Illinois Nutrient Loss Reduction Strategy

Nutrient Monitoring Council

8th Meeting, March 14, 2017, Springfield, IL

ILLINOIS NUTRIENT LOSS REDUCTION STRATEGY | Improving our water resources with collaboration and innovation

Nutrient Monitoring Council Members (3/14/17)

Illinois EPA
Gregg Good, Rick Cobb

Illinois State Water Survey
Laura Keefer

Aqua Illinois
Kevin Culver

Illinois Natural History Survey
Andrew Casper

Illinois Dept. of Natural Resources
Ann Holtrop

University of Illinois
Paul Davidson

Sierra Club
Cindy Skrukrud

MWRDGC
Justin Vick

Illinois Corn Growers Association
Laura Gentry

U.S. Army Corp of Engineers-Rock Island
Chuck Theiling

U.S. Geological Survey
Kelly Warner

National Center for Supercomputing Apps
Jong Lee

Today's Guests

- **Dan Perkins, Waterborne Env.**
- **Trevor Sample, Illinois EPA**
- **Anna Marshall, U of I**

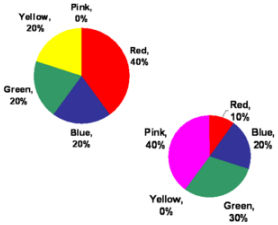
NMC Charges (Revised 10/26/15)

1. Coordinate the development and implementation of monitoring activities (e.g., collection, analysis, assessment) that provide the information necessary to:

   a. Generate estimations of 5-year running average loads of Nitrate-Nitrogen and Total Phosphorus *leaving the state of Illinois* compared to 1980-1996 baseline conditions; and
   b. Generate estimations of Nitrate-Nitrogen and Total Phosphorus loads *leaving selected NLRS identified priority watersheds* compared to 1997-2011 baseline conditions; and
   c. Identify Statewide and NLRS priority watershed *trends in loading over time* using NMC developed evaluation criteria.

2. Document *local water quality outcomes* in selected NLRS identified priority watersheds, or smaller watersheds nested within, where future nutrient reduction efforts are being implemented (e.g., increase in fish or aquatic invertebrate population counts or diversity, fewer documented water quality standards violations, fewer algal blooms or offensive conditions, decline in nutrient concentrations in groundwater).

3. Develop a *prioritized list of nutrient monitoring activities and associated funding* needed to accomplish the charges/goals in (1) and (2) above.



NUTRIENT MONITORING COUNCIL (NMC)

Update for Nutrient Policy Working Group (2/7/17)

6th Meeting: 9/13/16
Springfield

7th Meeting: 12/6/16
Urbana

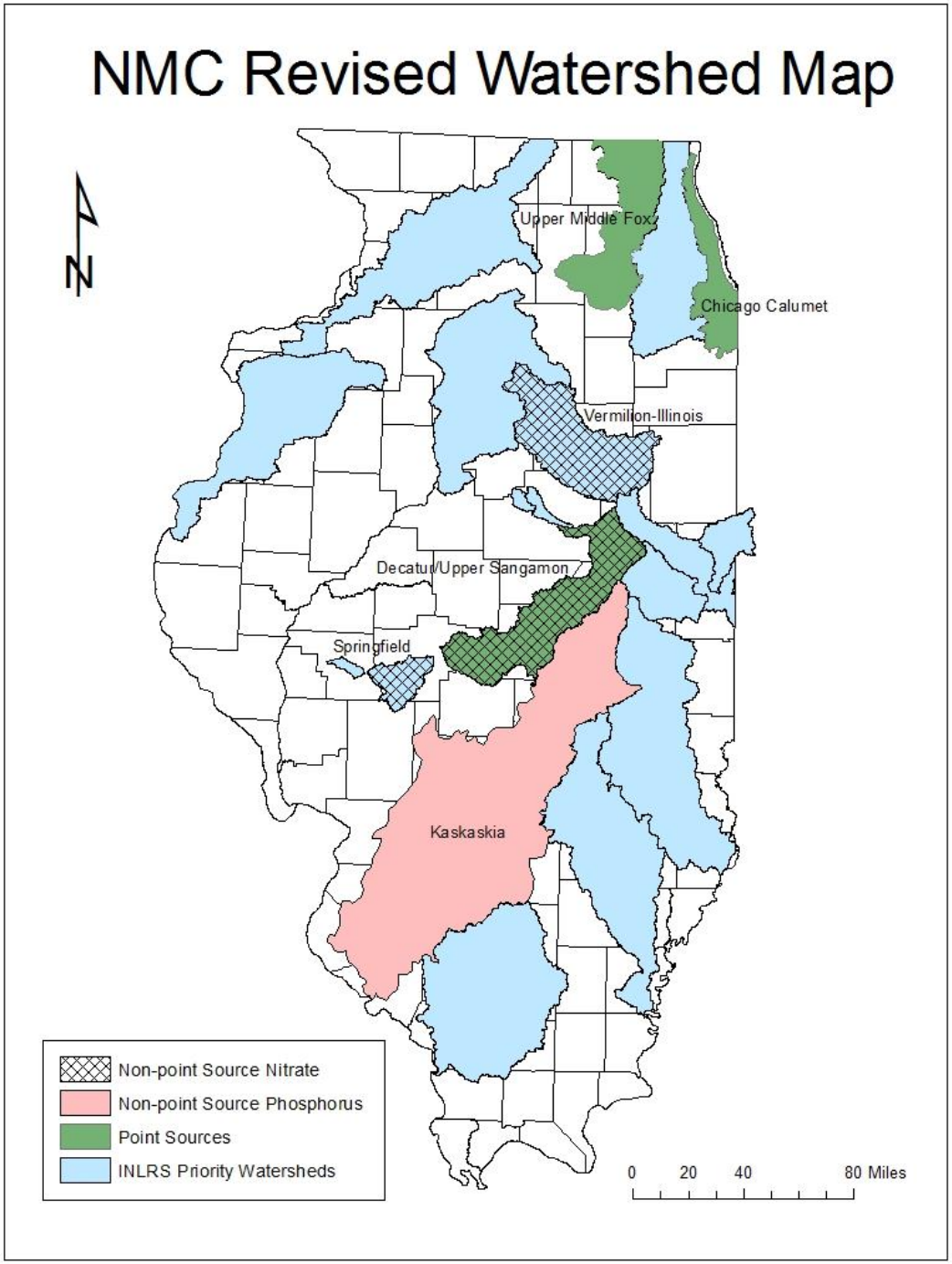
Overview

- Statewide Continuous Monitoring Nutrient Loadings Network – Super Gage Update
- **Where to go with the NMC Charge of Monitoring for "Local Water Quality Outcomes"**
- Next Meetings
- Above Stuff Discussed in NMC Biennial Report Submitted to IWRC on 1/27/17
- Q & A

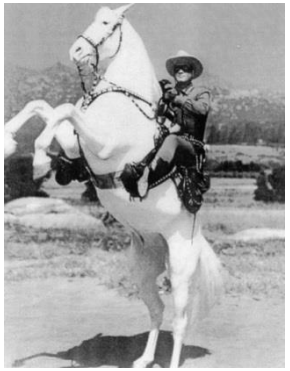
Grand Idea: Lets develop *Watershed Nutrient Monitoring Plans!*

- ***Watershed Nutrient Monitoring Plans*** would serve as a guide for current and new collection efforts.
- Need data in order to tell a story (e.g., show success).
- Did BMP implementation work to (1) reduce nutrients and (2) effectuate water resource quality change?
- Develop a template for what a ***Watershed Nutrient Monitoring Plan*** *should look like.*
- Pick a pilot watershed, meet with WQ and Biology partners, ID current programs, determine likely continuance, suggest new monitoring efforts, etc.

We picked the Vermilion (Illinois) River Watershed as a place to start with development of a ***Watershed Nutrient Monitoring Plan***



Hold your horses cowboy. I have questions!



- ***Who will ultimately develop the monitoring plans?***
  - Do we, the NMC, develop the plans?
  - Do we contract development of the plans out to someone, and we, the NMC, provide review and approval/blessing?
  - If contracted out, any idea what one might cost?
  - If contracted out, what are the potential funding sources?
  - Is the development of these plans a dumb idea to start with?
- ***Who will ultimately implement the monitoring plans?***

Challenges When it Comes to Documenting Local Water Quality Outcomes

- Where is the $100,000,000 check written out to the Policy Working Group to fund large-scale implementation of BMPs in NLRS identified Priority Watersheds? Did it get lost in the mail?
- Many variables exist (e.g., flow, habitat, nutrient concentration, temperature, extreme events) making it difficult to tease out whether or not nutrient reduction via BMP implementation is improving aquatic life (e.g., fish and macroinvertebrates).
- Years or even decades of monitoring are needed to document a true change or trend.
- Who has the overall responsibility to measure local water quality outcomes? The NMC, or local communities or agencies?
- Does the right hand know what the left hand is doing? NMC needs to do a better job of understanding what other NLRS Working Groups are doing (e.g., PWG, AWQPF, NSAC, Urban Stormwater, Performance Benchmark). This is where a fall workshop would be extremely advantageous!

Questions for You, the PWG!

- Lacking that $100,000,000 BMP implementation check, at this time, do you see the need to develop Priority Watershed Nutrient Monitoring Plans?
- Do we simply supplement existing monitoring activities in smaller watersheds where expanded BMP implementation is taking place (e.g., Lake Springfield, Evergreen Lake, Lake Bloomington, Fox River)?
- Is documenting nutrient load or chlorophyll *a* reductions good enough to tell a "local water quality outcomes" story? Or do we need to advocate for the extra time and resources necessary to tell that aquatic life *response* story as well?

