

The Fox River Basin

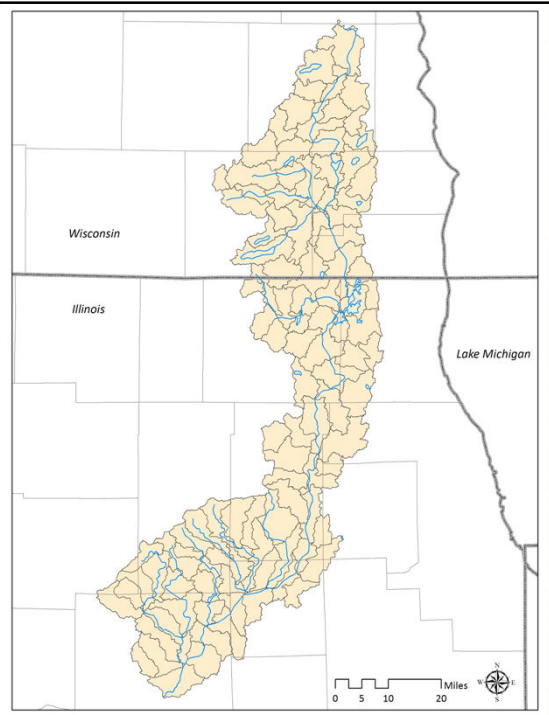
Holly Hudson
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Silver & Sleepy Hollow Creek Watersheds –
Action Planning Kickoff Meeting
September 23, 2010



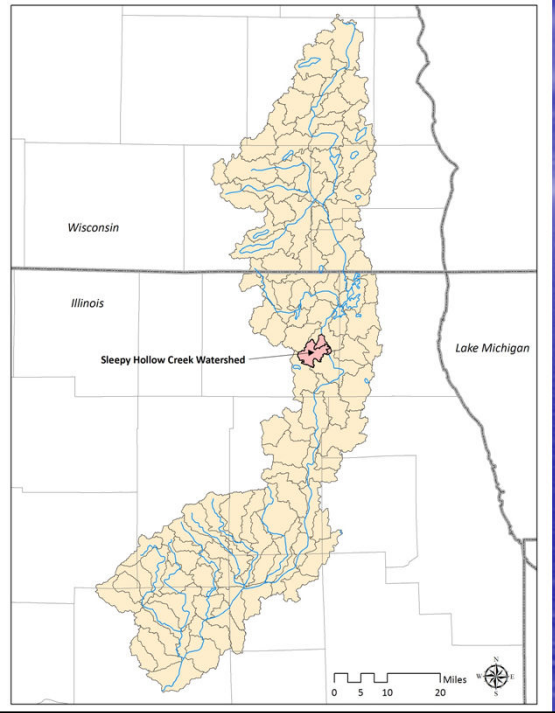
The Fox River Basin – Wisconsin & Illinois

- 3rd largest trib to Illinois R.
- 185 miles long from Waukesha, WI – Ottawa, IL; 115 river miles in Illinois
- 2,658 mi² watershed; 1,720 mi² in Illinois
- Illinois part of watershed has ~2,300 river & tributary stream miles & 406 lakes
- Parts of 11 Illinois counties, 11% of Illinois' population
- Drinking water supply for >214,000 people



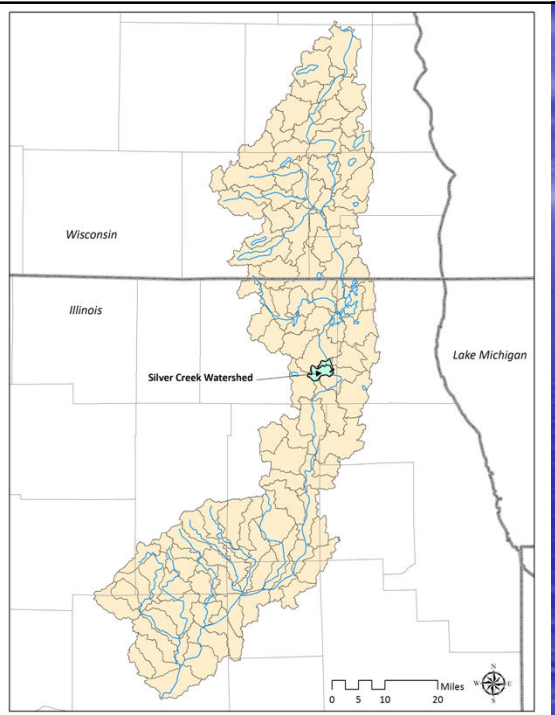
Sleepy Hollow Creek Watershed Planning Area

within the Fox River Basin



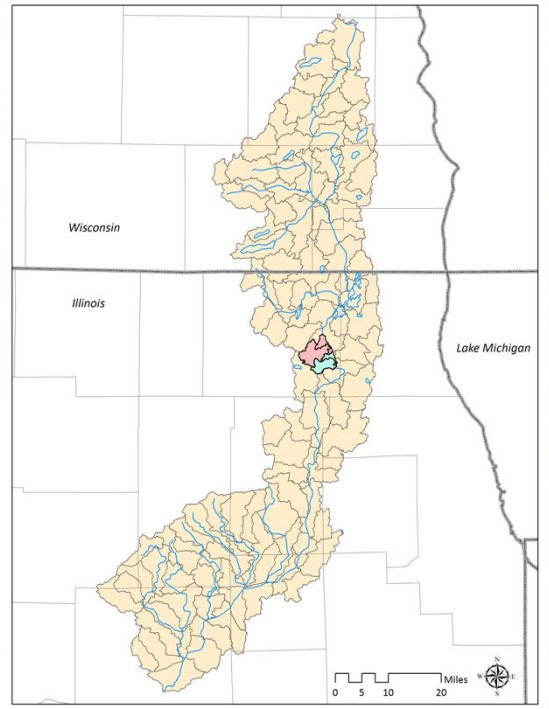
Silver Creek Watershed Planning Area

within the Fox River Basin

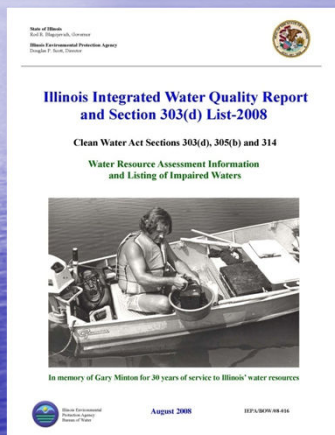


Sleepy Hollow Creek & Silver Creek Watershed Planning Areas

within the Fox River Basin



Illinois Integrated Water Quality Report



- Fulfills requirement of Sections 305(b) and 303(d) of the Federal Clean Water Act
- Serves as the primary assessment of State W.Q.—rivers, streams, lakes, groundwater
- Based on the 305(b) Report, impaired waters placed on 303(d) List

