Policy Working Group

March 9, 2020

Illinois EPA

Photo: Layne Knoche

Introductions

Eliana Brown, Illinois Extension

ILLINOIS
NUTRIENT LOSS
REDUCTION STRATEGY

Committee Members

Point Source
Rick Manner Kay Anderson Nick Menninga Albert Cox Randy Stein Alec Davis
Agriculture
Liz Hobart Jennifer Tirey Lauren Lurkins Jean Payne Megan Dwyer Dick Lyons
Steve Stierwalt Kris Reynolds Julie Armstrong Emily Bruner
Stormwater
Mary Beth Falsey
Drinking Water Supply
Ted Meckes
University/Technical Assistance Providers
Dennis Bowman Laura Christianson
Environmental Groups
Albert Ettinger Catie Gregg Cindy Skrukrud Ashley Maybanks
Government
Chris Davis Trevor Sample Kristi Jones Michelle Bloomquist Gene Barickman

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Committee Charge

Policy Working Group Charge:

- Explore funding opportunities
- Identify needed legislative initiatives
- Network with the appropriate people and groups
- Identify adaptive management adjustments and update the strategy

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Opening Remarks

Sanjay Sofat, Illinois EPA

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Future of USGS Funding

Trevor Sample, Illinois EPA

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Hypoxia Task Force Meeting Update

Kristi Jones, Illinois Dept. of Agriculture
Trevor Sample, Illinois EPA

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Mississippi River
Gulf of Mexico
Watershed Nutrient
Task Force

HYPOXIA TASK FORCE MEETING UPDATE

February 3-5, 2020

Washington D.C.

FEDERAL WATER SUBCABINET

- David Ross, USEPA Assistant Administrator for Water, gave the Federal Water Sub-cabinet response to a letter sent from the Mississippi River Basin States asking for assistance on various issues.
- Mr. Ross suggested taking the HTF to the next level, and putting the "Task" back in Task Force.

HTF WATER QUALITY REPORTING METRICS

- Lori Sprague, United State Geological Survey, presented the recommendation made by the Water Quality Trends Working Group

- Partnering with National Great Rivers Education Center in Alton, Illinois to conduct the analysis

What metrics?	When?	Across what time period?	Which water quality parameters*?	How?
• Load • Concentration	• Annually • Spring	Multiple periods: • HTF Baseline (1985-1996) to 2017 • 10 year: 2007-2017 • 20 or 30 year: 1987- 2017 or 1992-2017	• Nitrate • Total Nitrogen • Total Phosphorus • Dissolved Phosphorous • Orthophosphate • Sediment • Turbidity	WRTDS: Weighted Regressions on Time, Discharge, and Season
* Not all sites will have data for all water quality parameters	Note: The choice of trend method reflects the workgroup's decision to account for streamflow/precipitation changes and to evaluate significance and uncertainty. Trends will be parsed into the amount of change attributed to trends in streamflow versus changes in watershed management, such as changes in point or nonpoint sources.			

STATE PROGRESS AND OPPORTUNITIES/EXPERIENCES

- Iowa
- Arkansas
- Illinois
- Indiana
- Kentucky
- Louisiana
- Minnesota
- Mississippi
- Missouri
- Ohio
- Tennessee
- Wisconsin

HYPOXIA TASK FORCE PUBLIC MEETING FEBRUARY 4, 2020

- Communications Update-Anna Wildeman, USEPA Principal Deputy Administrator, Office of Water
  - Efforts underway at USEPA to better communicate Hypoxia Task Force and State's efforts.
  - Quarterly Newsletter
- USDA Update-Matt Lohr, Chief, NRCS
  - NWQI, MRBI, RCPP initiatives
  - Discussed CART and other new tools being employed by staff

HYPOXIA TASK FORCE PUBLIC MEETING FEBRUARY 4, 2020

- Water Quality Trends Working Group Update-Lori Sprague
- Actions and Outcomes in Implementing State Nutrient Reduction Strategies
  - States were grouped according to topic; Illinois presented with Iowa to discuss "Deployment of staff to plan, prioritize, engage partners in priority watersheds"
  - Trevor discussed the role of the U of I Extension Watershed Coordinators
    - Podcasts were a big hit!
  - Public Comments
    - Michelle Perez, American Farmland Trust
      - Discussed AFT's soil health case studies, with one being in Illinois

EXECUTIVE SESSION

- Dr. Steven Thur, National Oceanic, and Atmospheric Administration
  - Discussed Hypoxic Zone forecasting model
- SERA-46 discussed research being conducted
  - States had the opportunity to offer future research topics
- Coordinating Committee
  - Nonpoint Source Measure Report to Congress will be published at the end of 2020. State will have the opportunity to provide updates.
  - Discussed Water Sub-cabinet response to State's letter.
  - Mr. Ross suggested forming working groups to address each topic

WORKING GROUPS

- WQ Monitoring (Trevor Sample, State Co-Chair)
- Research (Kristi Jones, State Co-Chair)
- Adoption of Innovative BMPs
- Ecosystem/Social Metrics
- Communications
- Funding, Traditional and Non-Traditional
- Challenges Faced on Mitigation

- Short-term working groups, will report back with progress at next Hypoxia Task Force Meeting this fall

HYPOXIA TASK FORCE MEETINGS

- Meeting agendas and presentations
- https://www.epa.gov/ms-htf/hypoxia-task-force-meeting-agendas-and-related-information

- Next meeting planned for fall 2020 in Northwest Arkansas

Communications Subgroup Update

Trevor Sample, Illinois EPA

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Communications Subgroup Update

- Letters and hardcopies of 2019 Biennial Report delivered to Illinois Senate and General Assembly on February 3, 2020
- We were informed that in the future we are to use an online portal for submitting reports to the Capitol.
- Policy Working Group will need to discuss continued printing of hardcopies of future biennial reports.

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Communications Subgroup Update

- NLRS “Common Message” presentation has been completed.
- This presentation will replace the previous common message and will be place on the NLRS website side-bar in pdf format.

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Communications Subgroup Update

- Corrections needed to Table 5.7 in the 2019 Biennial Report

***Table 5.7.** Feasibility studies and optimization studies submitted by major facilities (~~222~~ 216 total)*

Optimization

~~146~~ 122 Permits to be issued requiring optimization study	~~122~~ 22 Issued permits awaiting optimization study	72 Correct Optimization studies submitted

Feasibility

~~146~~ 111 Permits to be issued requiring feasibility study	~~111~~ 21 Issued permits awaiting feasibility study	84 Correct Feasibility studies submitted

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AWQPF Meeting Update

Kristi Jones, Illinois Dept. of Agriculture

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Review BMP Tracking Sources

Summary

- Trevor Sample reviewed the sources for tracking BMPs listed in the NLRS.
- The group agreed to continue using the NASS Survey and to seek additional data sources where possible.
- Potential data sources:
  - Farm Service Agency cover crop data
  - Illinois Fertilizer & Chemical Association survey

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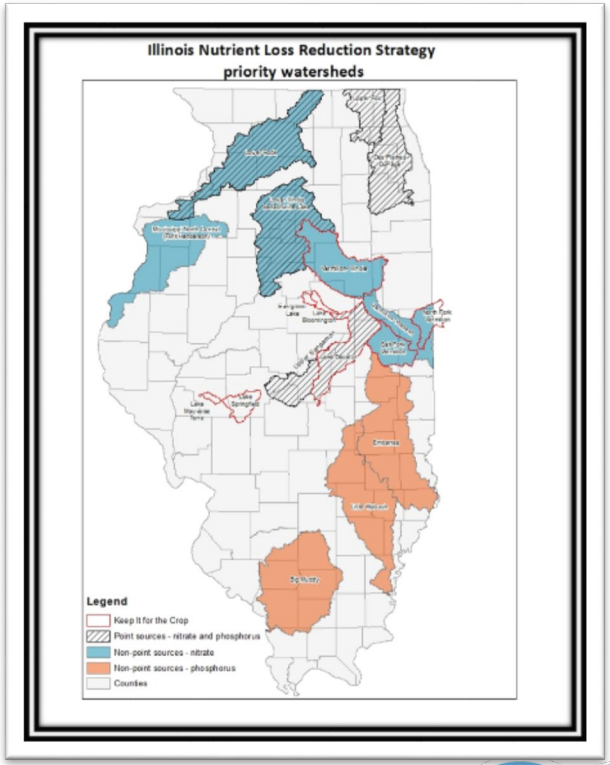
Mapping of Filter Strips in TP Priority Watersheds

Summary

- Discussed the Iowa mapping project and the possibility of a similar project in Illinois.
- NREC is currently pulling together a group of researchers who could do this work.
- Illinois could launch a pilot mapping project in one of the priority watersheds and scale up from there.



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Additional Implementation Scenario Development

Summary

- Agreement in process between IEPA and University of Illinois will occur once funding is received from USEPA.
- Implementation Scenario development will be conducted by Dr. Reid Christianson.
- Anticipated start date March/April 2020.

Trevor will speak more about this effort later in this meeting.

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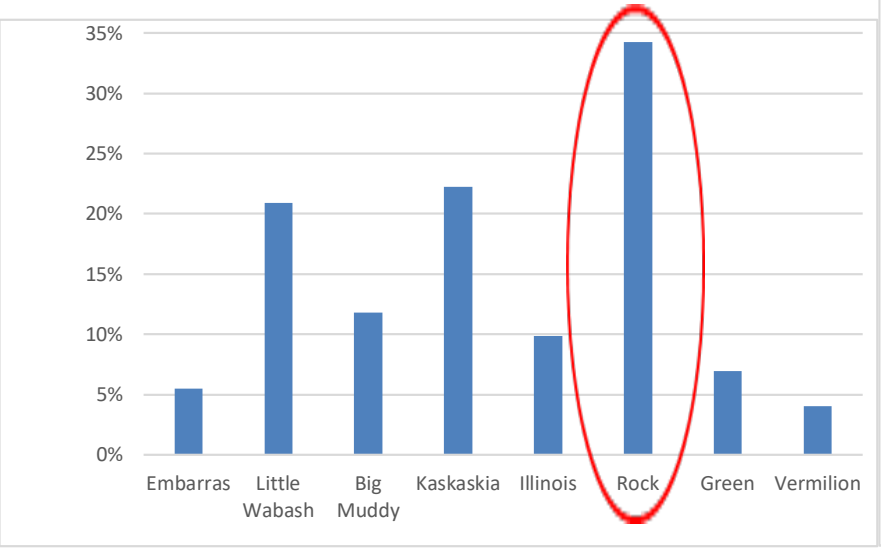
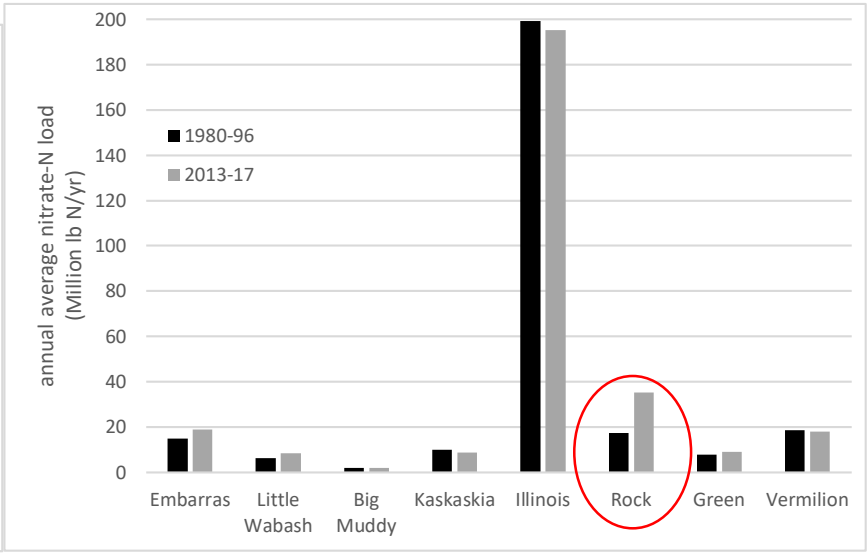
Rock River Watershed Nitrate Load

Summary

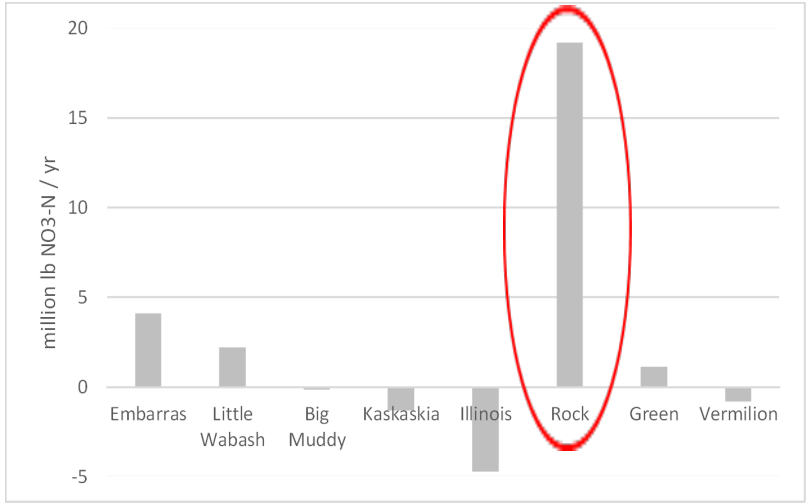
- Discussed the increase in nitrate load for 2013-2017 shown in the Science Assessment Update.