Comments Received

- "Are you envisioning developing big, fat documents or are you just wanting to do the work? I'm reluctant to having you do separate plans for each priority watershed. You could only do this in a selective number of places. Maybe we need to generalize."
- "Lots of smaller watershed group efforts are going on in the state. Can we set up a process where NMC can offer or coordinate monitoring assistance at these locations?"
- "We already have lots of data (e.g., bugs, fish, habitat, chemistry) to make these determinations."
- "Does is make sense to defer the question? The change in biology would take a significant amount of time to capture. Worry about loads for now and defer the question of water quality outcomes to a later date."
- "If we knew what we wanted to ask, we could do the baseline now. We are struggling because we still aren't sure what questions we are trying to answer."
- "We should talk more about this at the NLRS Fall Workshop."

Final Take Home Messages from PWG

- Job #1 right now is monitoring nutrient loads leaving priority watersheds and the state of Illinois.
- No need to develop multiple, large-scale Priority Watershed Nutrient Monitoring Plans at this time. KISS (Keep it Simple Stupid)!
- Coordinate supplemental monitoring activity at existing watershed implementation projects.

Nutrient Monitoring Council Meeting: Vermilion Headwaters, Indian Creek, and Lake Springfield Projects

Daniel Perkins, Ph.D.

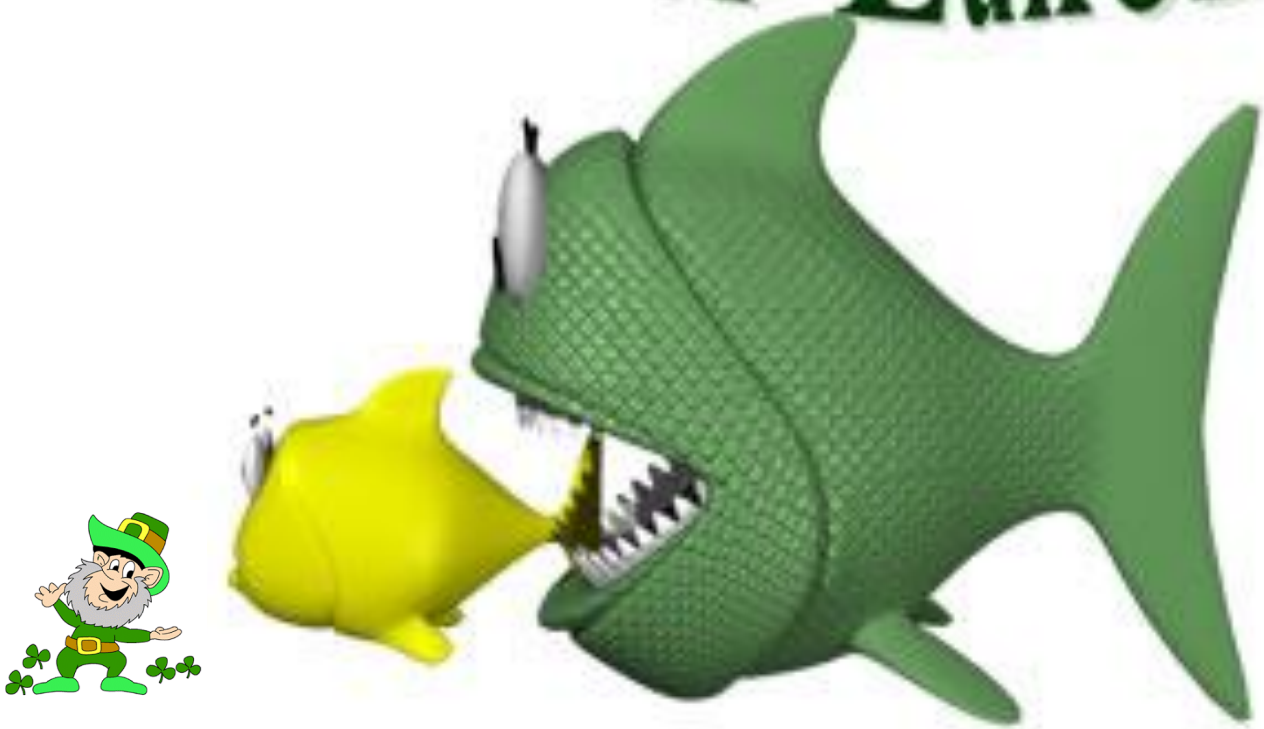
The Upper Macoupin Creek Watershed Partnership

Trevor Sample, Illinois EPA

American Farmland Trust
SAVING THE LAND THAT SUSTAINS US

Jennifer Filipiak
Kris Reynolds

Join Me For Lunch



BIENNIAL REPORT IMPLEMENTATION TABLES

ILLINOIS NUTRIENT LOSS REDUCTION STRATEGY | Improving our water resources with collaboration and innovation

Photo by Casey Stowers, Youth "Water Is…" Photo Contest

Status of NLRS Workgroups, Forums, and Councils

AGRICULTURE WATER QUALITY PARTNERSHIP FORUM (AWQPF)

Warren Goetsch

AWQPF Meetings:
May 22, 2015
Sep 22, 2015
Feb 23, 2016
May 17, 2016
Sep 27, 2016

Technical Subgroup Meetings:
Aug 26, 2015
Sep 21, 2015
Jan 26, 2016
Mar 29, 2016
Jun 14, 2016
Dec 8, 2016

2016 Outreach Activities (are still receiving input items)

	Number	Attendance	Example
Field Days	55	1,815	*Soil Health Field Day*
Workshops	197	2,938	*Water Testing Workshop*
Conferences	7	1,126	*Residue Management Conf*
Presentations	63	5,201	*"Three Fates of Nitrates"*
Total	**321**	**20,080**	

Knowledge of Nitrogen BMPs – NASS Survey Result

	% Not at all	% Slightly	% Somewhat	% Knowledge-able	% Very	Total % Somewhat to Very Knowledgeable
Four R strategy	10.7	13.1	22.9	31.3	22.0	76.2%
MRTN strategy	11.5	18.6	26.1	28.8	15.0	69.9%
Drainage water management	8.1	20.6	35.8	22.2	13.3	71.3%
Bioreactors	43.1	22.3	24.8	7.9	1.9	34.6%

Fertilizer Application Strategies for corn on tiles acres – NASS Survey Result

Fertilizer Application Strategies for corn on tiled acres (NASS Survey)	Acres in 2011	Acres in 2015
Fall / Winter nitrogen was applied with a nitrification inhibitor	3,240,000	2,970,000
Fall / Winter nitrogen was 50% or less of total Nitrogen	940,000	950,000
Fall / Winter nitrogen was 0% of total Nitrogen (all Spring applications)	2,480,000	2,660,000
Less than 50% FALL / WINTER applications, with remaining Nitrogen applications split between pre-plant and side-dress applications	1,730,000	2,220,000

Cover Crop acres – NASS Survey Result

Cover Crop acres	2011 Acres	2015 Acres
Corn / Soybean acres planted to cover crops on tiled ground.	220,000	490,000
Corn / Soybean acres planted to cover crops on non-tiled ground.	380,000	630,000
Acres where pattern tiling was installed.	310,000	110,000

Edge of Field Practices and perennial crops – NASS Survey Result

Edge of Field Practices and perennial crops	2015 Acres
Tiled acres draining into Bioreactors	(D)
Tiled acres draining into Constructed Wetlands	160,000
Tiled acres planted to perennial crops, including CRP plantings, hay, and miscanthus	230,000

(D) – Number withheld to avoid disclosing data for individual farms.

Wetlands, Buffers, Perennial/Energy Crops

FSA BMP (acres)

BMP (acres)	2011	2015
Cover	768	11,064
CRP Wetlands	57,463	45,790
CRP Buffers	145,813	279,534
Perennial/Energy/Pasture	985,531	1,524,379

IDNR CREP Easements-Statewide BMP (acres)

BMP (acres)	2011	2015
Wetlands	483	22,609
Buffers	202	17,893
Perennial/Energy	81	6,043

Illinois Natural Resource Conservation Service
Statewide Wetland Reserve Program/ Wetland Reserve Easements Program

	2011	2012	2013	2014	2015	TOTAL
Wetland Easements	19	12	8	7	3	49
Total Wetland Acres	1788	1420	469	305	396	**4378**