Section 305(b)

- Federal Water Pollution Control Act of 1972, Clean Water Act of 1977 and subsequent amendments
- Prepare and submit a report which shall include a description of the water quality of all waters in the State
- Illinois publishes this report every two years

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Section 305(b) Surface Water Monitoring

- Regional Illinois EPA Offices
 - Des Plaines, Springfield, Marion
 - Monitor as many stream miles and lake acres as possible
 - Water samples are collected and sent to labs for chemical analysis
 - Physical and biological data are also collected and analyzed

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Surface Water Monitoring

- Monitoring networks
 - Rivers & streams
 - Inland lakes
 - IEPA ambient monitoring programs
 - Intensive river basin surveys with Illinois DNR
- Other sources & programs (e.g., Facility Related Surveys, Illinois Cleans Lakes Program, Volunteer Lake Monitoring Program - Tier 3)



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Designated Uses and WQ Standards

- Designated Uses
 - Aquatic Life
 - Primary Contact
 - Aesthetic Quality
 - Public Water Supply
 - Fish Consumption
- Water Quality Standards
 - Numeric values (e.g., 0.05 mg/L phosphorus)
 - Narrative statements (e.g., water shall be free of excessive algae)
 - Standards determined by Illinois Pollution Control Board

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Water Body Assessments

- Selected methodologies and criteria are used to assess whether or not a waterbody's designated uses are being supported
 - Each lake or stream segment is assessed as Fully Supporting (good), Not Supporting (fair), Not Supporting (poor)
 - Causes and Sources of impairment then assigned for each designated use that is listed as impaired

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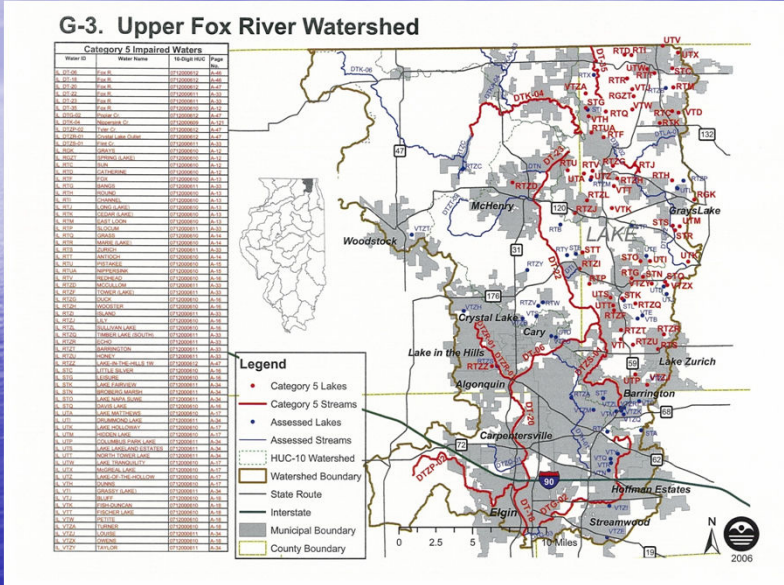
Section 303(d) Requires States to...

- Identify waters which are not meeting applicable water quality standards/designated uses
- Establish priority ranking for those waters taking into account the severity of pollution and the uses to be made of such waters
- Target waters for the development of TMDLs (and watershed-based plans)

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The Upper Fox River Basin in Illinois – Assessed & Impaired Surface Waters

G-3. Upper Fox River Watershed



Fox River segment DT-22

Sleepy Hollow Creek & Silver Creek drain to this segment of the Fox River

- Assessed by IEPA for
- Aquatic Life Use
 - Primary Contact Use
 - Fish Consumption Use

all "Not Supporting (fair)" of those designated uses



Fox River segment DT-22 – IEPA’s 305(b) Assessment

Excerpt from *Illinois Integrated Water Quality Report and Section 303(d) List – 2010: Appendix B-2. Specific Assessment Information for Streams, 2010*

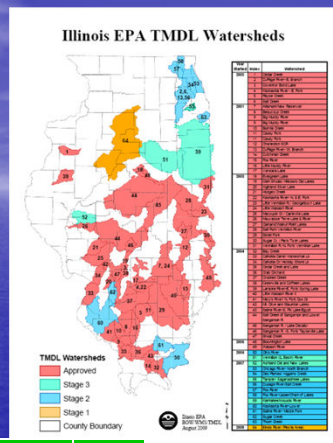
Name	Assessment Unit ID	10-digit HUC	Size (miles)	Use Attainment	Causes of Impairment	Sources of Impairment
Fox River	IL_DT-22	0712000611	7.83	<ul style="list-style-type: none"> N (Aquatic Life) N (Fish Consumption) N (Primary Contact) <p>N = "Not supporting"</p>	<ul style="list-style-type: none"> Alteration in stream-side or littoral vegetative covers Other flow regime alterations Sedimentation/Siltation Aquatic algae Polychlorinated biphenyls Fecal Coliform 	<ul style="list-style-type: none"> Impacts from Hydrostructure Flow Regulation/Modification Habitat Modification other than hydromodification Highway/Road/Bridge Runoff (non-construction related) Urban Runoff/Storm Sewers Dam or Impoundment Source Unknown

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TMDL Watersheds & Fox River segment DT-22