% Changes in water flow from 1980-96 to 2013-17 for major rivers in Illinois



Nitrate-N Load Estimates for Major Rivers in Illinois 1980-96 and 2013-17

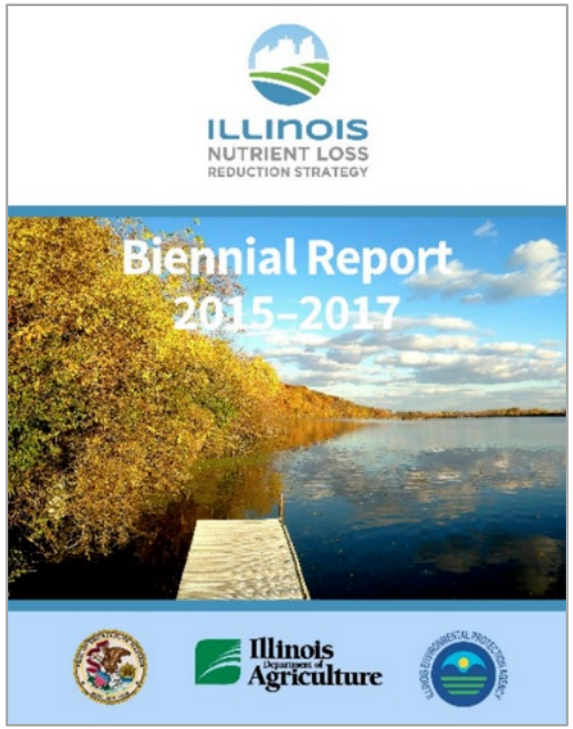


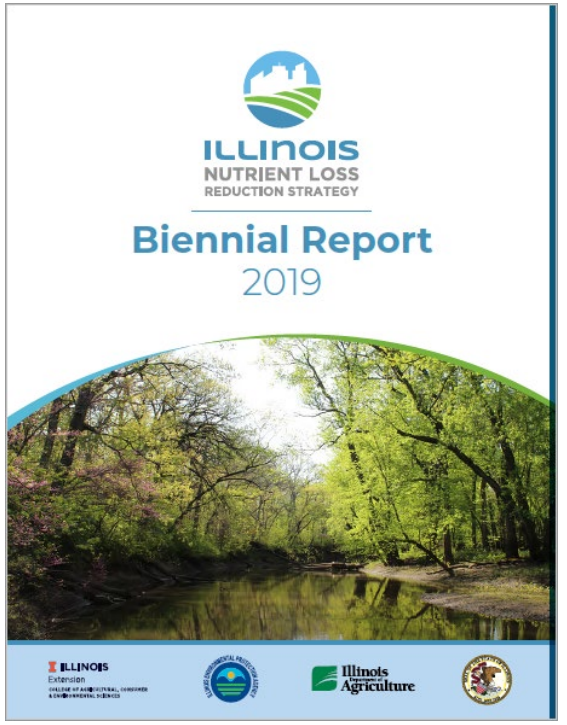
Changes in Nitrate-N Loads for Major Rivers in Illinois 1980-96 to 2013-17

Biennial Report Discussion

Summary

- 2019 Biennial Report Agriculture chapter longer than the 2017 report.
- AWQPF members agreed that it was better to include all the information in the report rather than move information to an appendix.





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Next Steps

- Farm Service Agency will work on a press release to inform producers that they are accepting cover crop data until July 15th.
  - Forum members will share the information with producers to encourage reporting.
- The goal is to increase reporting accuracy.

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NREC Research Priorities

Julie Armstrong, NREC

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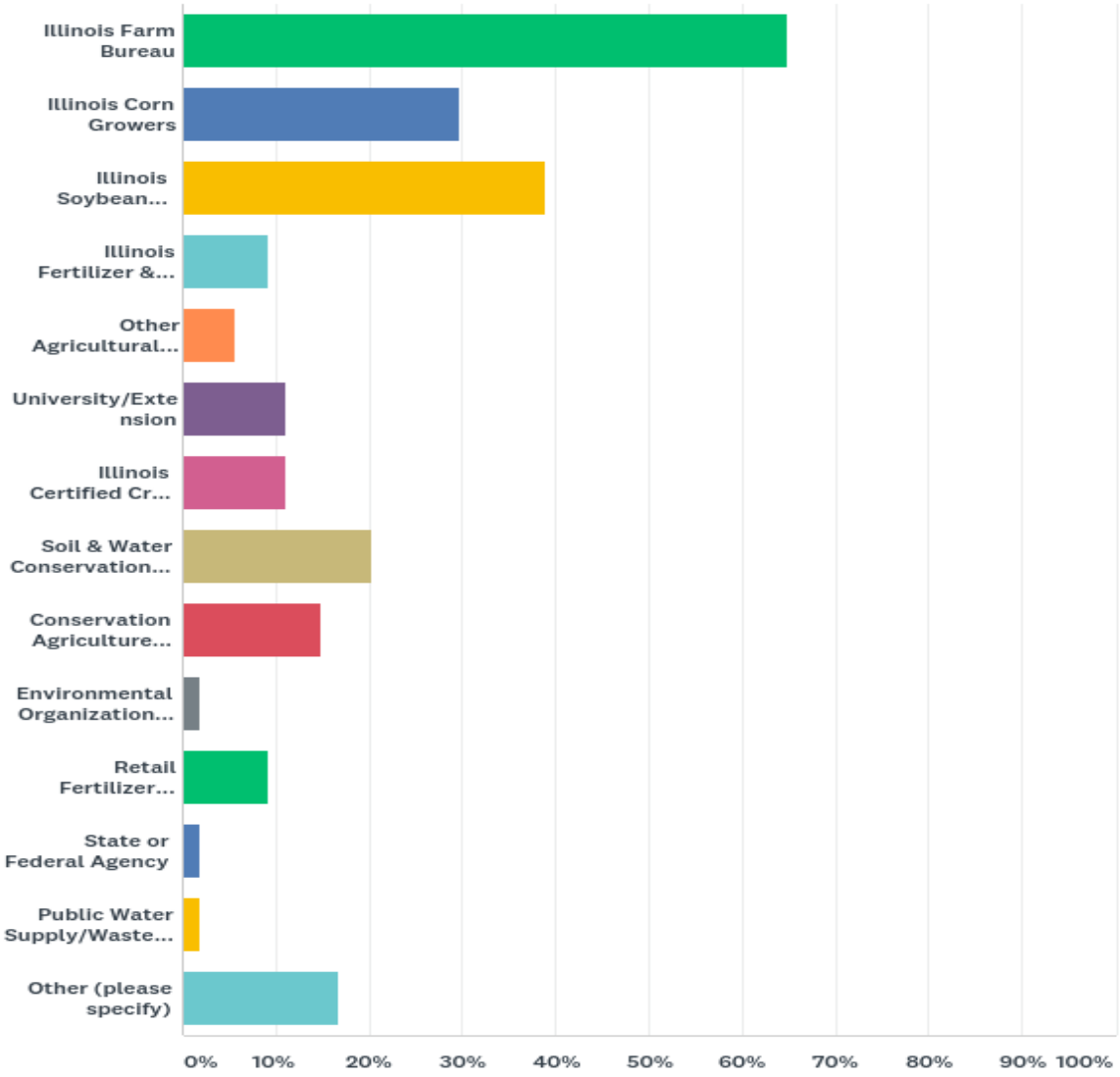
Illinois NREC 2020/21 Research Priorities

March 2020

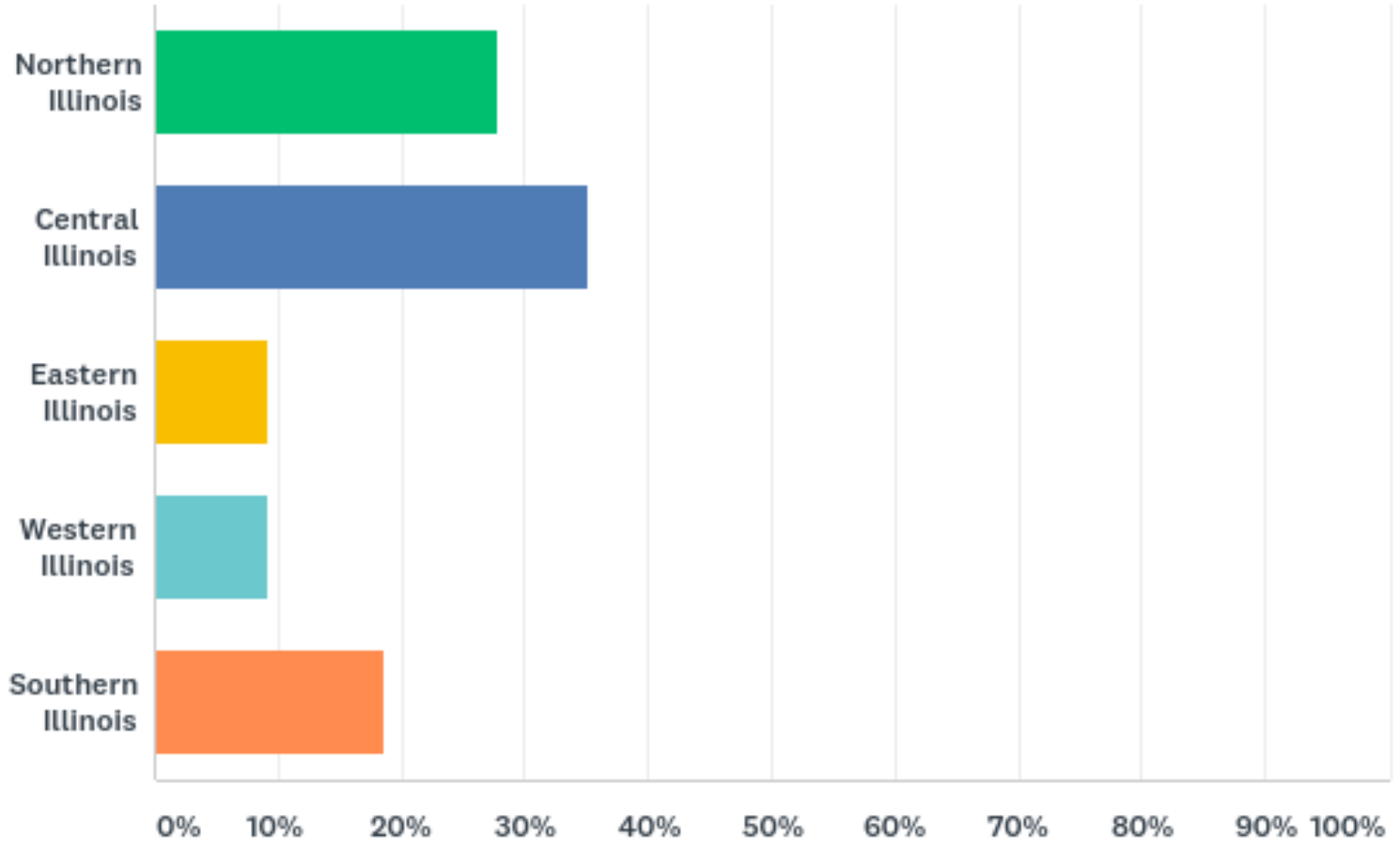
2021 RFP Priority Process

- Review all ongoing NREC projects
- Send survey to key stakeholders
  - Sent 1/22
  - Received 67 responses
- Survey attendees at NLRS Biennial Meeting
- Survey attendees at Research Forum