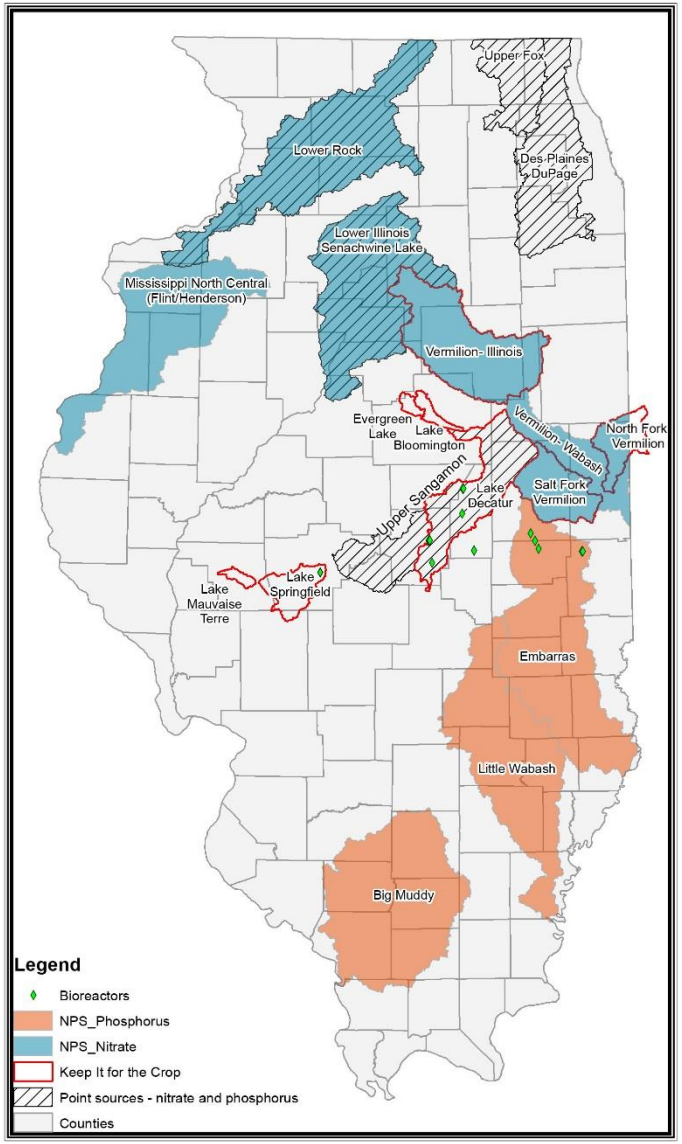
NRCS Program Information

Illinois Natural Resource Conservation Service: Environmental Quality Incentives Program (EQIP) 2009-2015	
Conservation Practice	Certified Amount (acres)
Nutrient Management	49,931.5
Cover Crops	80,658.6
Buffers	18.8
Residue and Tillage Management	22,387.5
Wetland Restoration	0.7

USDA Conservation Stewardship Program						
General Contract Totals	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Acres Obligated	165,416	229,815	188,731	399,024	214,557	260,172
Number of Contracts	221	334	251	558	277	327

Currently Illinois has 661 unfunded CSP applications.

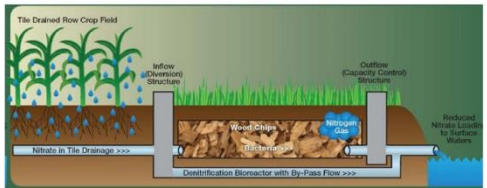
Location of Bioreactors in Illinois



ILLINOIS NUTRIENT LOSS REDUCTION STRATEGY

Bioreactor	HUC 8	AcresTreated
1	05120112	50
2	05120112	50
3	05120112	11
4	07140201	74
5	07140201	74
6	07140201	55
7	07140201	20
8	07140201	27
9	07140201	19
10	07130006	39
11	07130006	28
12	07130006	34
13	07130006	15
14	07130006	5
15	07130006	16
16	07130006	unknown
17	07130006	70
18	05120112	unknown
19	05120112	18
20	07130007	6

Note: Some locations contain multiple bioreactors



Illinois EPA Section 319 Grant

Illinois EPA Section 319 Grant		2002-2011			
AGRICULTURE	Acres	Nitrogen Load Reduction (lbs/year)	Phosphorus Load Reduction (lbs/year)	Total Suspended Solids Load Reduction (lbs/year)	Sediment Load Reduction (tons/year)
Conservation Tillage (329)	9,998	47,169	2,3691		21,461
Cover and Green Manure Crop (340)	3,924	14,827	1,190		955
Filter Strip (393)	8	1,360	725		567
Nutrient Management (590)					
Wetland Restoration (657)	936	5,028	2,103	248,227	1,542
TOTAL	-	68,384	27,709	248,227	24,525

Illinois EPA Section 319 Grant		2011-2015			
AGRICULTURE	Acres	Nitrogen Load Reduction (lbs/year)	Phosphorus Load Reduction (lbs/year)	Total Suspended Solids Load Reduction (lbs/year)	Sediment Load Reduction (tons/year)
Conservation Tillage (329)	734	3,913	2,005		1,798
Cover and Green Manure Crop (340)					
Filter Strip (393)	13,882	32,9813	167,170		106,748
Nutrient Management (590)	10,7061	109,915	54,325		36,522
Wetland Restoration (657)	464	2,760	1,668	619,968	6,868
TOTAL	-	446,400	225,168	619,968	151,936

Schedule of future AWQPF meetings

April 4, 2017

Status of NLRS Implementation Workgroups, Forums, and Councils

URBAN STORMWATER WORKING GROUP

Amy Walkenbach

Meetings:
Jul 20, 2015
Dec 11, 2015
Apr 19, 2016
Aug 8, 2016
Nov 15, 2016

2016 Outreach Activities (are still receiving input items)

	Number	Attendance	Example
Field Days			
Workshops			
Conferences			
Presentations			
Total			

Illinois EPA Section 319 Grant

Illinois EPA Section 319 Grant **URBAN**				2002-2011 Baseline			
	No.	Acres	Feet	N Load Reduction (lbs/yr)	P Load Reduction (lbs/yr)	Total Suspended Solids Load Reduction (lbs/yr)	Sediment Load Reduction (tons/yr)
Oil and Grit Seperator (10)							
Green Roof (11)							
Rain Garden (13)	24			189	47	63,011	
Street Sweeping (17)							
Critical Area Planting (342)							
Sediment Basin (350)							
Grade Stabilization Structure (410)	21			29,163	14,600		14,600
Recreation Area Improvement (562)							
Terrace (600)							
Tree Planting (612)							
Water and Sediment Control Basin (638)							
Urban Stormwater Wetlands (800)	6			1526	231	231,076	17
Bio-retention Facility (812)		0.10		70	9	5,991	
Bioswale (814)		2.66		2192	322	287,187	
Urban Filter Strip (835)		4.07		57	5	3,802	
Grass-Lined Channels (840)							
Infiltration Trench (845)	14			16	22	2,752	
Level Spreader (870)							
Porous Pavement (890)		4.48		124	12	16,188	
Rock Outlet Protection (910)	9						
Subsurface Drain (945)							
TOTAL	-	-	-	29,352	15,248	610,007	14,617

Illinois EPA Section 319 Grant

Illinois EPA Section 319 Grant **URBAN**				2011-2015			
	No.	Acres	Feet	Nitrogen Load Reduction (lbs/year)	Phosphorus Load Reduction (lbs/year)	Total Suspended Solids Load Reduction (lbs/year)	Sediment Load Reduction (tons/year)
Oil and Grit Seperator (10)	12			36	1	7,417	
Green Roof (11)		1		2	11	23,285	
Rain Garden (13)	42			184	87	74,649	
Street Sweeping (17)	1				1	4,730	
Critical Area Planting (342)		0.21				46	
Sediment Basin (350)	10			2,793	953	157,755	7,695
Grade Stabilization Structure (410)	209			68,555	34,274		34,284
Recreation Area Improvement (562)		6					
Terrace (600)			4000	1		267	
Tree Planting (612)		5		36	18		14
Water and Sediment Control Basin (638)			2000				58
Urban Stormwater Wetlands (800)	45			6,569	1,618	1,441,252	0.00
Bio-retention Facility (812)		0.00		0.00	0.00	0.00	
Bioswale (814)		2.5		0.00	0.00	0.00	
Urban Filter Strip (835)		6.6		242	47	59,217	
Grass-Lined Channels (840)		3.2		296	118	72,615	33
Infiltration Trench (845)	28			34	9	17,543	
Level Spreader (870)	7			124	27	19,120	
Porous Pavement (890)		10.96		426	41	52,492	
Subsurface Drain (945)				3		339	
TOTAL	-	-	-	79,301	37,206	1,930,727	42,084

Illinois EPA IGIG

Illinois EPA Illinois Green Infrastructure Grant Program (IGIG) 2015

	Number	Acres	Nitrogen Load Reduction (lbs/year)	Phosphorus Load Reduction (lbs/year)	Total Suspended Solids Load Reduction (lbs/year)	Sediment Load Reduction (tons/year)
Cistern(12)	1		25		3238	
buffer zone enhancement / installation(35)		0.2			15	0.0
Rain Garden(13)	11		11	2	1291	0.4
Tree Planting(612)		1			40	
Bio-retention Facility(812)		0.02			24	
Bioswale(814)		0.524	48	4	5804	0.1
Porous Pavement(890)		5.69	112	11	14964	
TOTAL	-	-	196	17	25,376	0.5

UPDATE ON PILOT GROUNDWATER ASSESSMENT IN HAVANA LOWLANDS

Nutrient Monitoring Council

Rick Cobb, P.G.
Deputy Division Manager
Division of Public Water Supplies
and Manager, Groundwater Section