- 58 = Upper Fox River/ Chain O'Lakes Watershed
- 57 = Upper Fox River/ Flint Creek Watershed
- Fox River segment DT-22

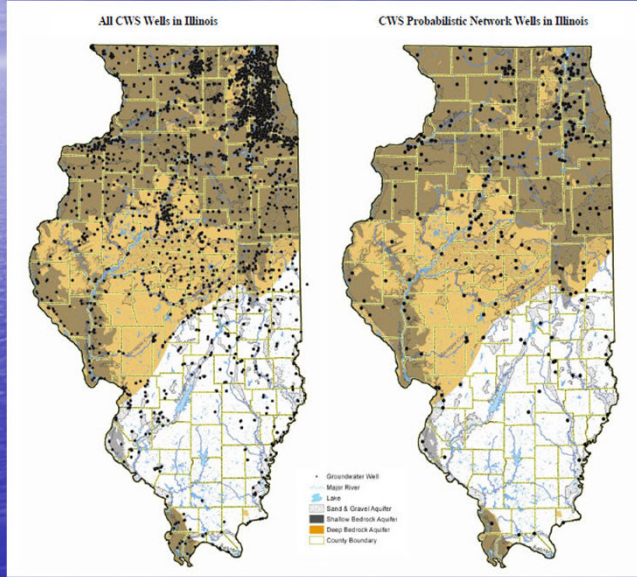
Excerpt from *Illinois Integrated Water Quality Report and Section 303(d) List – 2010: Appendix A-2. Illinois' 2010 303(d) List*



Water Name	Segment ID	HUC 10	Priority	Miles	Designated Use	Causes of Impairment (WQ standard)	TMDL Status
Fox River	IL_DT-22	0712000611	Medium	7.83	Aquatic Life	Sedimentation/Siltation	n/a
Fox River	IL_DT-22	0712000611	Medium	7.83	Fish Consumption	Polychlorinated biphenyls	n/a
Fox River	IL_DT-22	0712000611	Medium	7.83	Primary Contact Recreation	Fecal coliform	TMDL ongoing

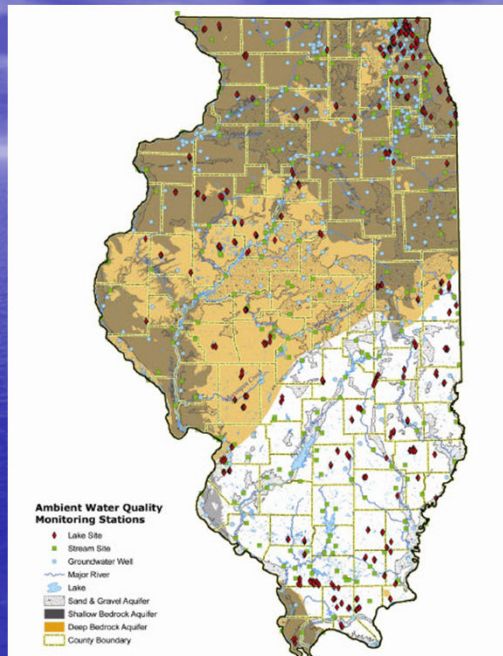
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Community Water Supply Wells & Probabilistic Monitoring Network Wells

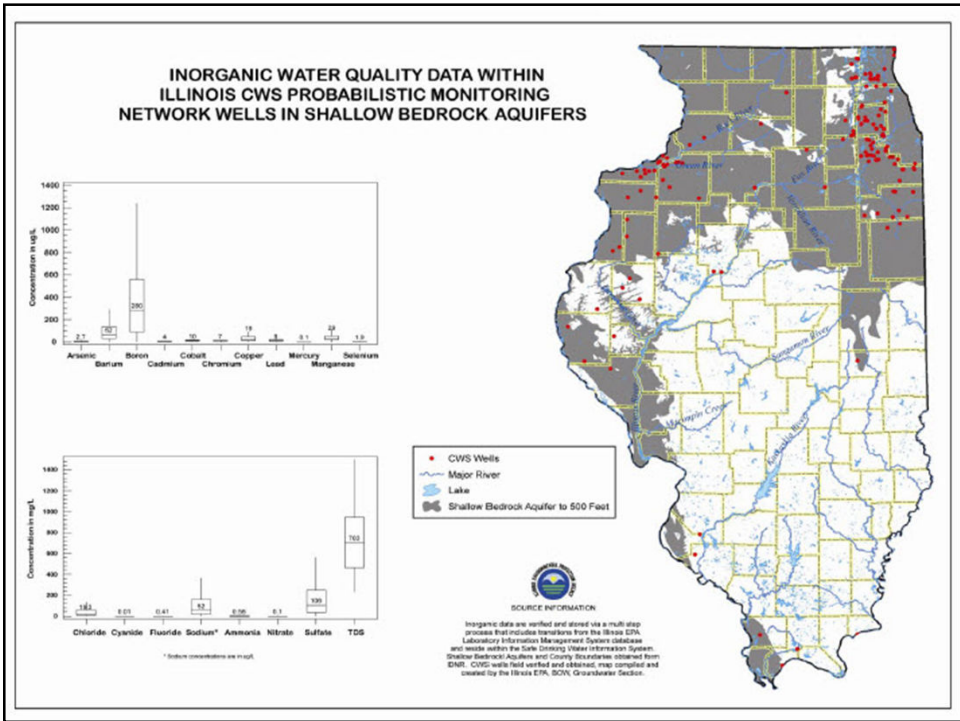
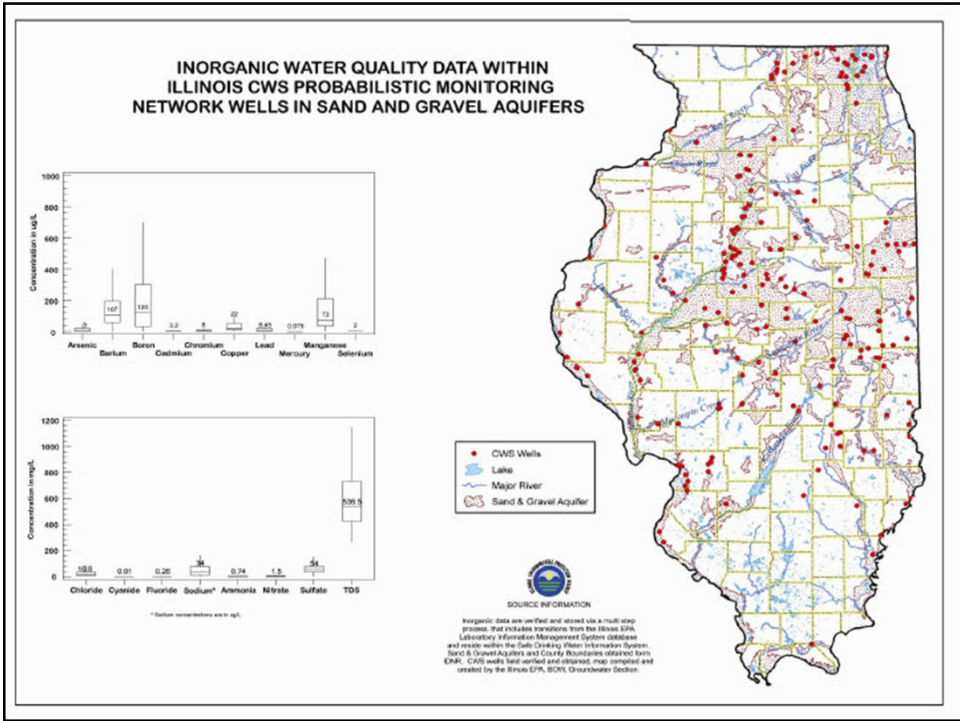