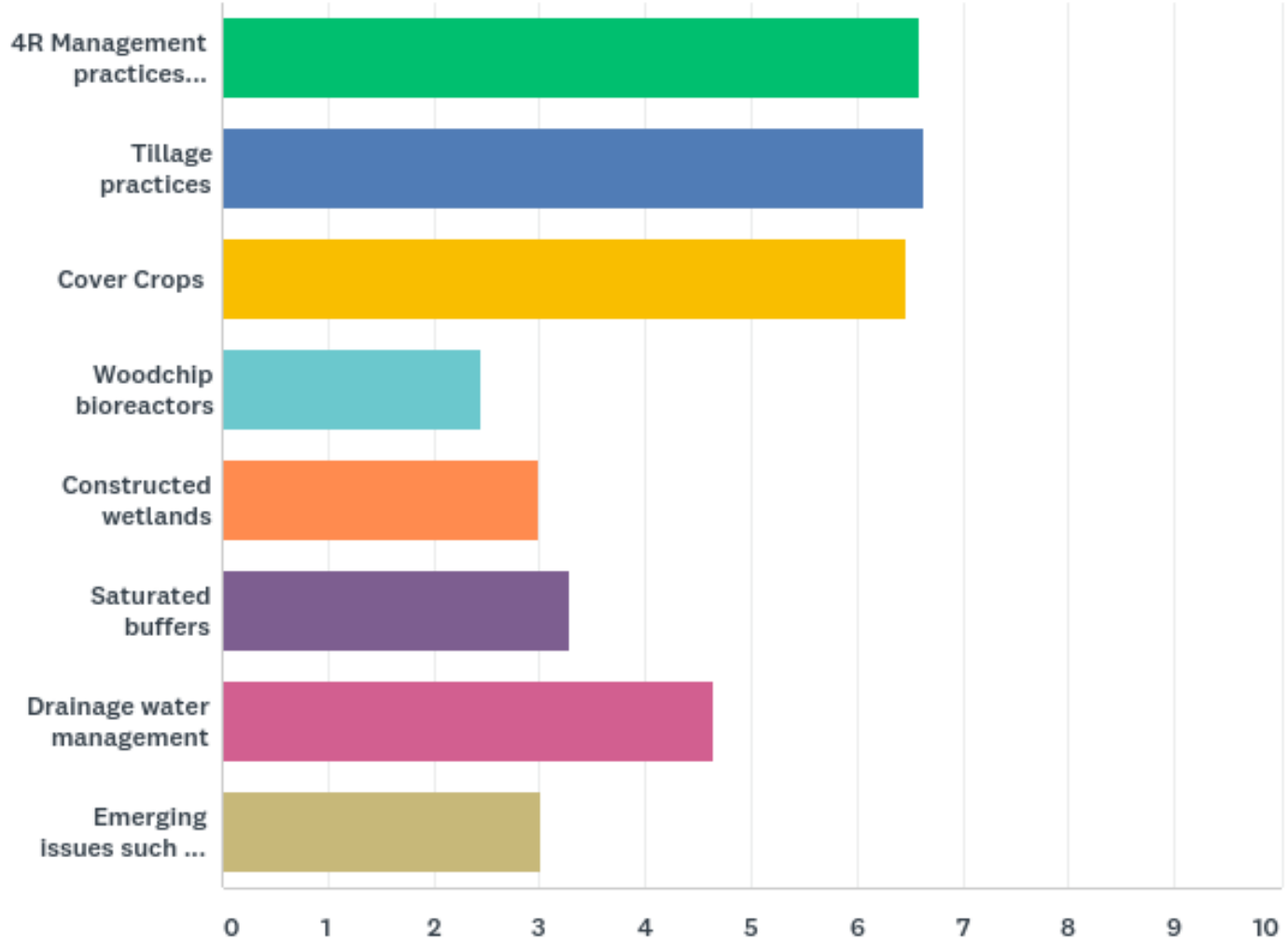
Demographics of Survey Respondents



Geographic Distribution of Responses

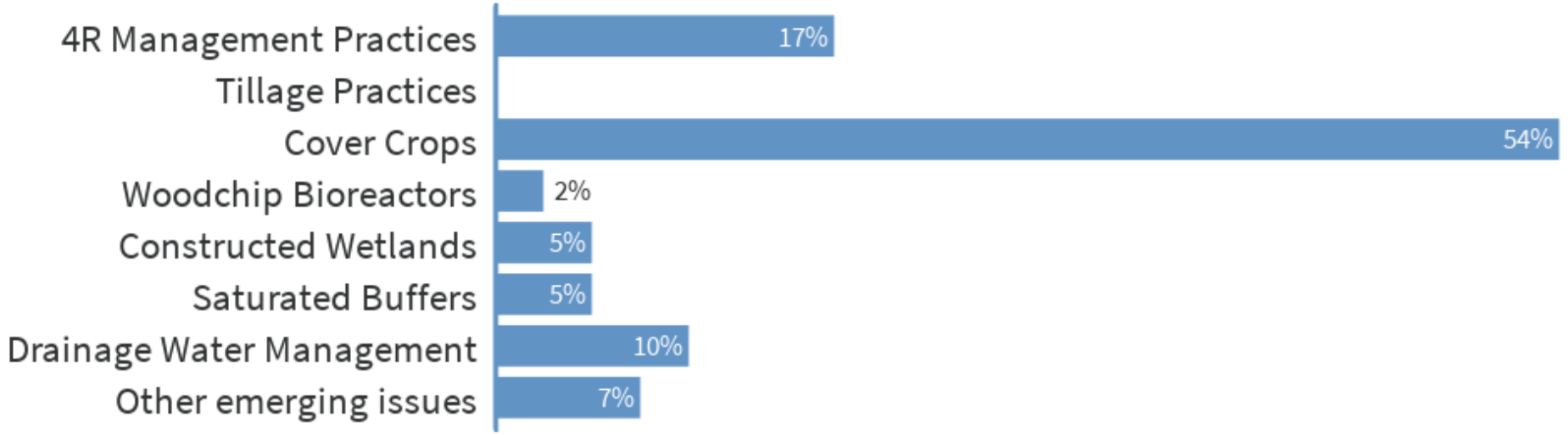


Most of the work being done on nutrient issues can be put into several broad categories. As you think about these categories please rank them based on your belief of their relevance and their ability to impact nutrient concerns in the state.



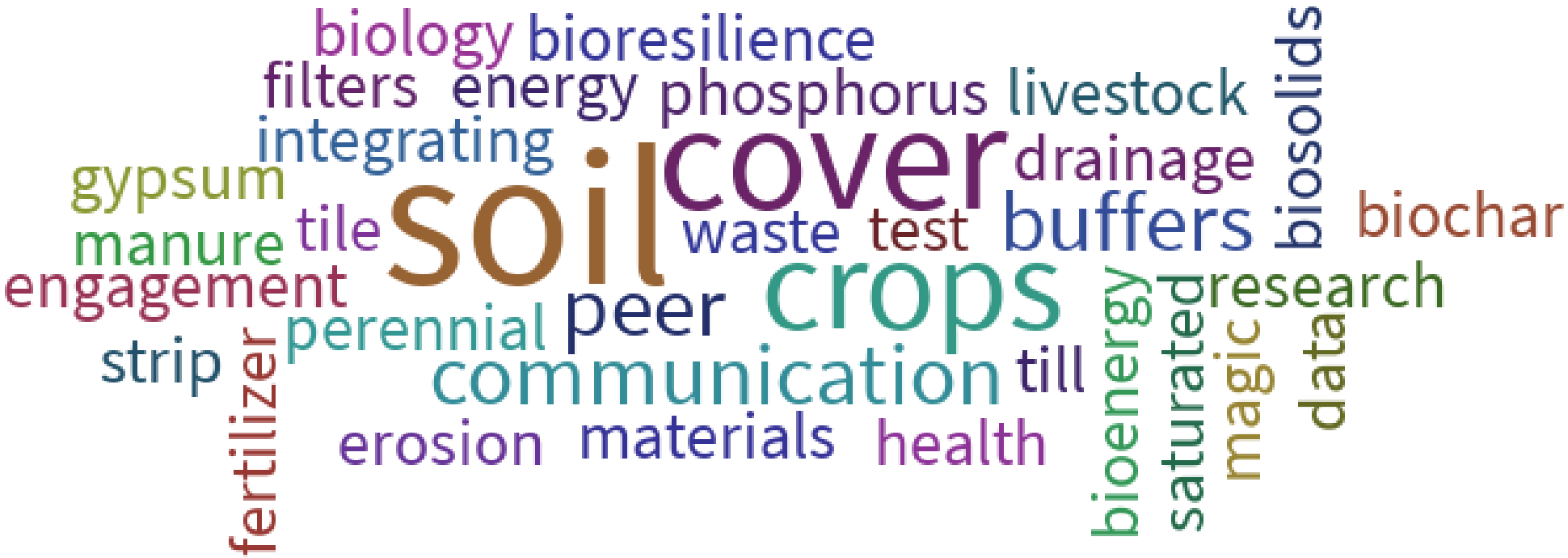
From NREC Forum

Which of these practice categories do you believe will have the greatest ability to impact nutrient loss in Illinois?



What practices need more research in 2020 and beyond? (NREC Forum)

What practices need more research in 2020 and beyond? (NLRS Meeting)



NREC's Ongoing Priorities

- Projects that advance the science of products and practices that increase the efficiency of nitrogen and phosphorus use while maintaining productivity goals.
- It is expected that the results of such projects will be shared with other scientists by publishing in peer-reviewed scientific journals.
- We also expect the results to be widely distributed to farmers and crop advisors via meetings, news releases, and electronic media in a manner
  - that effectively promotes and
  - assures implementation of the derived conclusions or best management practices.

Phase II Research

- Much of this research will need to be multidisciplinary, with multiple sites and using a systems approach.
- Priority will be given to those projects that demonstrate a multidisciplinary approach and collaborate with researchers from other universities or entities.
- Economic Cost/Benefit Analysis:
  - research proposals that include an annual economic analysis OR
  - stand-alone project that utilizes data from other NREC-funded projects in order to conduct the economic analysis.