Illinois EPA

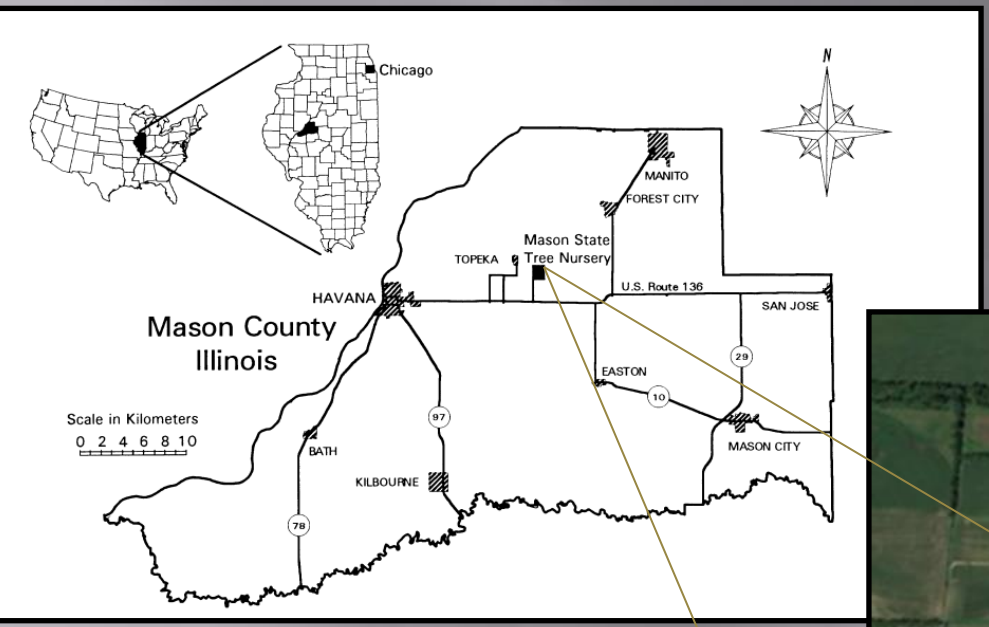
Section 106 Monitoring Grant

- This will help provide key beneficial NLRS information in assessing and managing nitrate in groundwater by:
  - Determining fluctuations in nitrate concentrations resulting from seasonal climatic changes or groundwater conditions such as dissolved oxygen or pH.
  - Assessing the amount of de-nitrification and source indication by conducting nitrogen gas and nitrogen isotope work.
  - Determining temporal nitrate concentrations resulting from agricultural practices such as irrigation or fertigation and possible best management practices that could mitigate these changes.

4 Primary Tasks Under the Project

1. The USGS has installed a 4-inch monitoring well 32 feet deep with a 10 foot screen.

   A nitrate monitoring sensor is installed to collect continuous nitrate data along with standard field parameters. Data collection frequency can range from 15 minute intervals up to 12 hours.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TOPEKA
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HAVANA
SAN JOSE
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EASTON
29
10
Scale in Kilometers
0 2 4 6 8 10
97
BATH
MASON CITY
KILBOURNE
78


850N
22.7 mg/L
3
State Tree Nursery
11.4 mg/L
14.0 mg/L
9.3 mg/L
© 2016 Google

Future location of continuous groundwater monitoring

Mason Tazewell Drainage Ditch

(Quiver Creek)

Mason State Tree Nursery

Well location

USGS
science for a changing world


GOODMAN
USGS
science for a changing world

USGS
science for a changing world


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science for a changing world

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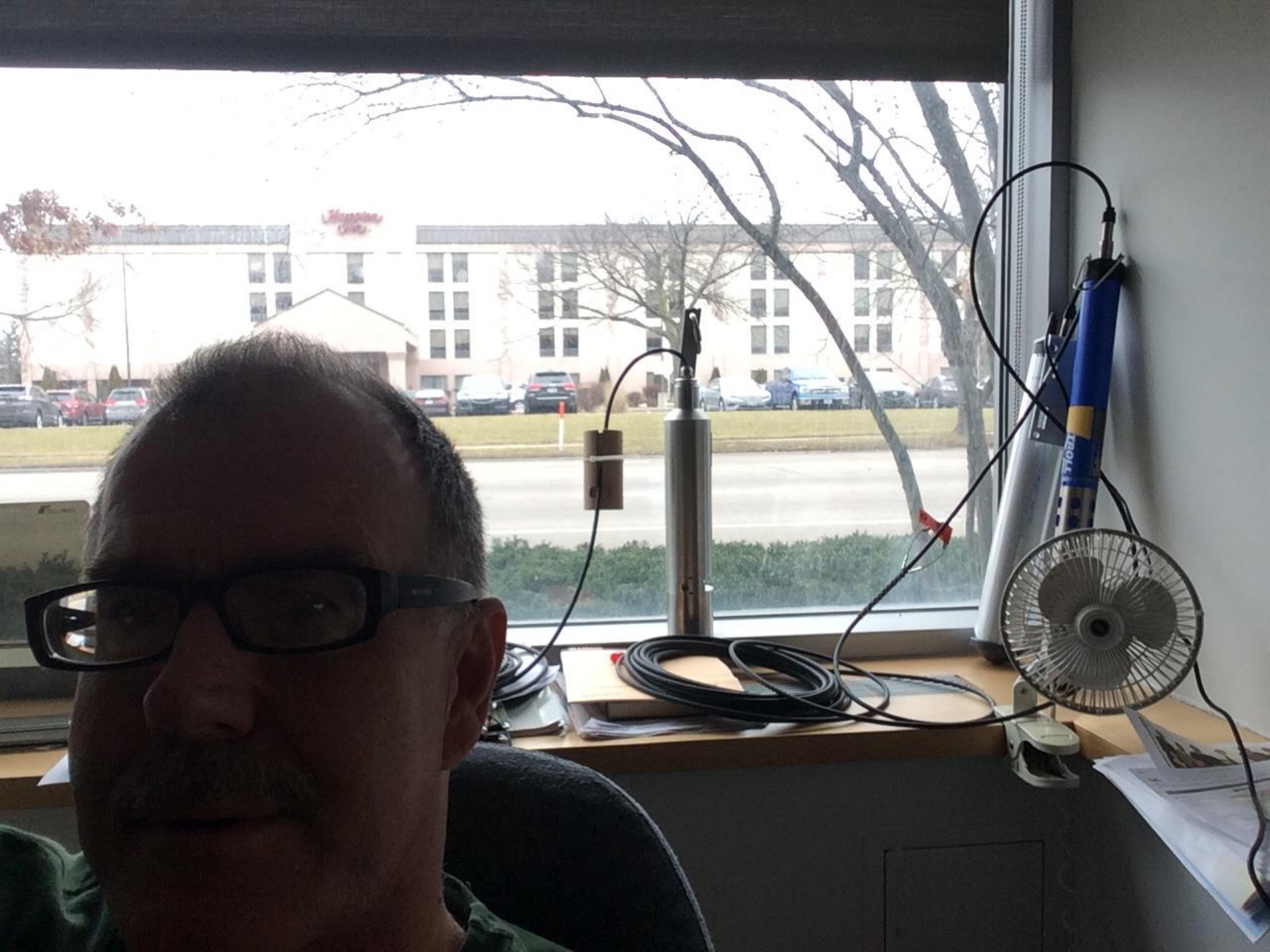

https://www.hydrovu.com/#/project-dashboard

HydroVu

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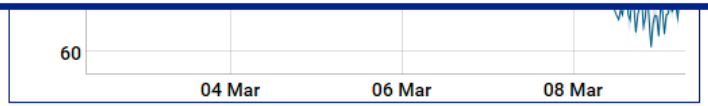
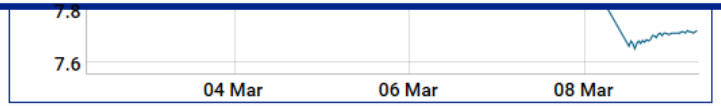
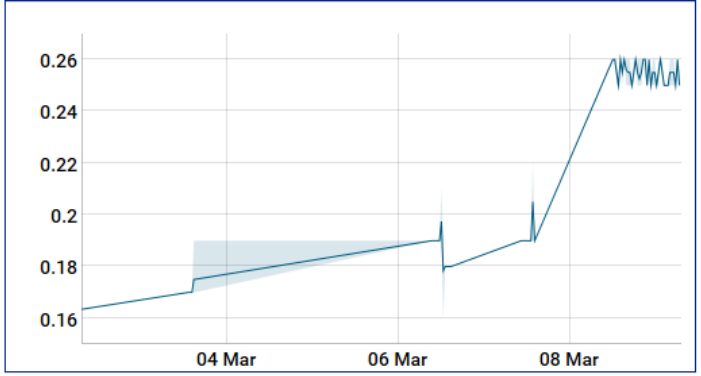
RICK.COBB@illinois.gov | logout

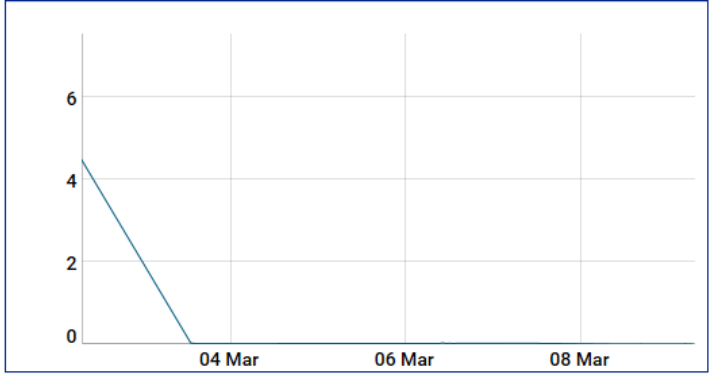




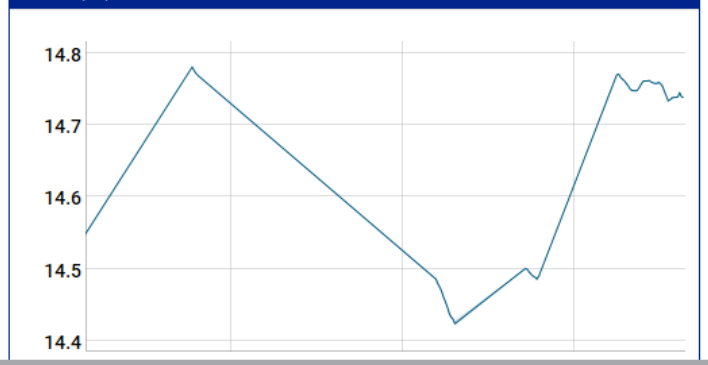
Salinity (psu)