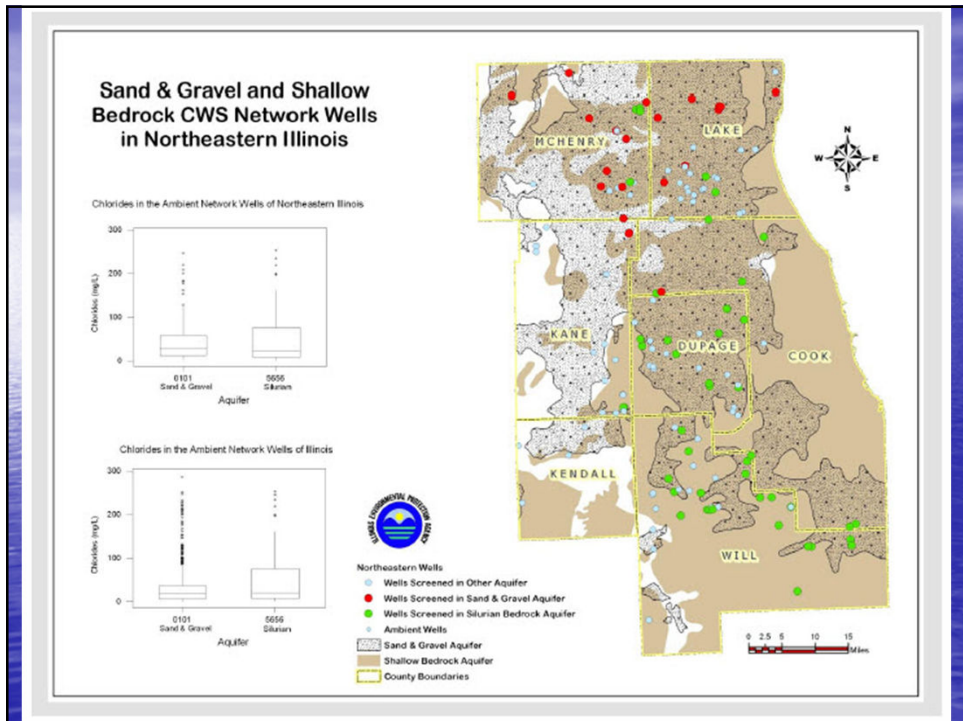
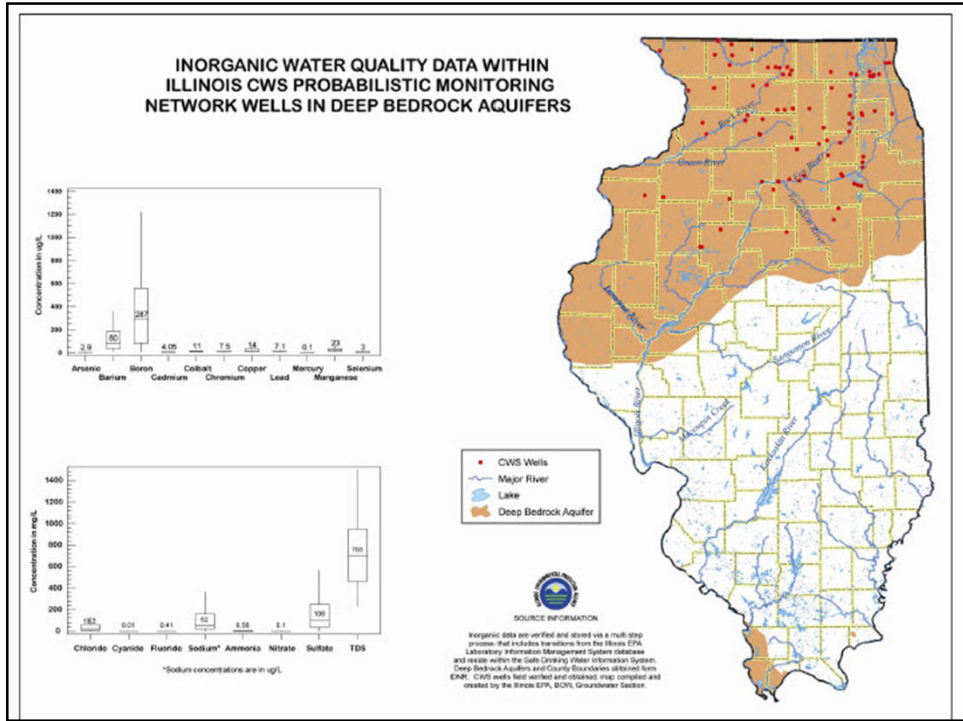
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Illinois EPA's Integrated Surface & Groundwater Monitoring Network Sites