2020/21 Research Priorities

- Continue studies testing the impact of N management systems on efficiency of N use.
  - Maintain statewide distribution of work on optimum N rate to meet the needs of the MRTN.
  - Evaluate the efficacy of combinations of (4R's) source, place, rate and time of application on N efficiency.
- Cover Crops: Evaluate the economics, feasibility, water quality impacts and best management practices of growing cover crops to address nitrogen and phosphorus loss as well as crop productivity. Proposals should address all aspects of cover crops from crop selection, seeding and grazing through crop termination and subsequent mineralization and nutrient release.
  - Cover Crop systems following soybeans and ahead of corn to maximize corn production and minimize nutrient losses.
  - Engineered cover crops/Cover crop options beyond cereal rye.
- Evaluate the agronomic and environmental benefits of reduced tillage/strip till/erosion control and the placement and timing of nutrient applications throughout the entire state
- Phosphorus – Continue studies testing the impact of Phosphorus management systems on efficient Phosphorus usage, the role of legacy Phosphorus, as well as placement and timing of Phosphorous applications in corn and wheat.
- Investigate the cause(s) of increased nutrient loads in the Illinois and/or Rock River watersheds identified in the latest NLRS Biennial Report.
- NREC is also very interested in research projects that go beyond the "known" into more innovative (novel, inventive, original) and forward-looking research.

Funding Timing Reminder

	RFP Issued	Proposals Due	Research Committee Review	Council Approval	Contract Begin Date	Contract End Date	Mid-Year Report Due	Final Report Due	45 day - Final Budget
OLD	1-Aug	1-Oct	Nov	Dec	1-Jan	28-Feb	8-Jul	10-Feb	14-Apr
NEW	1-Mar	1-May	July	August	1-Oct	30-Nov	1-May	15-Jan	15-Jan

Proposals due 5/8/20 to sgolovay@illinoisnrec.org

BREAK

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Fall Covers for Spring Savings Program (FCSS)

Emily Bruner and Kris Reynolds, American Farmland Trust

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Fall Covers for Spring Savings

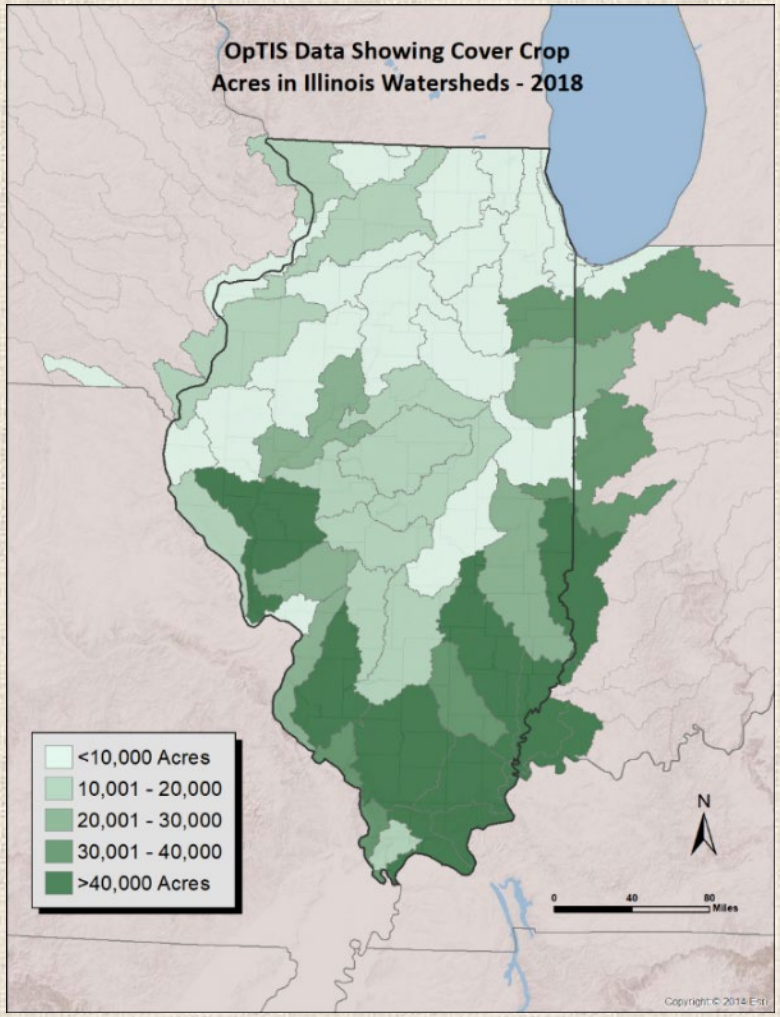
COVER CROP PREMIUM DISCOUNT PROGRAM

Kris Reynolds
Midwest Deputy Director

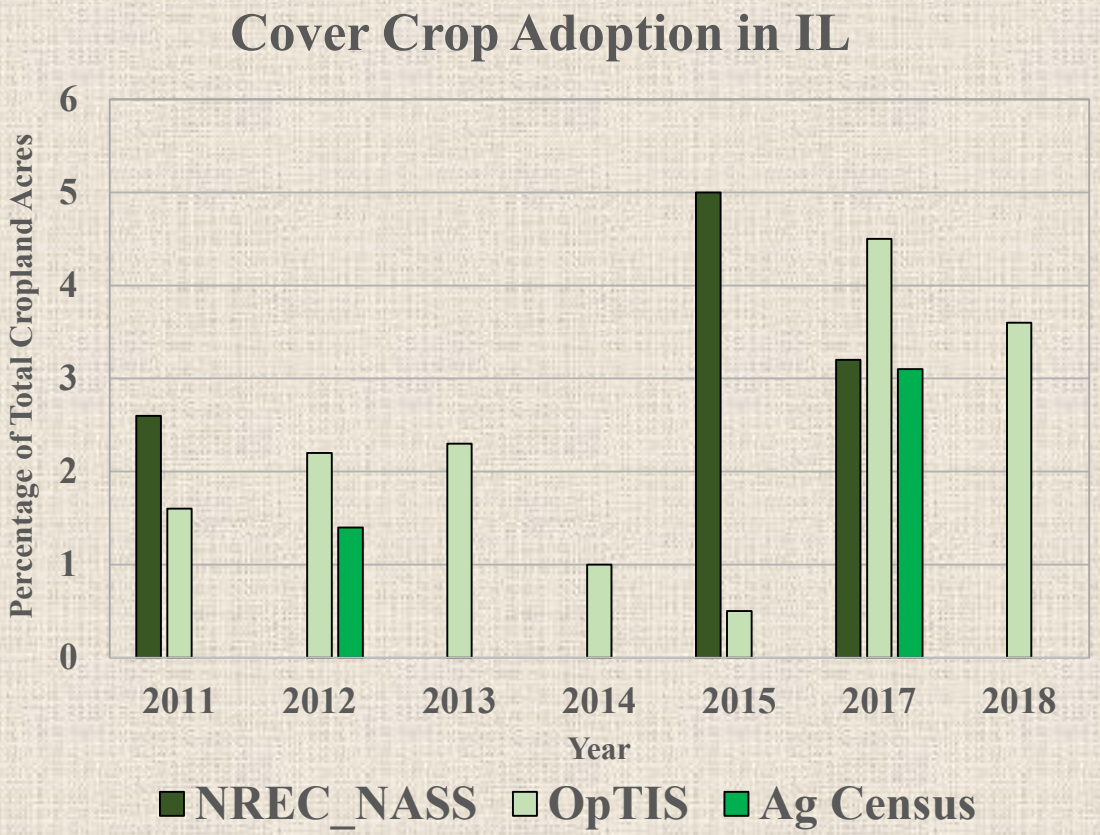
Emily Bruner
Midwest Science Director

NLRS PWG Meeting
March 9, 2020

Background



Map courtesy of The Nature Conservancy



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We should do this in Illinois!

The Gazette

New Iowa crop insurance discount for cover...

New Iowa crop insurance discount for cover crops

$5-per-acre premium break expected to be part of three-year demonstration project

Jack Boyer of Reinbeck drives his tractor and disperses cover crop seed over a field near Reinbeck on Nov. 10, 2017. A retiree of John Deere, he researched and experimented with different crops on his own land and found that cover crops were beneficial

Cedar Rapids Gazette, November 20, 2017

American Farmland Trust

Crystal clear water runs off Steve Berger's field after 3 inches of rain fell the night before.

Neighbors lost up to 20 tons/acre of topsoil in this storm and did not plant on time…

Do cover crops reduce risk?

(Photo by S. Berger)

Advisory Committee

- American Farmland Trust
- Illinois Association of SWCDs
- Illinois Corn Growers Association
- Illinois Department of Agriculture
- Illinois Environmental Council
- Illinois Stewardship Alliance
- Izaak Walton League
- Natural Resources Defense Council
- Risk Management Agency
- Sangamon County SWCD
- The Nature Conservancy
- University of Illinois

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Program Goals and Benefits

- More cover crops in IL - 200,000 by 2022!
- Discount listed on every crop insurance bill -
  Cover crops as a risk reduction tool
- Improve water quality and meet NLRS goals
- Lower cost than current cost share programs
- Improved soil health and resiliency
- Pilot program for next Farm Bill

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Proposed project budget

	2020		2021		2022	
	units	total cost	units	total cost	units	total cost
Cover crop discount ($5/ac)	50,000 ac	250,000	100,000 ac	500,000	200,000 ac	1,000,000
SWCD compensation ($100/contract)*	500 contracts	50,000	1,000 contracts	100,000	2,000 contracts	200,000
TOTAL		$300,000		$600,000		$1,200,000
TOTAL COST, 3 YEAR PILOT=	$2,100,000					
*Assumes farmers enroll an average of 100 acres/farmer (contract)						

First two years in Iowa – 1200 farmers and 300,000 acres enrolled

First year proposed = $1M Budget, 200,000 acres

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FY20 Program Overview

Eligibility

- Acres planted to cover crops in fall of 2019 and to be planted to an insurable crop in 2020
  - ***IF*** *planted outside of other state and federal incentive programs (no double-dipping)*
- No acreage caps, applications processed on a first come, first served basis
- Enrollment open from December 4th 2019 – Jan 15th 2020

Illinois Department of Agriculture

American Farmland Trust

FY20 Program Overview

Online Application Requirements*

- Applicant contact info
- Acres of cover crops seeded
- Farm, Tract, and Common Land Unit/Field #s
- Legal Description of fields/acres seeded to covers in fall of 2019

*Required info and field designations much match info reported via an individual's Federal "Report of Commodities" Form (FSA – 578).