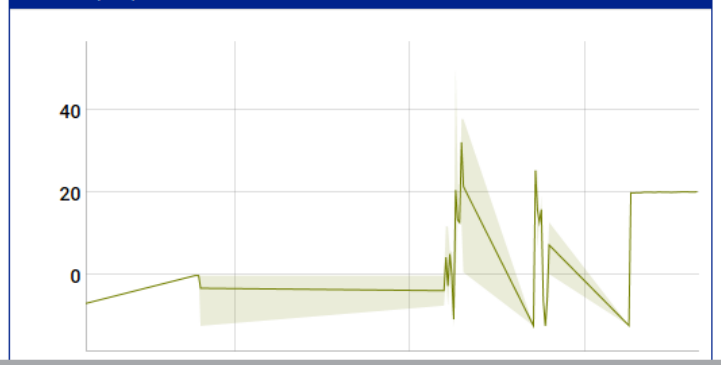
External Voltage (V)



Baro (psi)



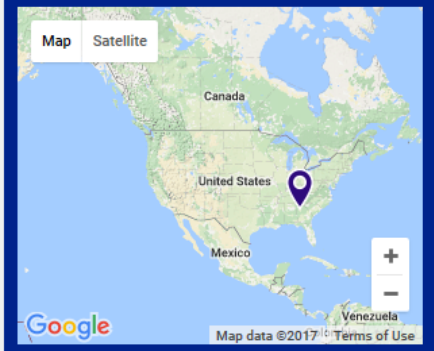
Nitrate (ppm)



Export CSV

Locations Filters

Map Filter — Reset Map



Projects — Clear Filter

All Projects

Labels — Clear Filter

All Labels

Locations

Location	
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default-16062658-Nitrate	
default-16062658-PulseIn	
default-496130	

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4 Primary Tasks Under the Project cont.

2. Data will be collected at the site for one year. Corroborating irrigation/fertigation records (e.g., Irrigation pumps being turned on and off and approximate pumping rates) in the immediate vicinity will also be obtained through cooperation with the IDA or other agricultural stakeholders.

Discrete standard water-quality collection of nutrient samples will be collected three times, once at the beginning, during the middle, and at the end of data collection. These discrete data will be used to compare with continuously monitored nitrate concentrations.

4 Primary Tasks Under the Project cont.

3. Nitrate data, field parameters, climate records of temperature and precipitation, and local irrigation pumping records will be analyzed statistically to determine possible causal relations between nitrate concentrations and these possible change-inducing conditions.

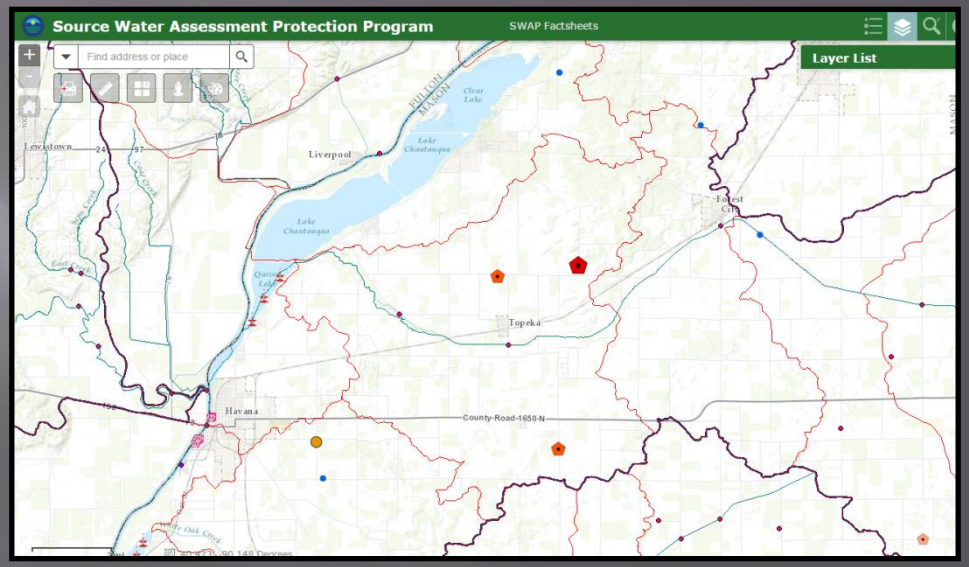
   Fluctuations in nitrate concentrations will be compared with nitrate data collected at the USGS supergage downstream (Illinois River at Florence).

4 Primary Tasks Under the Project cont.

4. Quiver Creek, a surface-water discharge has a drainage area of 197 square miles and a Q 7/10 of 14 cubic feet per second (cfs) (9,000,000 million gallons per day (mg/d)). The 14 cfs is onsidered groundwater discharge (baseflow).

   Baseflow groundwater discharge conditions will be determined from climate observation, discharge, and empirical observation.

   Nitrate will be measured in surface and groundwater at baseflow conditions. A survey measuring nitrate and temperature (as well as pH, DO, SC, and surface-water discharge) will be conducted longitudinally at Quiver Creek in the reach of anticipated groundwater discharge to determine where groundwater concentrations are affecting stream quality.