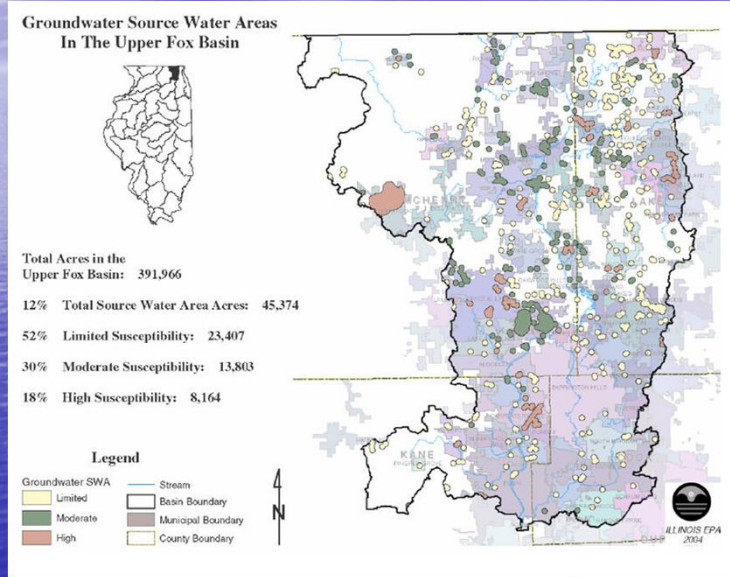


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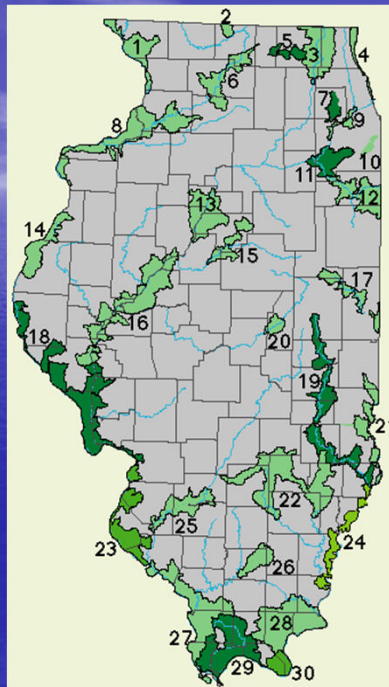
The Upper Fox River Basin in Illinois – Groundwater Source Water Areas & Susceptibility



Resource Rich Areas in Illinois

Illinois DNR Critical Trends Assessment Program

Area 3 = Fox River RRA



The Silver Creek Watershed Action Planning Area

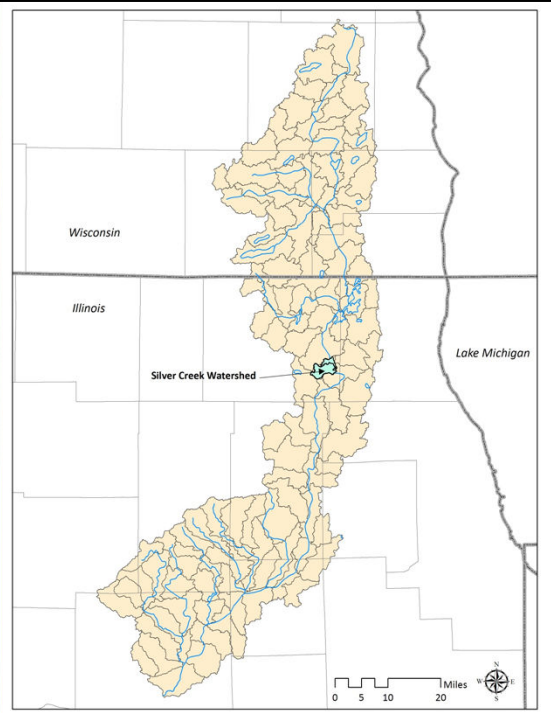
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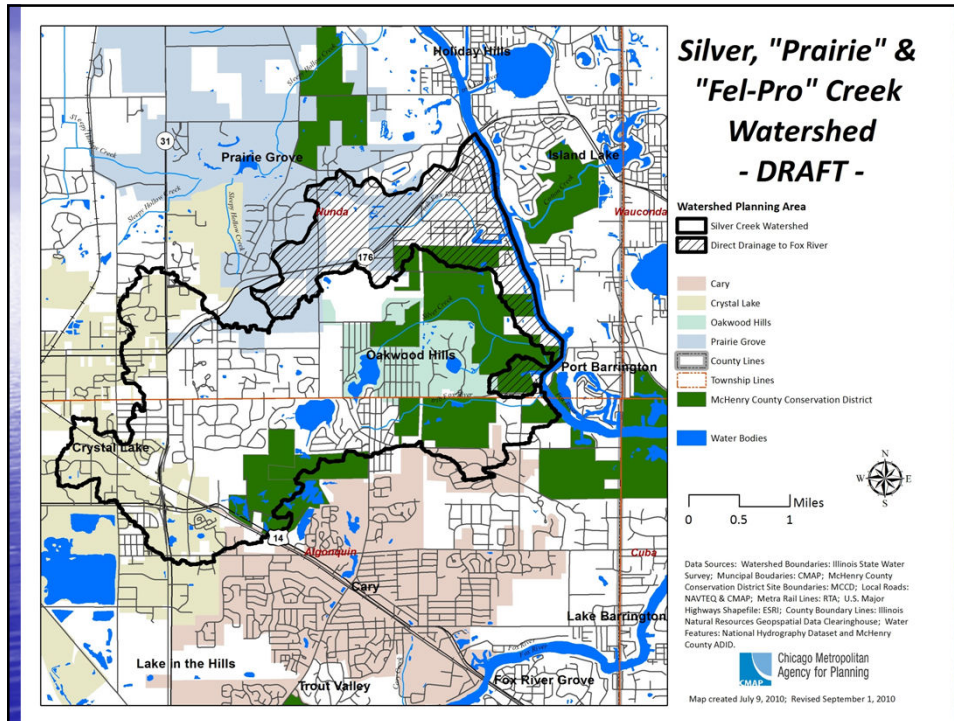
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Silver Creek Watershed Planning Area