Illinois Department of Agriculture

American Farmland Trust

FY20 Program Stats

306 applications from 212 operators were submitted prior to reaching the 50k acre cap on December 17th, 2020

Total acres applied for = 136,000

Total application received = 700 +

Illinois Department of Agriculture

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FY20 Program Outcomes

IDOA Fall Covers Program

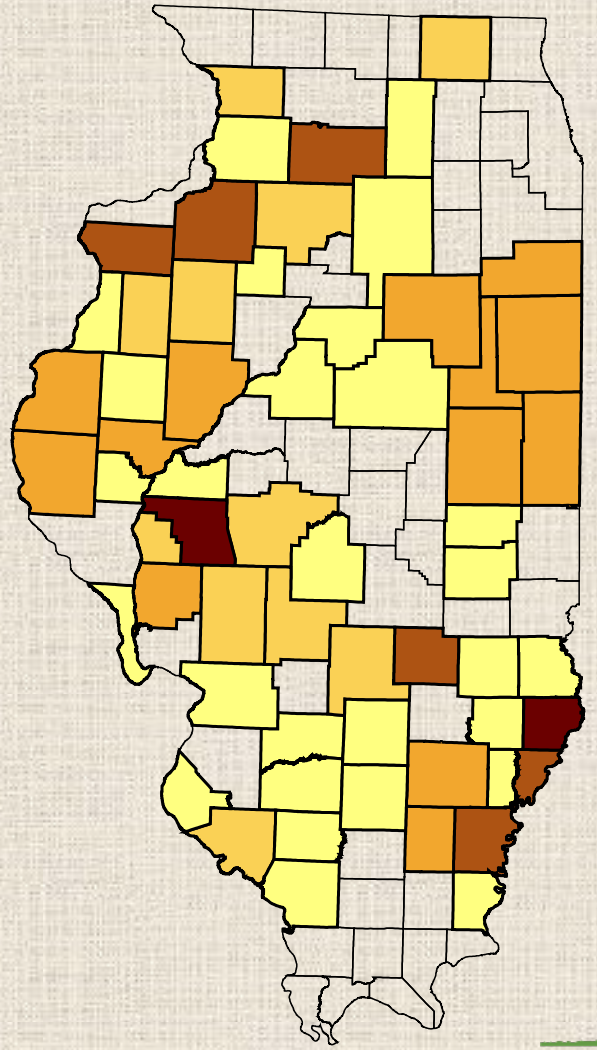
FY 2020 Enrollment

50,000 Acres

Acres Enrolled Per County

- **< 500** *(28)*
- **500 - 1,000** *(11)*
- **1,000 - 2,000** *(13)*
- **2,000 - 3,000** *(6)*
- **> 3,000** *(2)*

60 Counties Total



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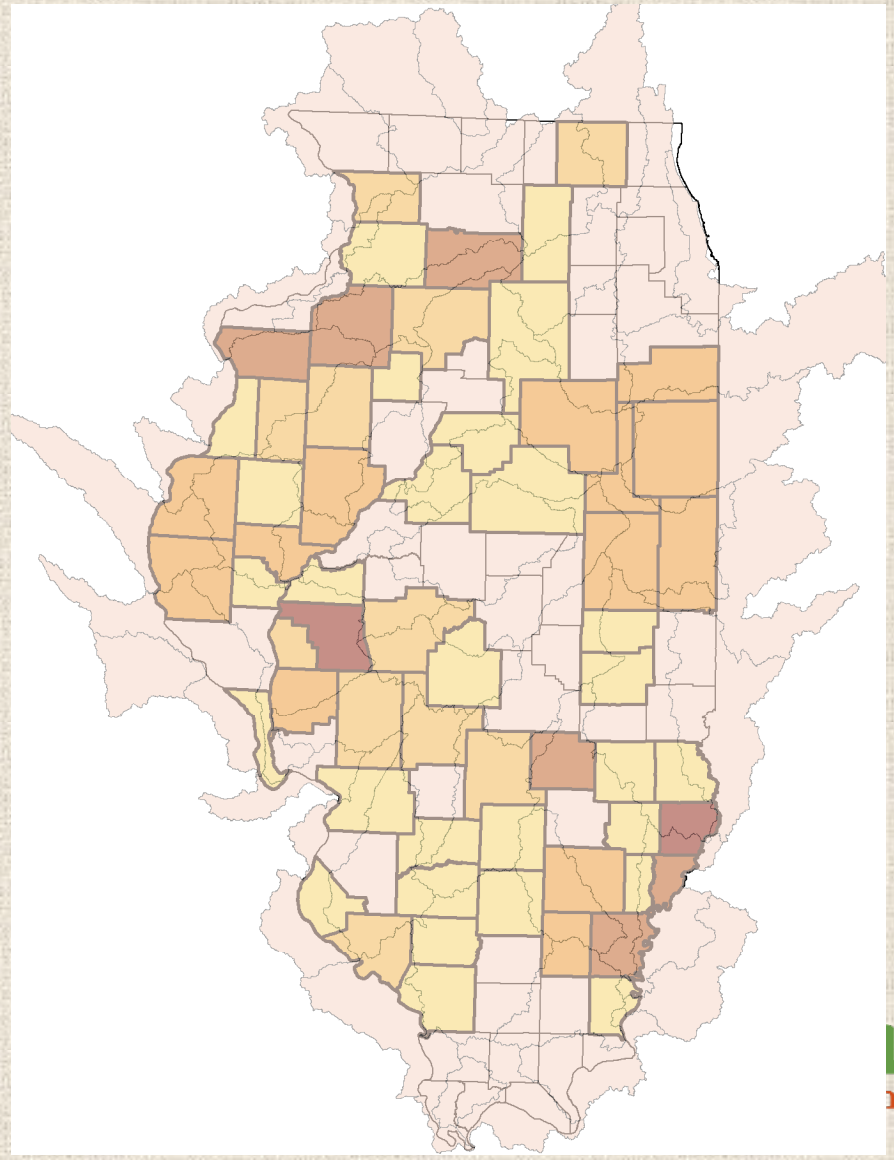
FY 2020 Outcomes

Non-point source (NPS) nutrient, greenhouse gas (GHG) and sediment load reductions from acres enrolled in the Fall Covers for Spring Savings Program (FCSS) were estimated on a per county basis



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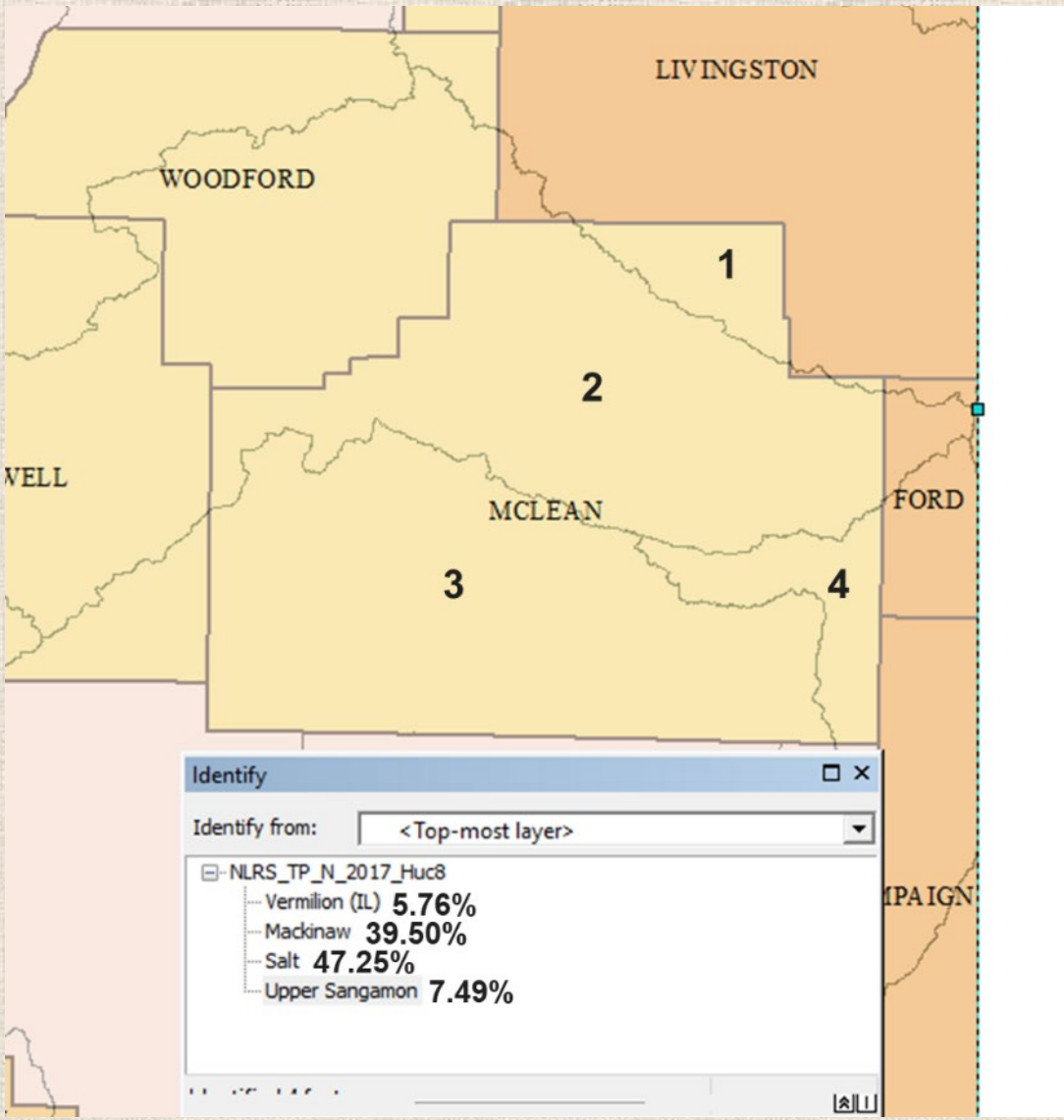
FY 2020 Outcomes

County Level Loading Estimates



FY 2020 Outcomes Data Sources

- Acres enrolled in the FCSS Program per County in IL – IDOA
- GHG reductions in Carbon Dioxide Equivalents (CO_2e) from implementation of non-legume cover crop - USDA and Colorado State University's COMET-Planner Tool
- HUC 8 NPS Nutrient Loading - IL NLRS 2019 Science Assessment Update
- HUC 8 and Illinois County Boundaries – Geospatial Data Gateway
- Non-irrigated cropland acres per county (calculated as total cropland acres remaining after subtracting irrigated cropland acres reported per county) - 2017 Census of Agriculture
- Average annual sediment load per county - 2018 IL Department of Agriculture Tillage Transect

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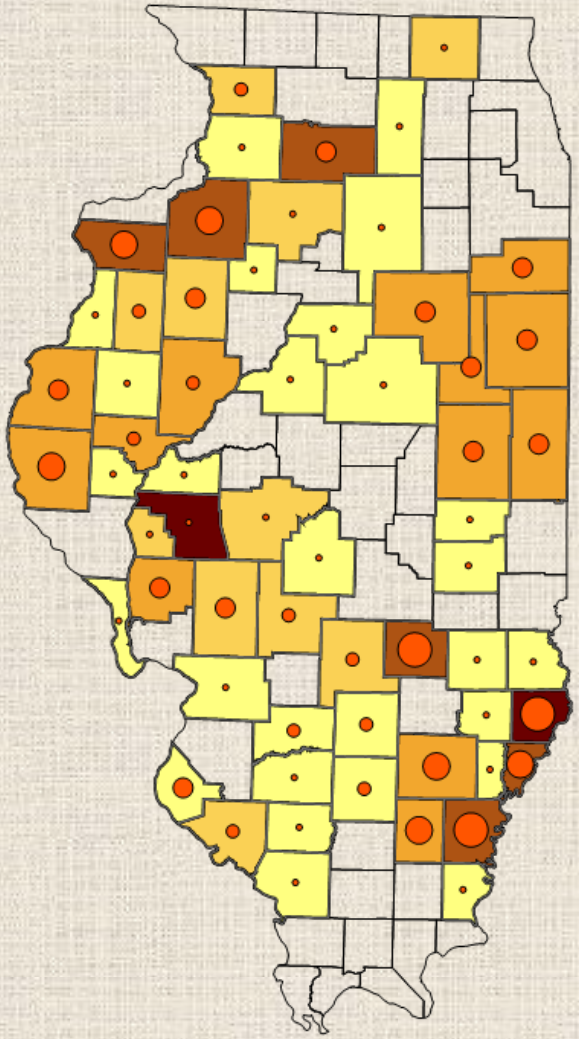
FY20 Outcomes