USGS Super Gage Network and Annual Report Development Updates

Nutrient Monitoring Council

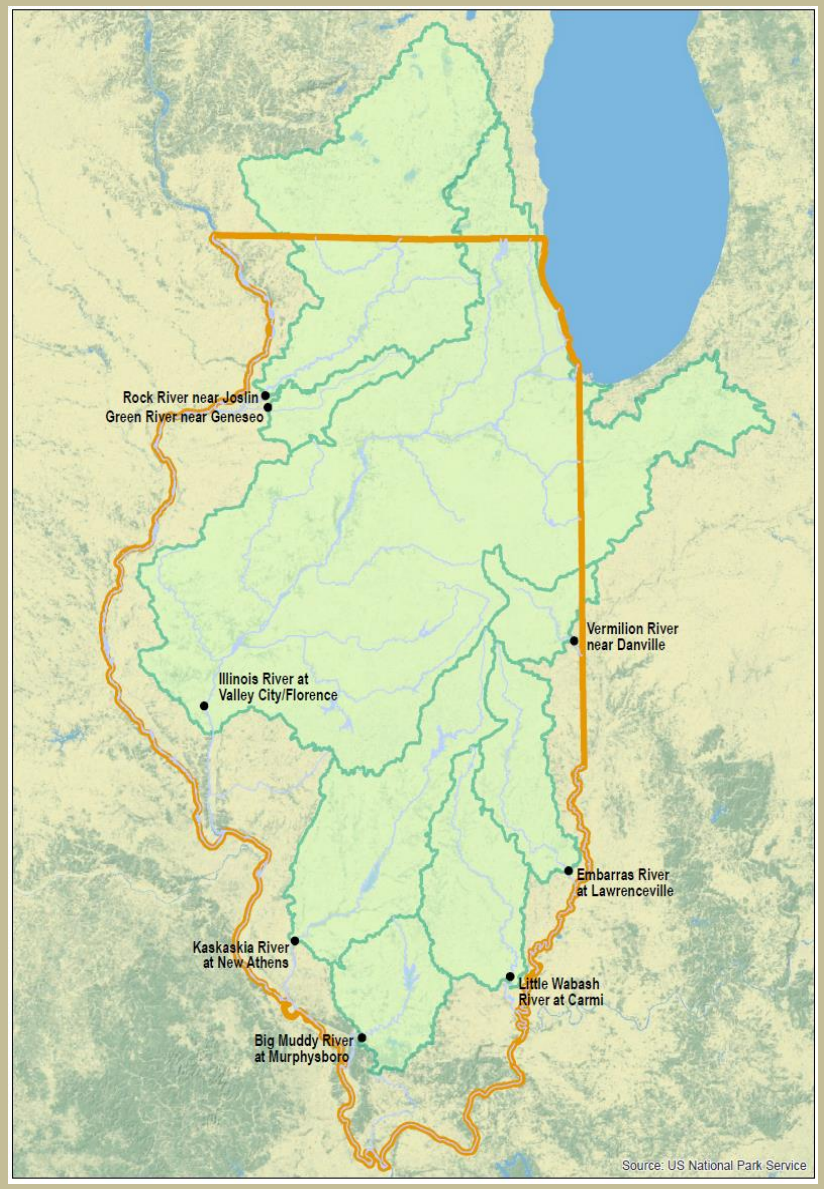
March 14, 2017

Springfield, IL

Kelly Warner, USGS

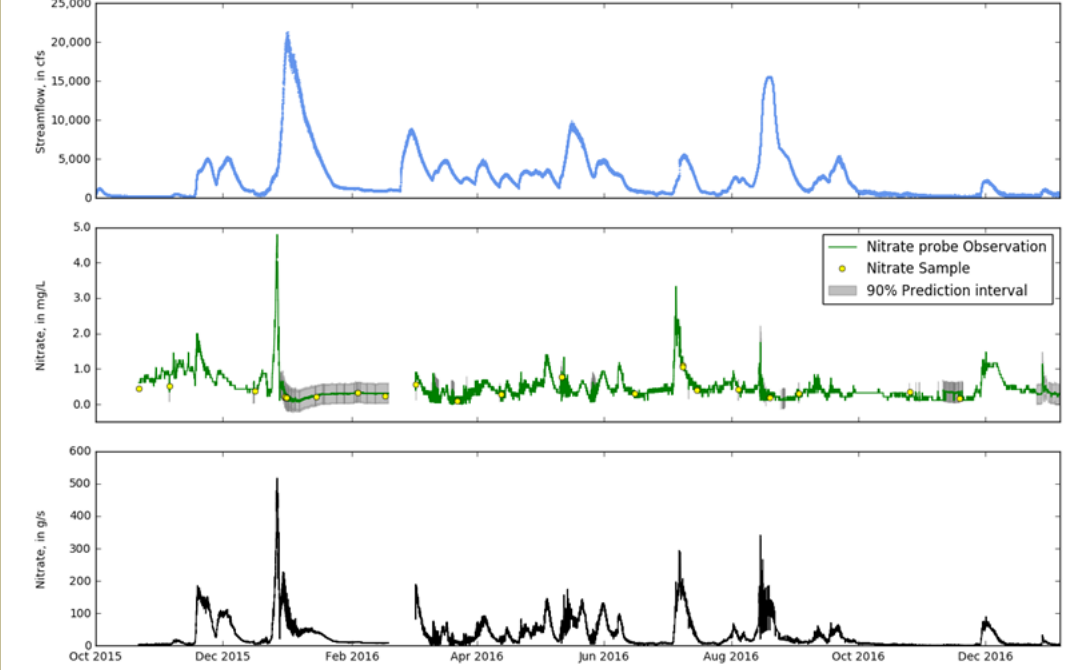
U.S. Department of the Interior
U.S. Geological Survey

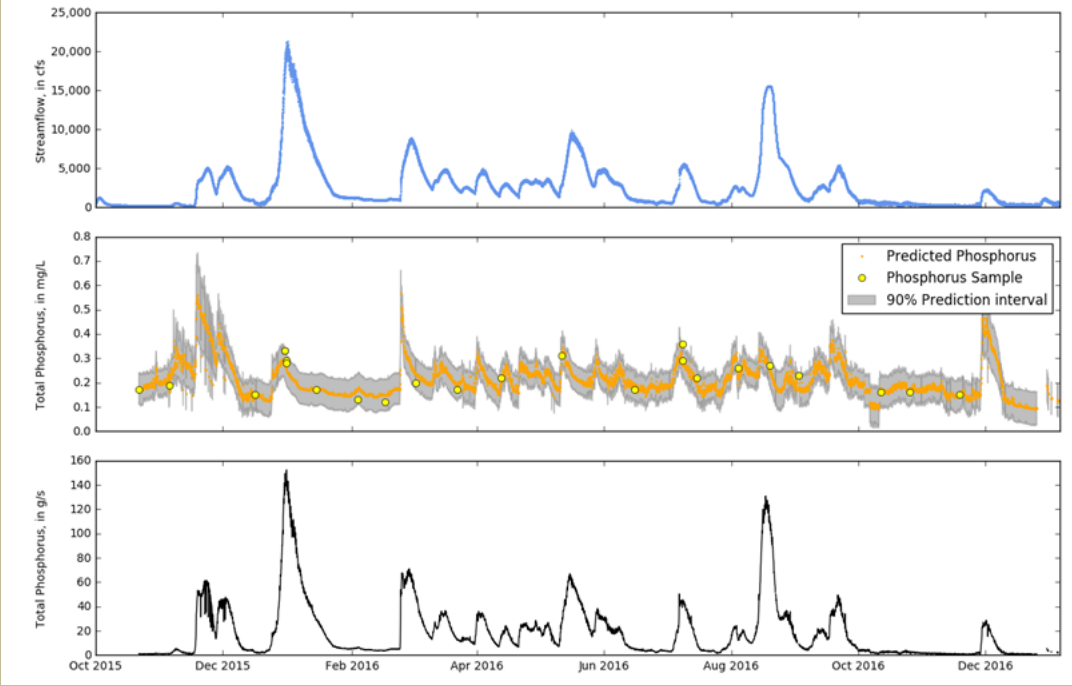
Annual Summary Report Update



Paul Terrio, Tim Straub, Marian Domanski, Colin Peake, David Fazio, Shawn Cutshaw and others

- Location
- Equipment
- Data Period
  - 2012-2016; most are fall 2015-Jan 2017
- Station Summary
  - Qualitative overview and equip conditions
- Data Summary
  - Graphs and data interpretation





USGS 05599490 Big Muddy River at Route 127 at Murphysboro, IL
(IEPA Site Number N-12)

Basins cover almost 75% of the land area in the State

Stream Name	Location	Station Drainage Area in Illinois only, in mi^2	Mean Nitrate-nitrite mg/l
Rock River	Joslin	3,973	3.6
Green River	Geneseo	1,000	4.1
Illinois River	Florence	22,651	4.3
Kaskaskia River	New Athens	5,189	0.89
Big Muddy River	Murphysboro	2,168	0.35
Vermilion River	Danville	1,199	6.9
Embarras River	Lawrenceville	2,348	4.6
Little Wabash River	Carmi	3,102	0.9