within the Fox River Basin

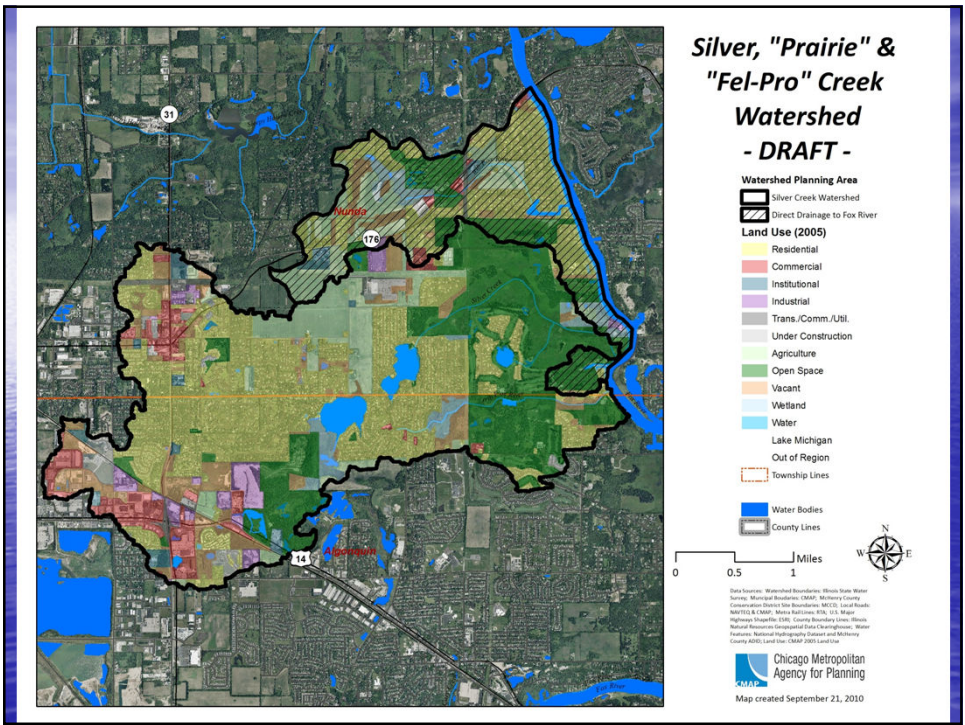
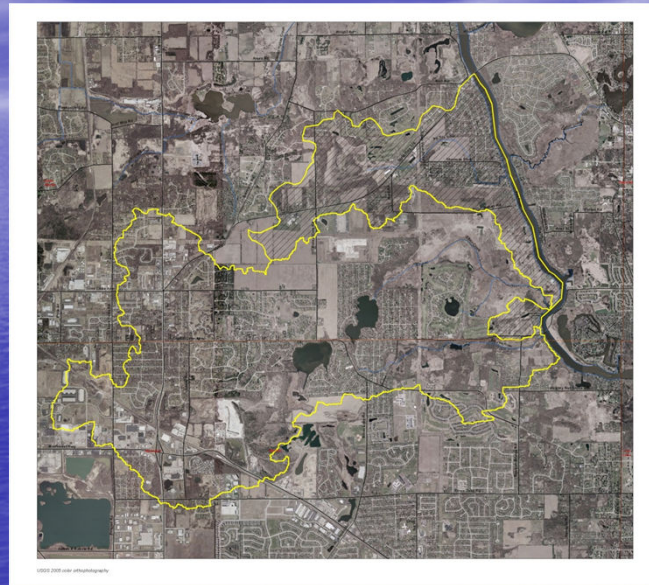




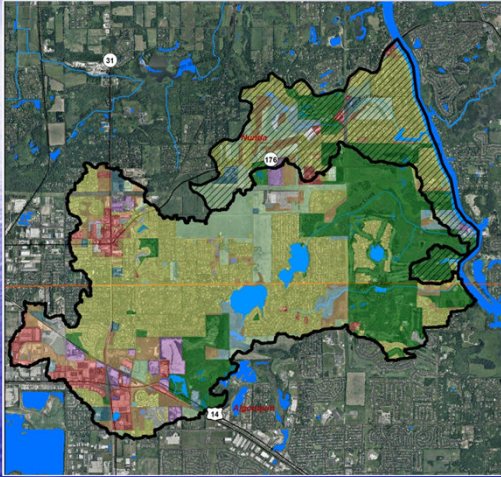
The Silver, "Prairie" & Fel-Pro" Creek Watershed

- ~ 11 mi² watershed
- ~ 10,235 people
- ~ 6.7 tributary stream miles (+ 2.8 miles of Fox R.)
- At least 4 lakes >6 acres, numerous ponds
- 4 municipalities
- 2 townships
- 3 MCCD Conservation Areas
- 1 Illinois Nature Preserve

The Silver, "Prairie" & "Fel-Pro" Creek Watershed – Aerial View



The Silver, "Prairie" & "Fel-Pro" Creek Watershed – Land Use



Land Use Category	Sq. Miles	%
Residential	4.05	36.7
Open Space – Conservation	2.02	18.3
Agriculture	1.19	10.8
Vacant – Forest/Grassland	0.96	8.7
Commercial	0.58	5.3
Open Space – Golf Course	0.58	5.2
Water	0.33	3.0
Wetland	0.30	2.8
Manufacturing/ Industrial	0.30	2.7
Under Construction	0.20	1.8
Institutional	0.19	1.7
Transport/Communicat/Utility	0.15	1.4
Vacant - Other	0.03	0.3

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SLEEPY HOLLOW CREEK WATERSHED PLAN