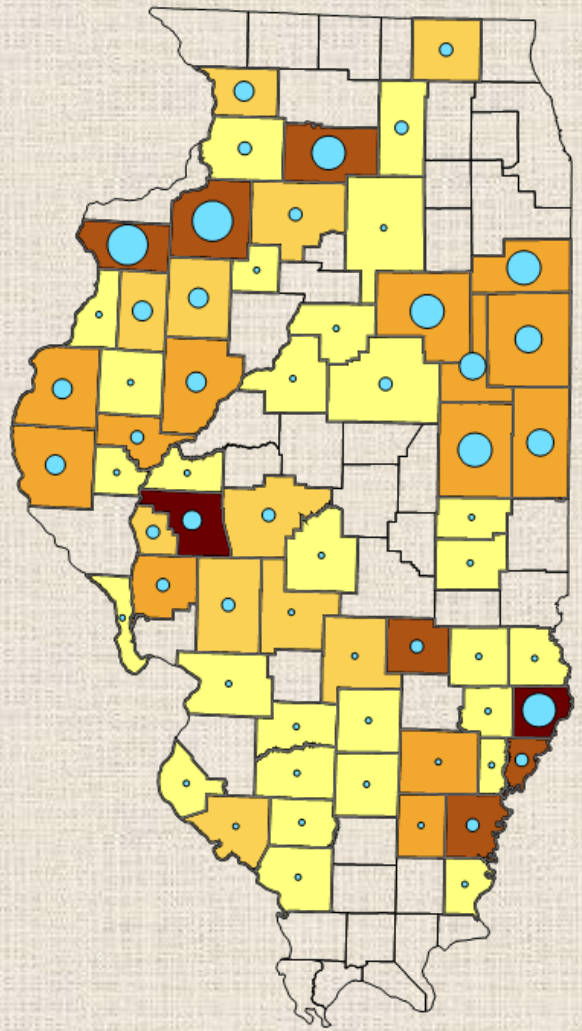
Statewide Annual Phosphorus Load Reduction from Fall Covers Program

13,758 Pounds



Annual P Load Reduction Per County (Lbs)

- < 100
- 100 - 250
- 250 - 500
- 500 - 750
- > 750



Statewide Annual Nitrate-N Load Reduction from Fall Covers Program

145, 523 Pounds

Annual Nitrate-N Load Reduction Per County (Lbs)

- < 1,000
- 1,000 - 2,5000
- 2,500 - 5,000
- 5,000 - 7,5000
- 7,500 - 10,000
- > 10,000

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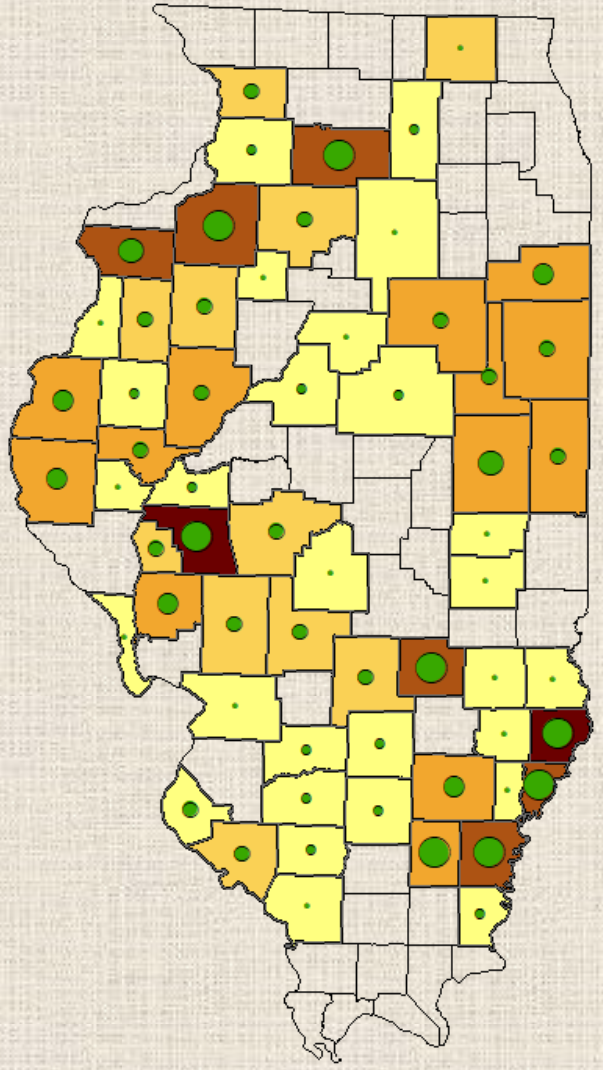
FY 2020 Outcomes

Statewide Annual GHG Emission Reduction from Fall Covers Program 24, 318 Tonnes CO2e



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FY 2020 Outcomes

Unit Quantified	Total Reduction	Average Cost Per Unit Reduction *($)*	Minimum Cost Per Unit *($)*	Maximum Cost Per Unit *($)*
NO3N *(lbs.)*	145,523	3.85	0.71	21.38
TP *(lbs.)*	13,758	53.71	6.95	1,117.64
Sediment *(Tons)*	54,569	5.11	1.92	15.72
CO2e *(Tonnes)*	24,318	10.76	7.94	32.12

Total reductions and average, minimum and maximum costs per unit of load reduced for NPS NO3N, NPS TP, sediment, and green-house gas emissions.

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Next Steps

- Promote, Promote, Promote!
- Training and Education
- Program Evaluation and Expansion
  - Leverage / identify additional resources
    - (funding, capacity, etc.)
  - Summarize results from IA and IL
  - Inform/design pilot program for next Farm Bill
  - Additional opportunities

Illinois Department of Agriculture

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Saving the Land that Sustains Us

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www.farmland.org

www.farmlandinfo.org

Partners for Conservation Legislation Update

Cindy Skrukrud, Sierra Club

ILLINOIS NUTRIENT LOSS REDUCTION STRATEGY

SB3462 (Villivalam) Illinois Partners for Nutrient Loss Reduction Act

Cindy Skrukrud, Clean Water Program Director
cindy.skrukrud@sierraclub.org

SIERRA CLUB
ILLINOIS CHAPTER

Illinois Partners for Nutrient Loss Reduction Act

- **Adds a new purpose and increases funding to the Partners for Conservation Fund in order to implement Illinois' Nutrient Loss Reduction Strategy**
- **Does not take away from existing Partners for Conservation Programs**
- **Provides resources in order to meet the Strategy's 2025 milestone:**

  Reduce Nitrate by 15% ■ Reduce Phosphorus by 25%

  -For Illinois Extension to facilitate the Strategy's working committees

  -For reports and research, science team, watershed outreach associates

  -For river monitoring to track progress in cutting nutrient levels in our rivers

  -For Dept. of Ag and Soil & Water Conservation Districts to deliver technical assistance to farmers

  -For agricultural lands best management practices cost-share programs for farmers, including cover crops insurance premium discount
- **For Dept. of Natural Resources' Conservation Reserve Enhancement Program** *and to lead by example in implementing BMPs and nutrient management plans on state ag-leased lands*
- **Invests in our Strategy implementation like other Midwest states**

Sedimentation Study

Laura Keefer, Illinois State Water Survey

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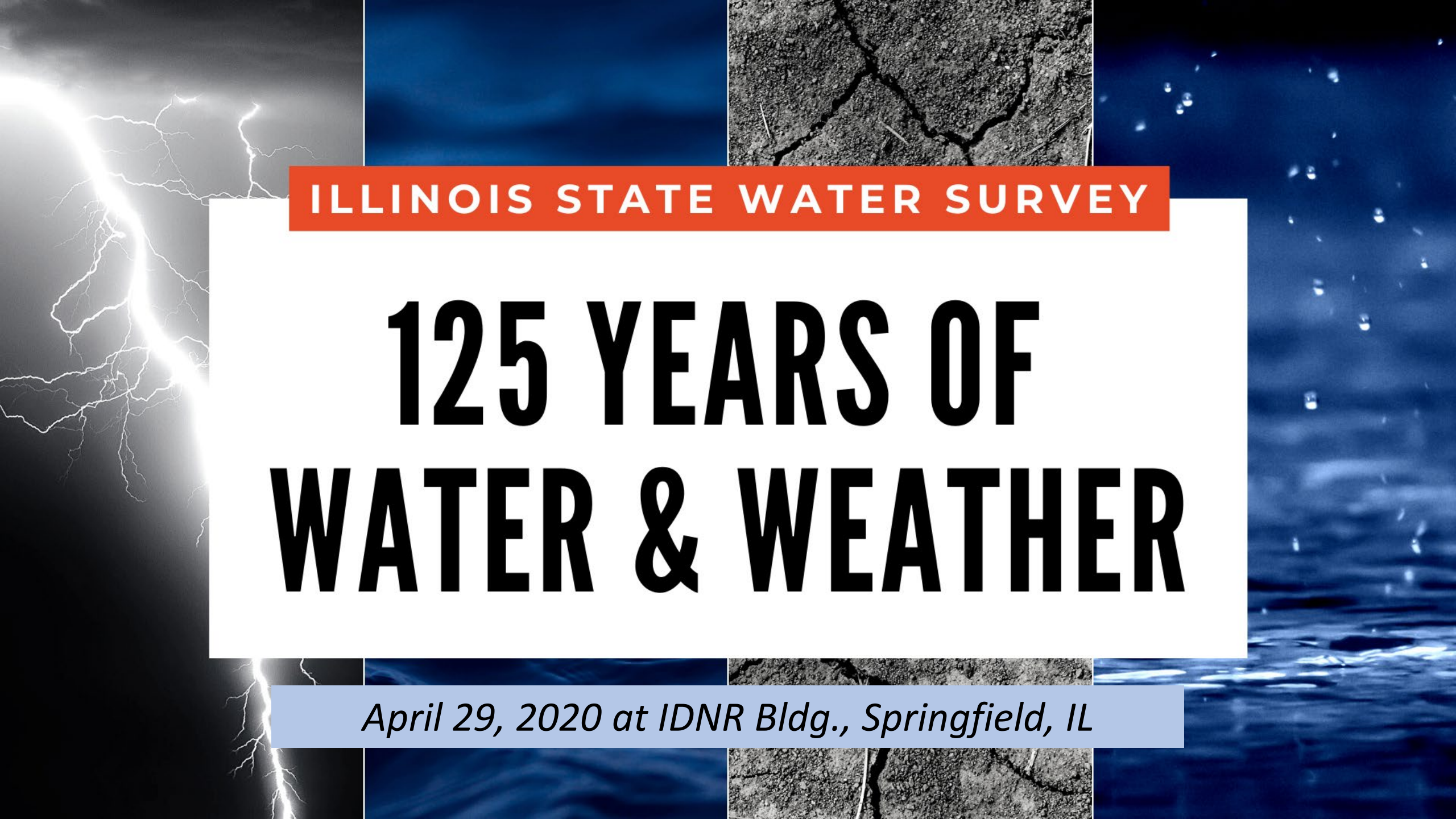
NUTRIENT LOSS
REDUCTION STRATEGY