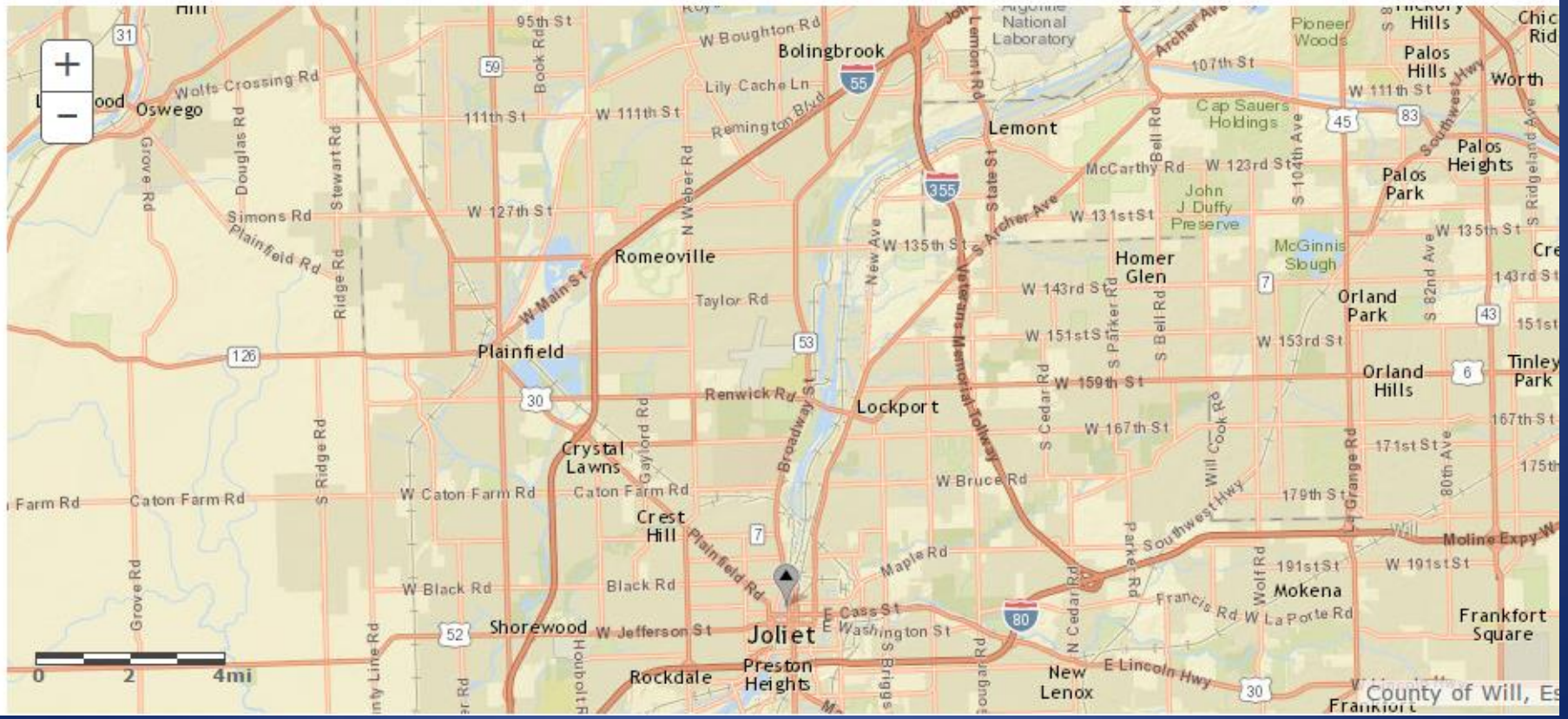
USGS science for a changing world

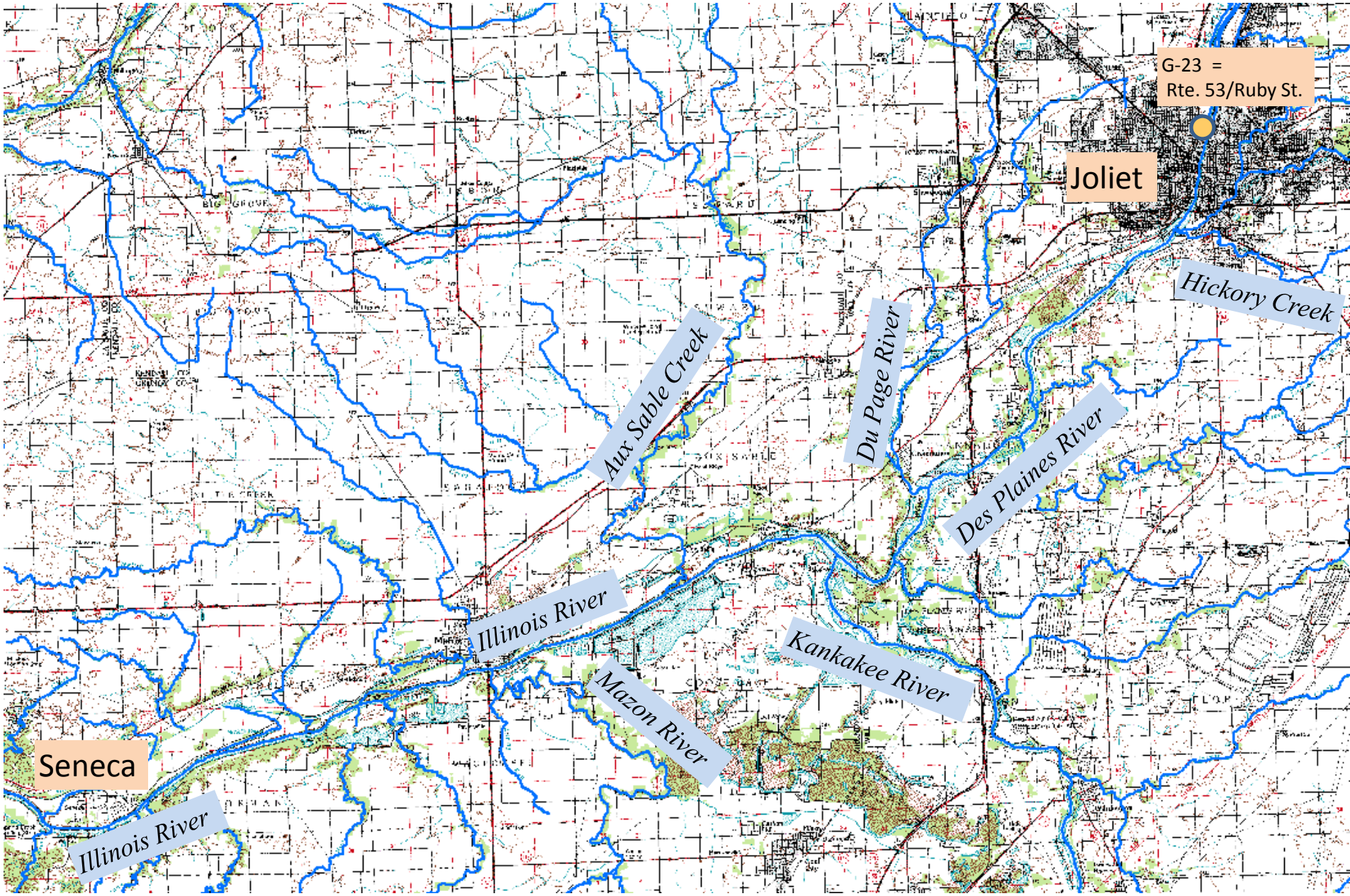
USGS 05537980 DES PLAINES RIVER AT ROUTE 53 AT JOLIET, IL

Available data for this site Location map

Will County, Illinois
Hydrologic Unit Code 07120004
Latitude 41°32'11", Longitude 88°04'57" NAD83
Drainage area 1,502 square miles
Gage datum 0.00 feet above NGVD29

Location of the site in Illinois




G-23 =
Rte. 53/Ruby St.
Joliet
Hickory Creek
Aux Sable Creek
Du Page River
Des Plaines River
Illinois River
Kankakee River
Mazon River
Seneca
Illinois River

Super Gage #9 Questions

- What's the specific goal?
  - *"Monitoring to capture nitrate-nitrogen and total phosphorus loads coming from the concentrated urban environment in Northeastern Illinois. Annual loading estimates would be calculated at this station (that encompass the Chicago River and Des Plaines River watersheds) to track the impacts of NLRS implementation such as point source controls, stormwater management, and other activities."*
- Des Plaines River at Rte. 53 in Joliet Selected
- Cost???
- How to Fund???

gofundme

Voila!

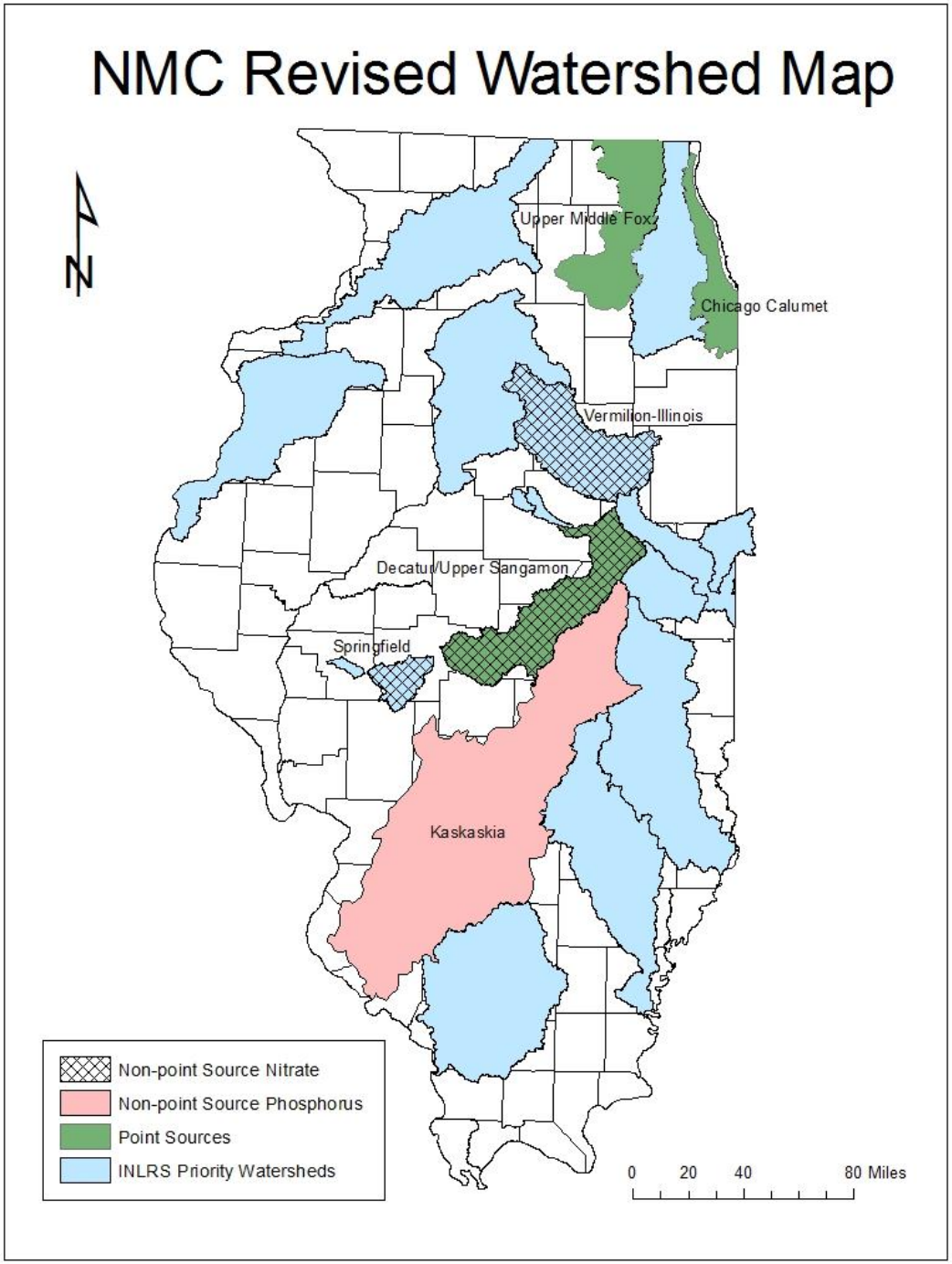
Settlement Agreement

- Environmental Orgs., MWRDGC, & Illinois EPA
- Continuous Monitoring at:
  - Joliet, Rte. 53, "Super Gage" on the Des Plaines River
    - *MWRD funded for D.O, Chlorophyll, and Nutrients*
  - Marseilles, Starved Rock, and Peoria Pools on the Illinois River
    - *Illinois EPA funded for D.O. and Chlorophyll*


Fall


Coffee Shop
Open

We picked the Vermilion (Illinois) River Watershed as a place to start with development of a ***Watershed Nutrient Monitoring Plan.***



Brainstormed what a *Watershed Nutrient Monitoring Plan* "Template" should look like.