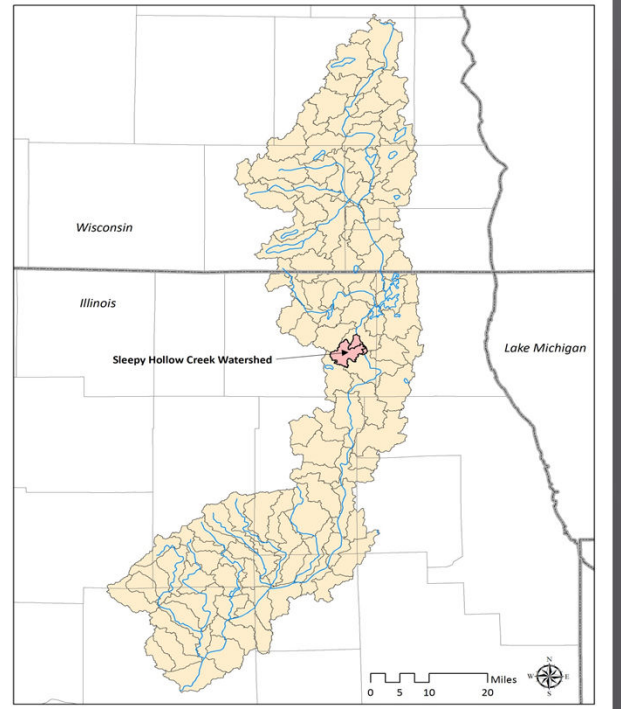
Photo Courtesy of – Bob Williams MCCC

Dawn Thompson



Sleepy Hollow Creek Planning Area

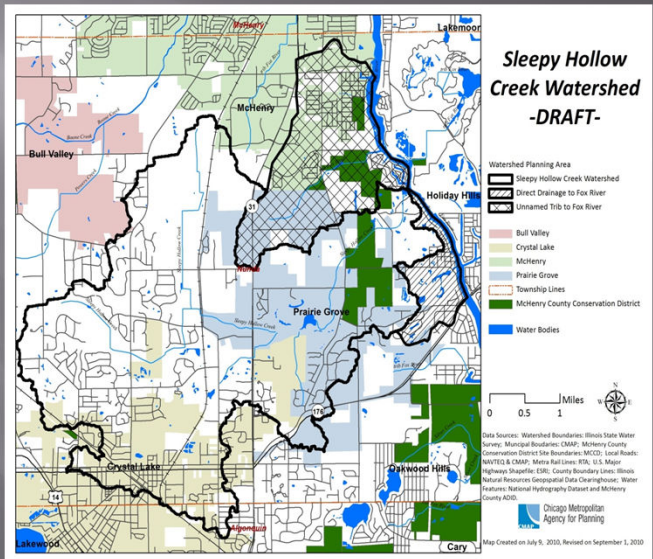
within the Fox River Basin



Sleepy Hollow Creek Watershed

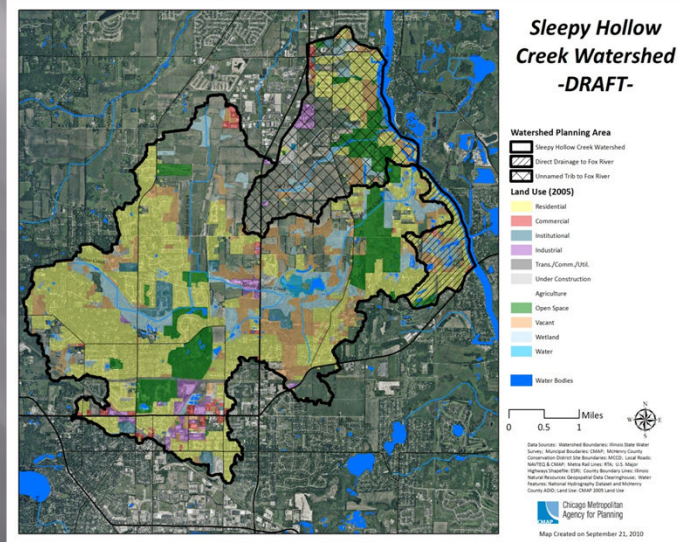
Facts:

- 19.86 square mile drainage area
- 13.76 miles of stream
- Crystal Lake, Prairie Grove, McHenry and Bull Valley
- Population – 12,121
- MCCD Holdings
- Agricultural, residential, commercial and manufacturing sites



Land Uses within Sleepy Hollow Creek Watershed

- 6.98 sq. miles (34%) residential
- 4.87 square miles (24%) agricultural
- 0.93 acres (9%) MCCD holdings
- Commercial
- Manufacturing



Land Uses Within Sleepy Hollow Creek Watershed

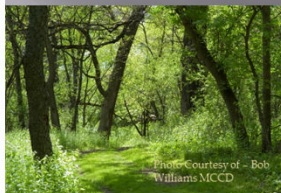
Land Use Category	Area (acres)	Area (sq mi)	Percentage of Watershed
Residential	4465.83	6.98	35.12%
Commercial and Services	167.05	0.26	1.31%
Institutional	260.05	0.41	2.05%
Industrial	293.720558	0.46	2.31%
Transportation/Communication/Utilities	117.086734	0.18	0.92%
Under Construction	208.045205	0.33	1.64%
Agriculture	3119.4919	4.87	24.53%
Open Space	1183.6266	1.85	9.31%
Vacant	1515.83018	2.37	11.92%
Wetland	1184.35054	1.85	9.31%
Water	200.335687	0.31	1.58%
Totals		19.87	100.00%

Why Sleepy Hollow & Silver Creek Watersheds

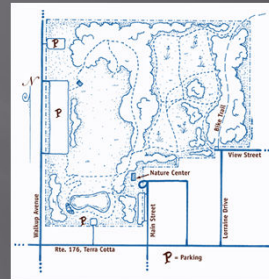
- Protect and maintain the quality of unimpaired waters
- Restore beneficial uses of impaired waters
- Protect groundwater
- Develop additional USEPA-compliant watershed-based plans in Fox River basin
 - eligible for federal and state grants to implement plan recommendations



Sleepy Hollow & Silver Creek Watershed Existing Resources



Stickney Run Conservation Area (MCCD)



Wingate Prairie (McHenry Co.)



