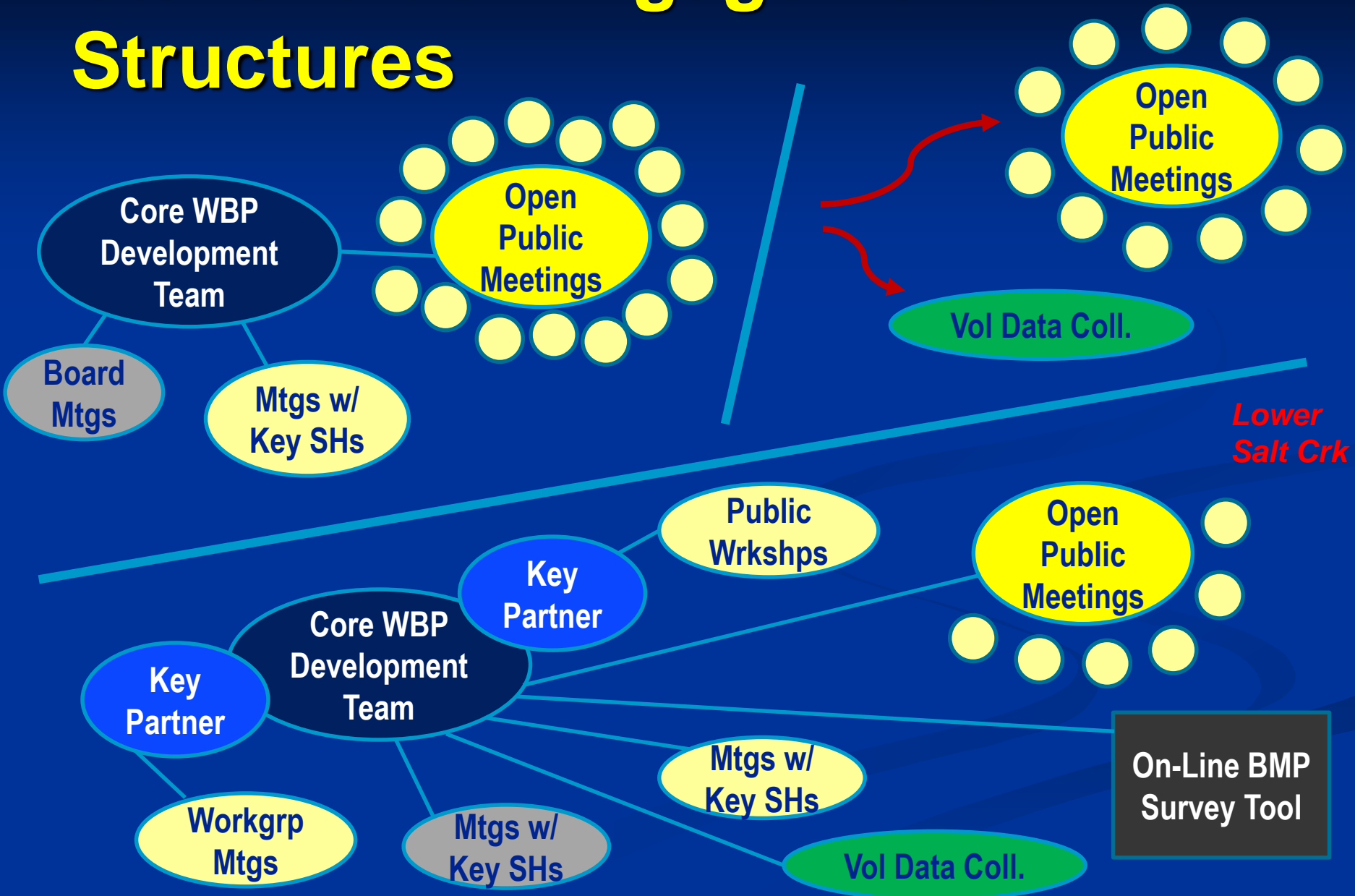


## General Public

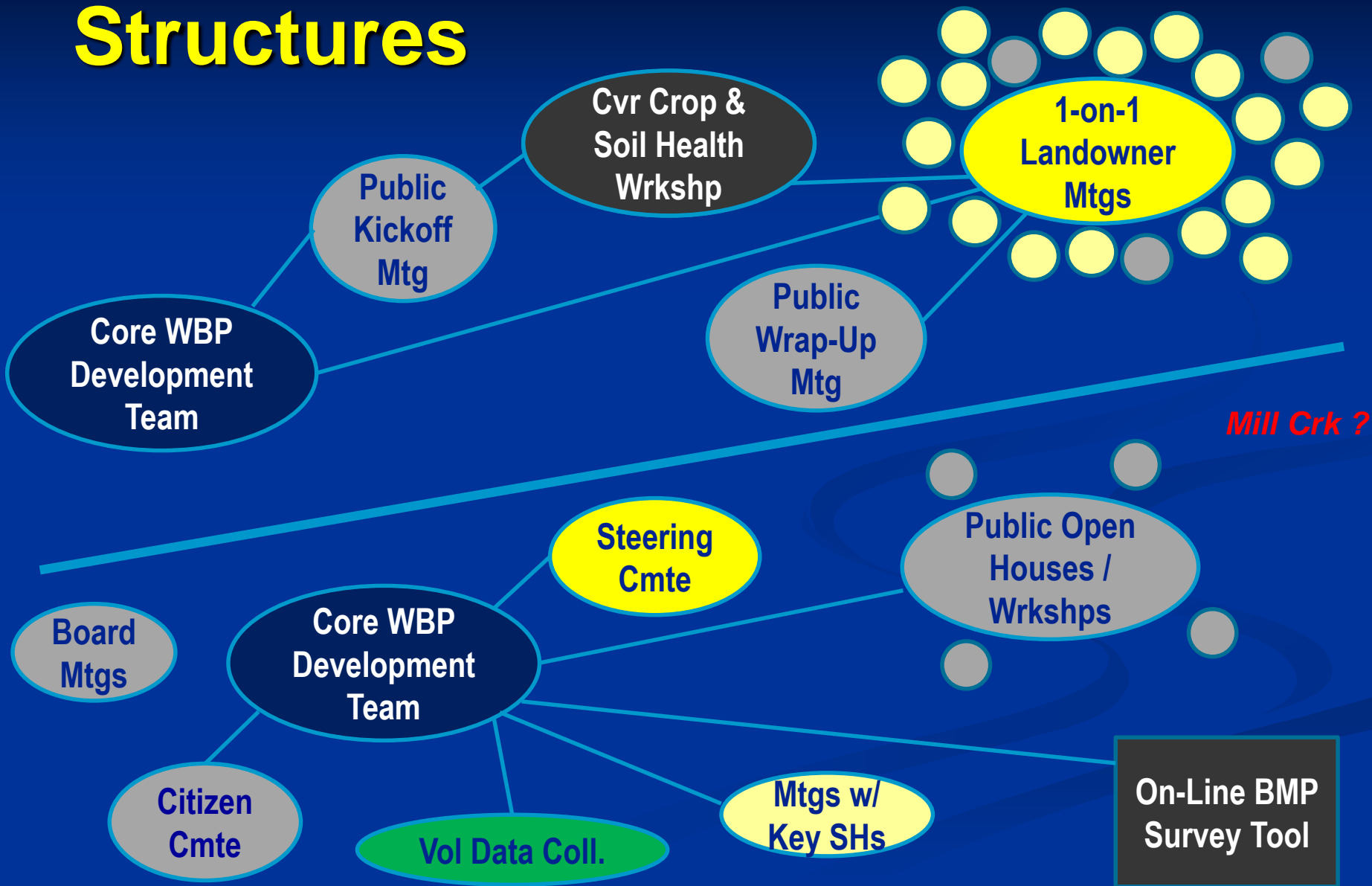
“Population uninterested or  
unaware of environmental  
implications of their  
everyday actions.”



# Stakeholder Engagement Structures



# Stakeholder Engagement Structures











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