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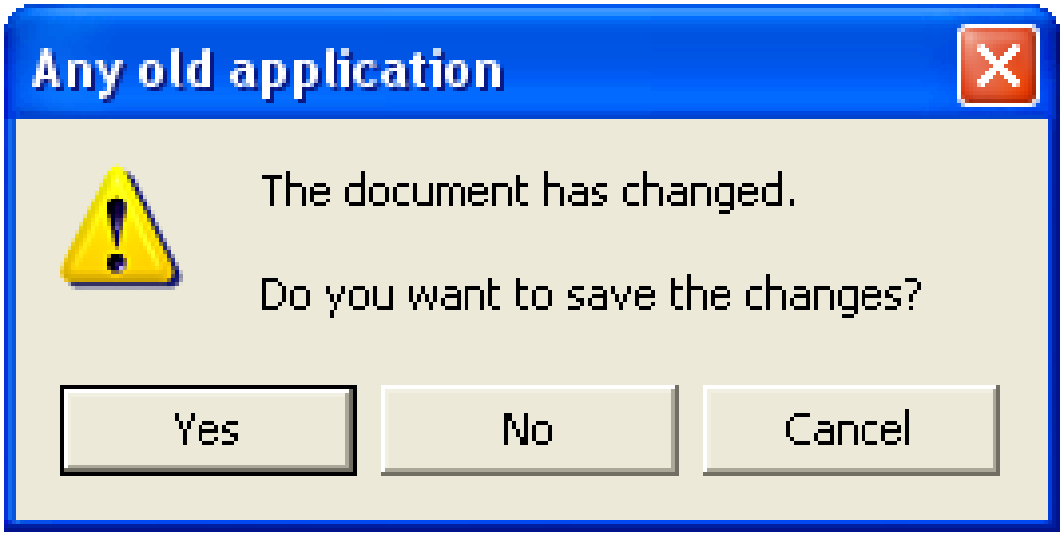
Google docs
Jong
Laura
Gregg
Kelly
Andy
Ann


Capn
Jim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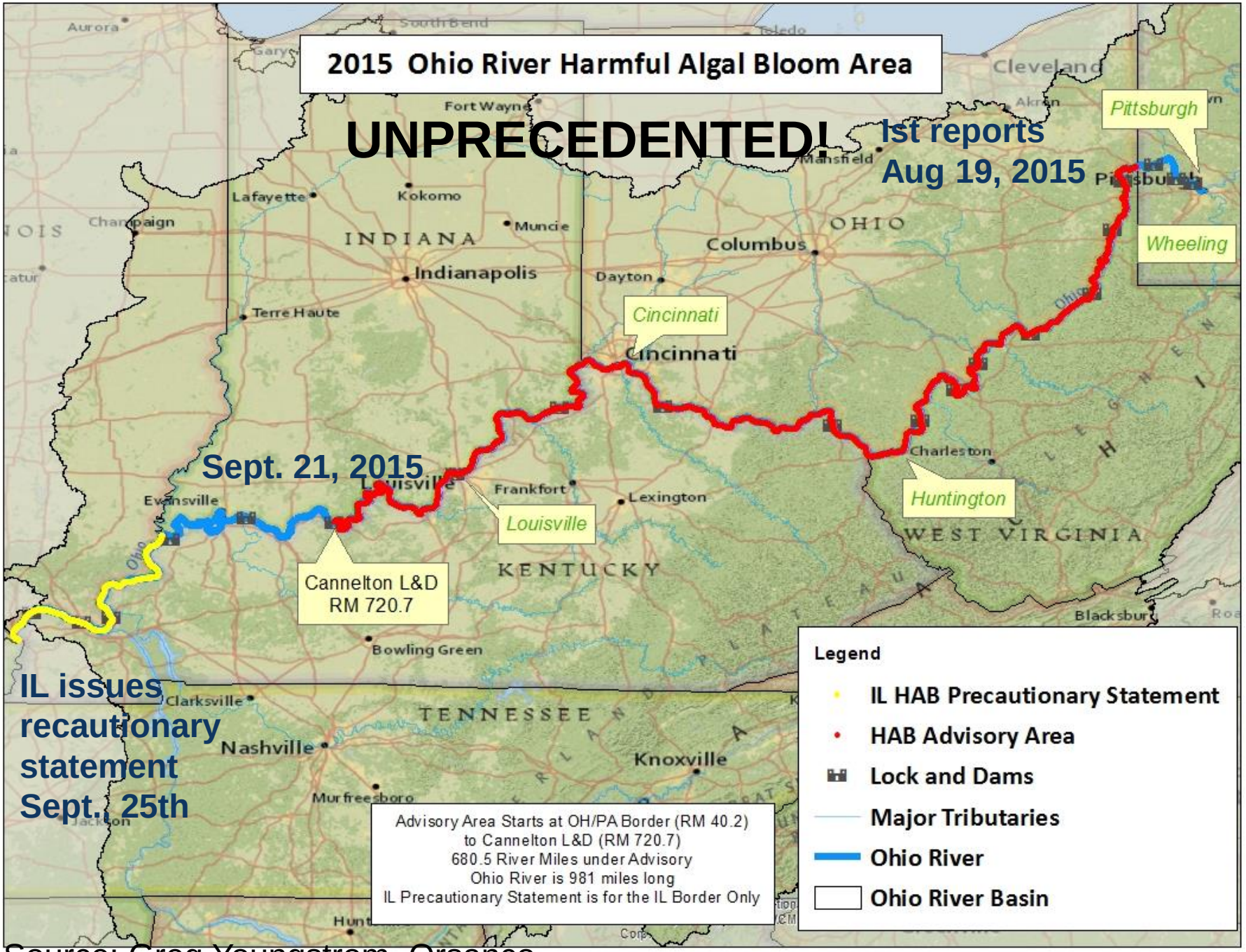
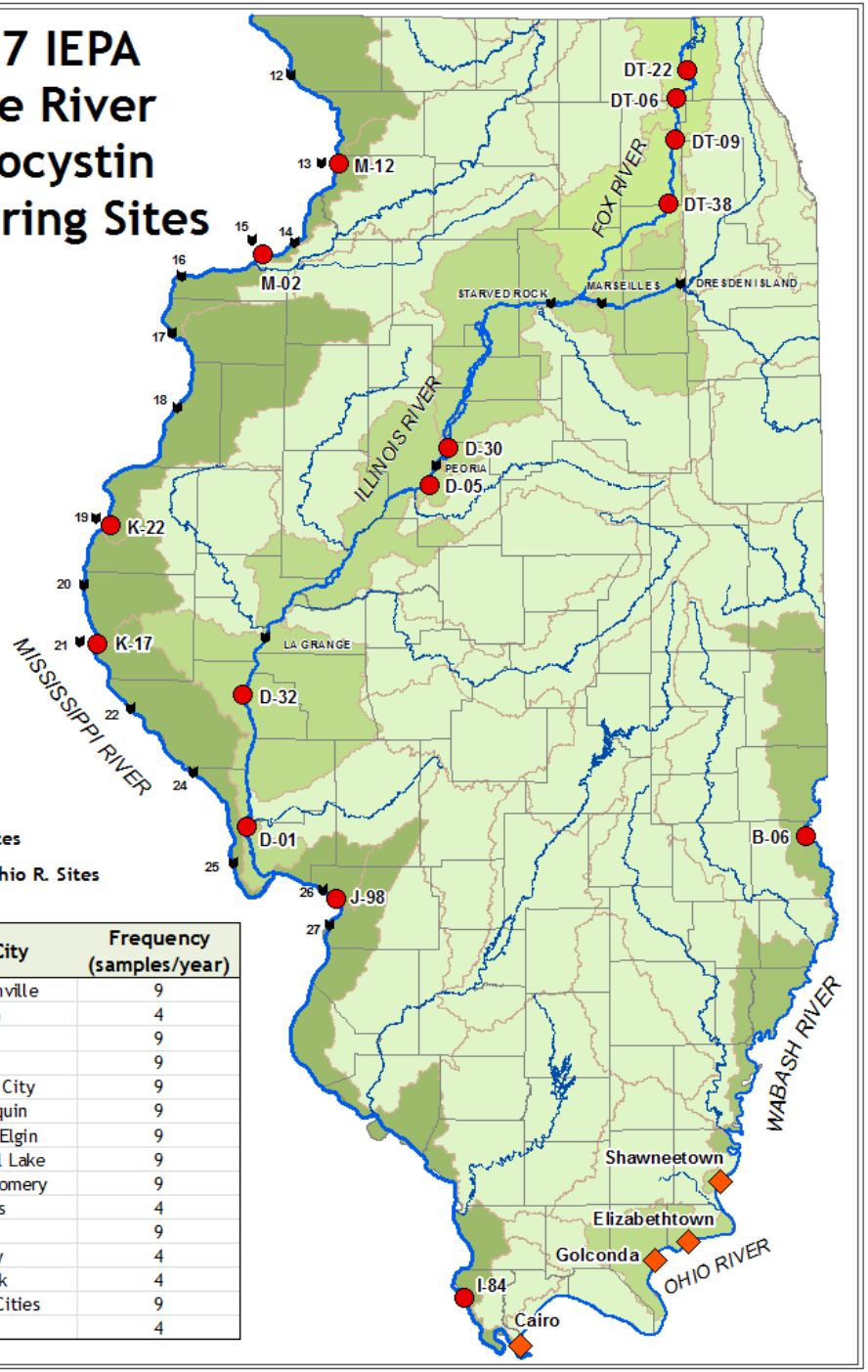
The document has changed.
Do you want to save the changes?
Yes
No
Cancel



Source: Greg Youngstrom, Orsanco

2017 IEPA Large River Microcystin Monitoring Sites



- Monitoring Sites
- Provisional Ohio R. Sites
- Lock & Dam

Site (N=15)	City	Frequency (samples/year)
B-06	Hutsonville	9
D-01	Hardin	4
D-05	Pekin	9
D-30	Peoria	9
D-32	Valley City	9
DT-06	Algonquin	9
DT-09	South Elgin	9
DT-22	Crystal Lake	9
DT-38	Montgomery	9
I-84	Thebes	4
J-98	Alton	9
K-17	Quincy	4
K-22	Keokuk	4
M-02	Quad Cities	9
M-12	Fulton	4

“Next Steps” Summary
(NMC March 14, 2017)

- Summarize today’s action items
  - A.
  - B.
  - C.
- Future topics for the June 6, 2017 meeting?
- Other (TBD)

Next NMC Meetings

- *June 6, 2017 (C/U)*
- *????? (S/field)*
- *????? (C/U)*


Happy
St.Patricks
Day!