Oakwood Hills Fen Nature Preserve



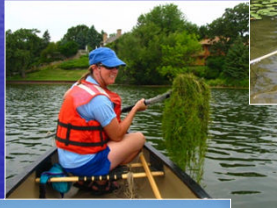
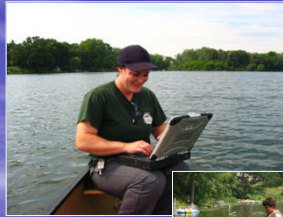
West Lake, Hollows Conservation Area (MCCD)



Thunderbird Lake

Stream & Lake Monitoring & Assessment

- The creeks have not been monitored/assessed by IEPA
- MCCD fish surveys on Sleepy Hollow & Silver Crks
- Silver Lake: IEPA assessed for fish consumption use = "not supporting (fair)"
- IEPA ALMP monitoring in 2010 at Silver Lake & Lake Killarney
- VLMP monitoring in 2010 at Silver Lake, Lake Killarney, Lake Atwood
- IDNR fisheries surveys at Lakes Silver, Killarney, Atwood; Fel-Pro pond



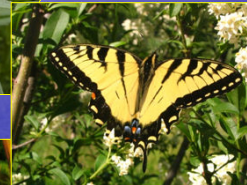
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Other Monitoring & Assessment

- MCCD – plants, birds, mammals, herps, butterflies
- McHenry County – geological mapping, groundwater levels & water quality
- Vlg Oakwood Hills volunteers – groundwater levels
- No doubt others too!



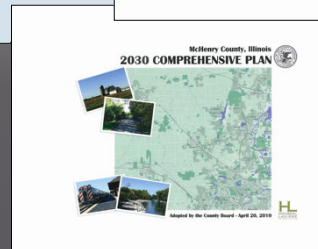
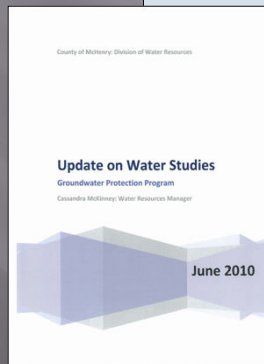
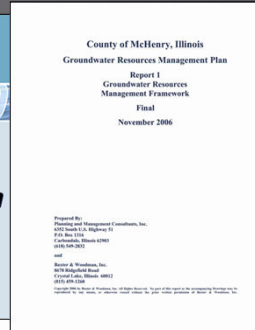
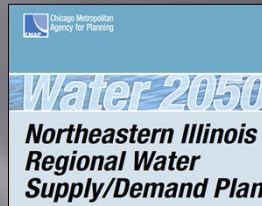
photo courtesy of Bob Williams



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Planning Efforts Undertaken

- Regional Plans
- County Plans
- Municipal Plans



Watershed Planning Process

- Establish a watershed land use vision
- Watershed resources inventory
- Establish pollutant load reduction targets
 - Hydrologic Simulation Program FORTTRAN (HSPF)
- Evaluate groundwater protection
- Municipal codes/ordinances vs. USEPA WQ Scorecard
- Site identification for nonpoint source pollution control implementation projects



Photo Credits: Bob Williams/MCCD

Planning Process: USEPA 9 Minimum Elements of a Watershed-Based Plan

- Identify causes and sources of pollution that need to be controlled
- Pollutant reduction targets expected from implementation of measures
- NPS management measures to achieve load reductions
- Develop implementation schedule
- Interim, measurable milestones
- Criteria for achieving load reductions
- Monitoring
- Information and education
- Amount of tech/financial assistance needed and sources

Project Planning Timeline

Stakeholder Meeting Primary Topic(s)	Date
Introductions/roles, planning structure, project purpose/timeline, watershed concerns	September 2010
Goals and evaluation measures	October 2010
Integrated watershed land use vision, watershed resource inventory	November 2010
Groundwater	December 2010
Ordinances	January 2011
Draft Introduction chapter	February 2011
Draft Inventory and Assessment chapter, including problem statements	March 2011
Watershed resource inventory finalization (prepare to submit to IEPA May 1 st)	April 2011
Model output, load reduction targets	May 2011
Plan recommendations	June 2011
Plan recommendations chapter	July 2011
<i>reserved</i>	August 2011
Monitoring and Assessment chapter	September 2011
Draft plan (prepare to submit to IEPA Nov. 1 st)	October 2011
Feedback on draft plan	November 2011
Final draft plan approval, next steps	December 2011

Project Deliverables Timeline

Activity	Completion Date	Responsible Partner
PowerPoint Presentation - Draft	Oct. 15, 2010	EDMC
PowerPoint Presentation - Final Draft	Dec. 27, 2010	EDMC
Planning Brochure - Draft	Dec. 15, 2010	EDMC
Planning Brochure - Final Draft	Feb. 25, 2011	EDMC
Planning Brochure - Printed	Mar. 1, 2011	EDMC
Watershed Poster - Draft	Mar. 15, 2011	EDMC
Watershed Poster - Final Draft	Apr. 28, 2011	EDMC
Watershed Display - Draft	Jun. 15, 2011	EDMC
Watershed Display - Final Draft	Sep. 1, 2011	EDMC
Watershed Recommendation Brochure - Draft	Oct. 15, 2011	EDMC
Watershed Recommendation Brochure - Final Draft	Dec. 15, 2011	EDMC
Watershed Recommendation Brochure - Printed	Dec. 29, 2011	EDMC
Draft Website Design	Dec. 1, 2010	FREP
Updates to Website	Ongoing	FREP
Noon Network	Dec. 31, 2011	FREP
Watershed Resources Inventory	May 1, 2011	CMAP
Draft Plan & Executive Summary	Nov. 1, 2011	CMAP
Final Plan & Executive Summary	Dec. 31, 2011	CMAP

Stakeholder Committee

- Participation
- Who's Missing
- Roles and Expectations of Stakeholders

Special Teams

- Stream conditions survey
- Lake level readings





Question and Comments

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