ILLINOIS STATE WATER SURVEY

125 YEARS OF WATER & WEATHER

April 29, 2020 at IDNR Bldg., Springfield, IL

Sediment Budget of the Illinois River

1981-2015

by

M. Demissie, E. Getahun and L. Keefer

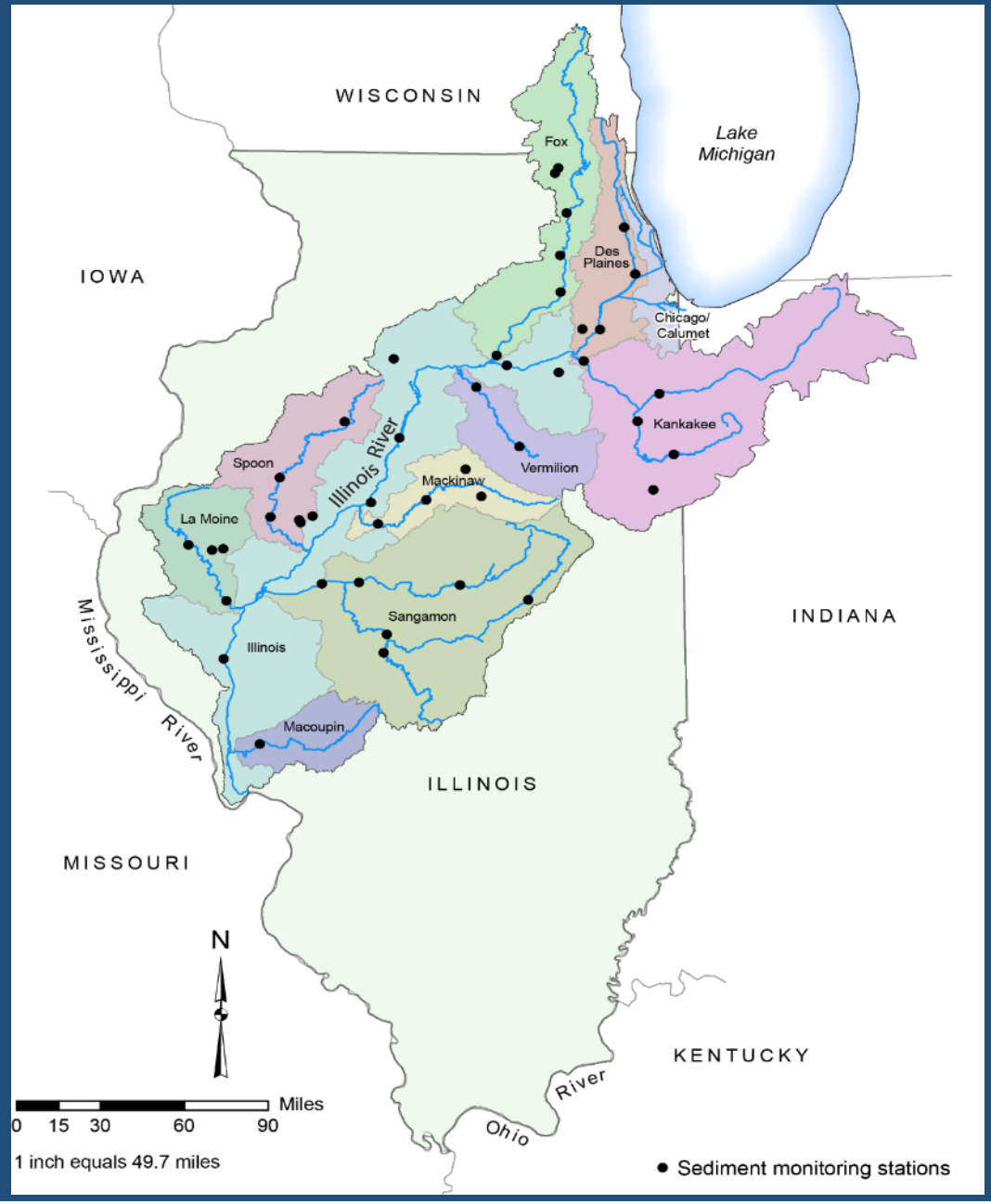
Illinois State Water Survey

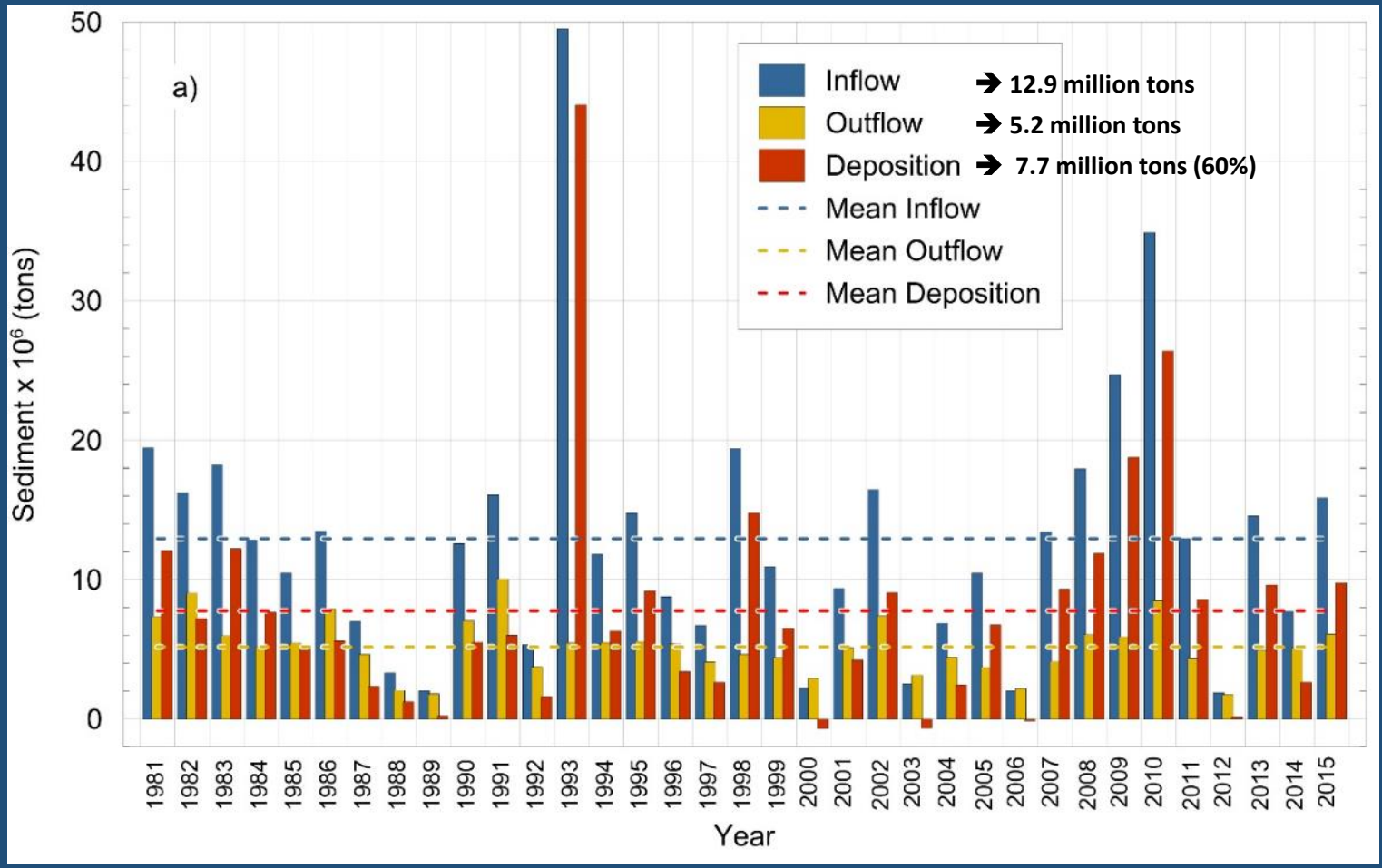
Report of Investigation 122

http://hdl.handle.net/2142/98499

Locations of available in-stream sediment data sites

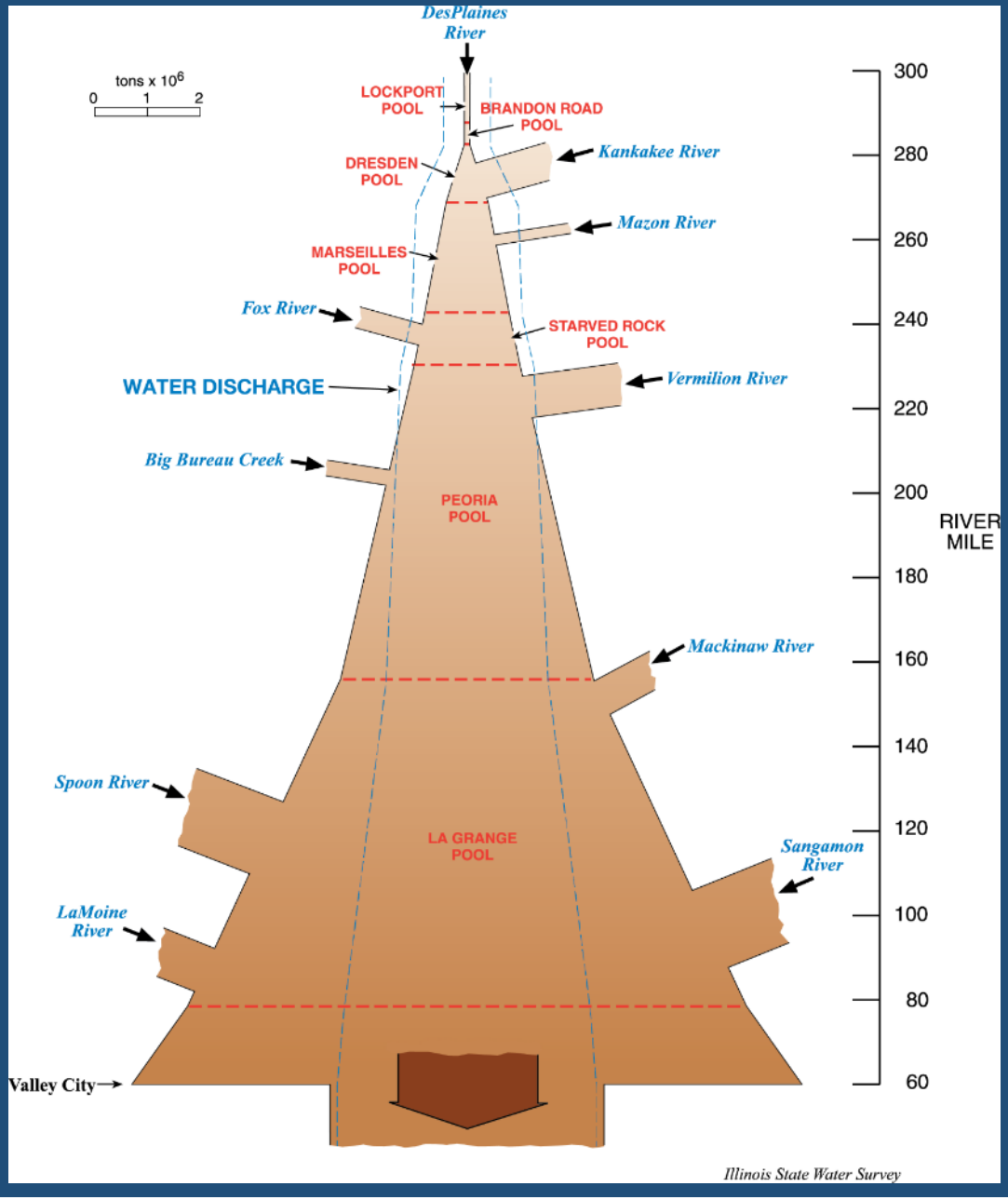
See Table 1
ISWS
Report of Investigation 122





Variability and trend in the computed inflow, outflow, and deposition of sediment in the Illinois River valley, 1981-2015

- average annual deposition 60% -


DesPlaines River
tons x 10^6
0 1 2
LOCKPORT POOL
BRANDON ROAD POOL
DRESDEN POOL
Kankakee River
Mazon River
MARSEILLES POOL
Fox River
STARVED ROCK POOL
WATER DISCHARGE
Vermilion River
Big Bureau Creek
PEORIA POOL
Mackinaw River
Spoon River
LA GRANGE POOL
Sangamon River
LaMoine River
Valley City
300
280
260
240
220
200
180
160
140
120
100
80
60
RIVER MILE
Illinois State Water Survey

Long-term Sediment Trends in Illinois Streams

Illinois Benchmark Sediment Monitoring Program

ISWS Report of Investigation 124
http://hdl.handle.net/2142/106035

Laura L. Keefer and Elias Getahun

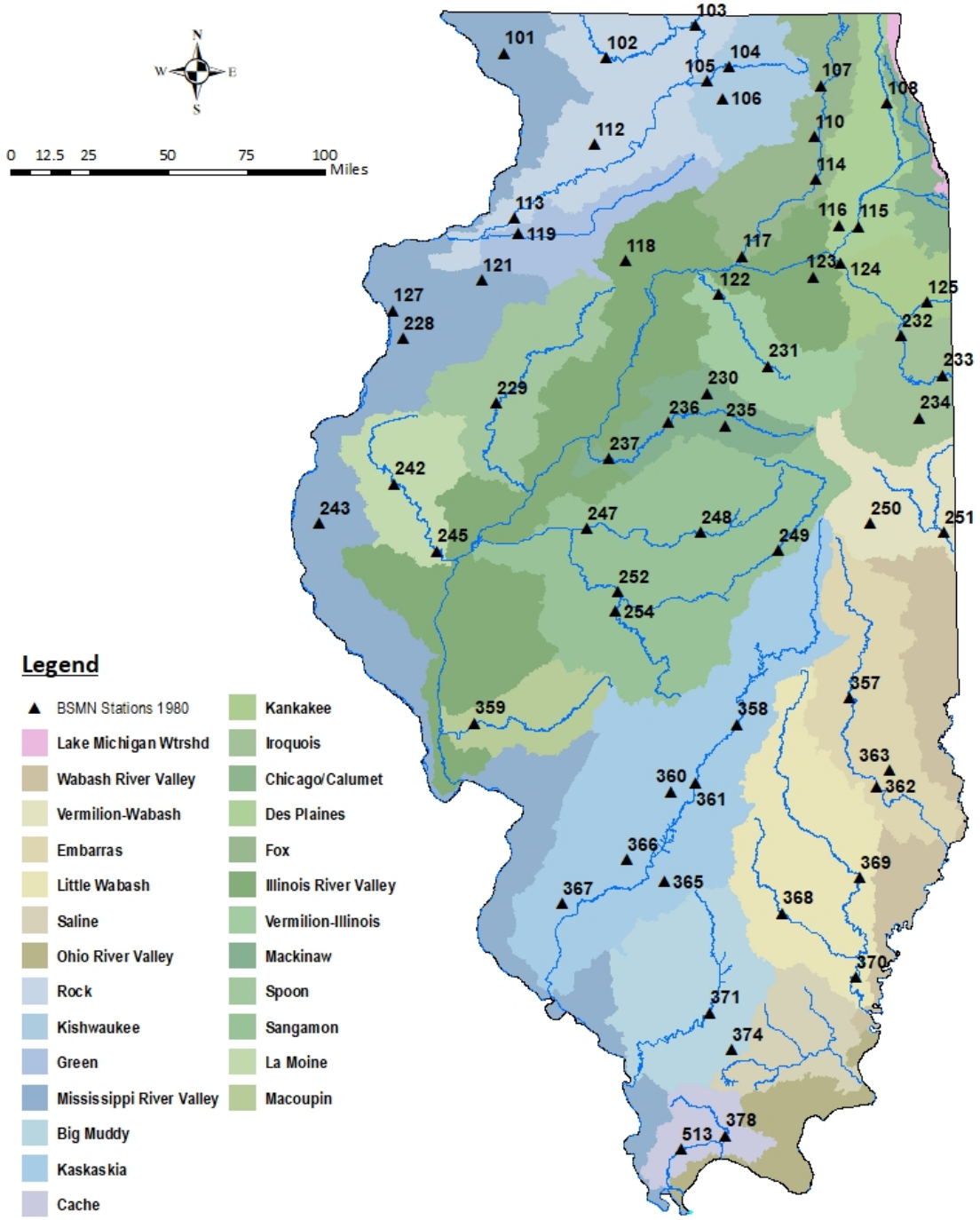
Watershed Science Section

Illinois State Water Survey

Champaign, IL

Original stations

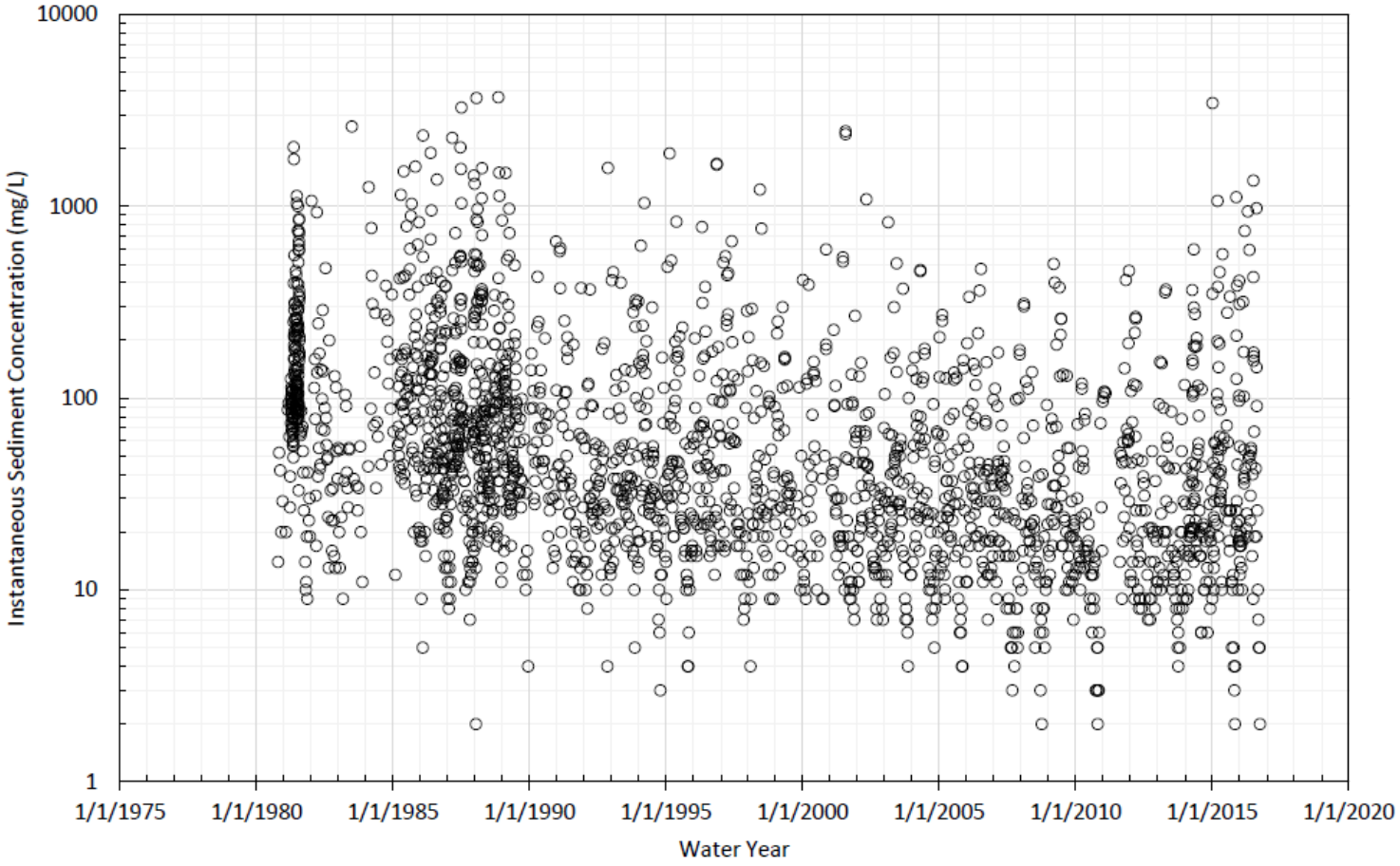
- WY1981 – 51 stations
  - Weekly
  - Daily at 27 USGS stations (Apr-July)
  - Cross-section sampling for calibration
- Water and Atmospheric Resources Monitoring (WARM) program
  - Benchmark Sediment Monitoring Network (BSMN)



California Boxes, DH59 samplers & A-reel

Suspended Sediment Concentrations (mg/L)

"Upper" Cache River at Forman (ISWS #378)

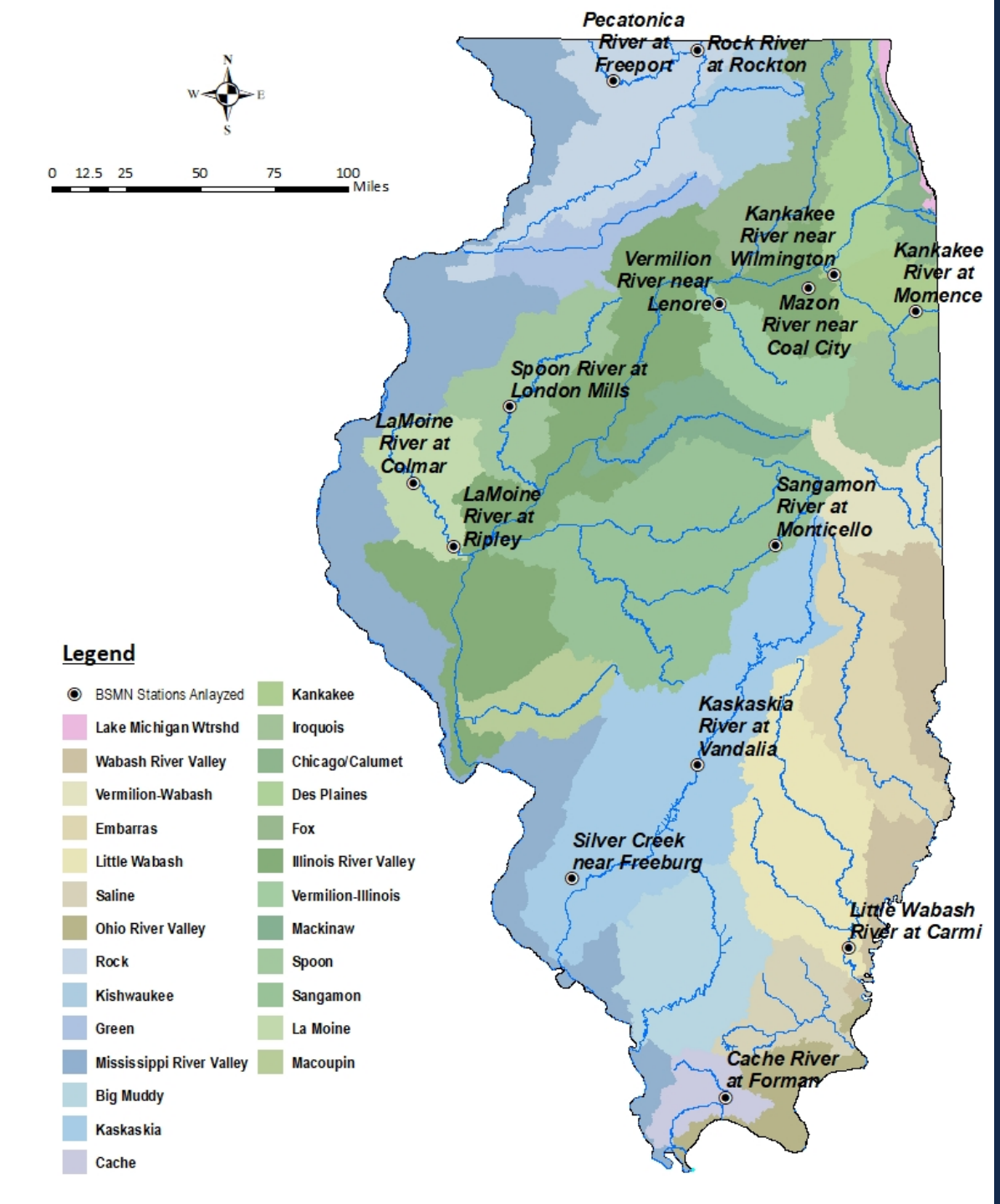


Study stations

- WY 1983 <20 stations

- WY 1981–2016 (36 years)
- Illinois River Basin heavy

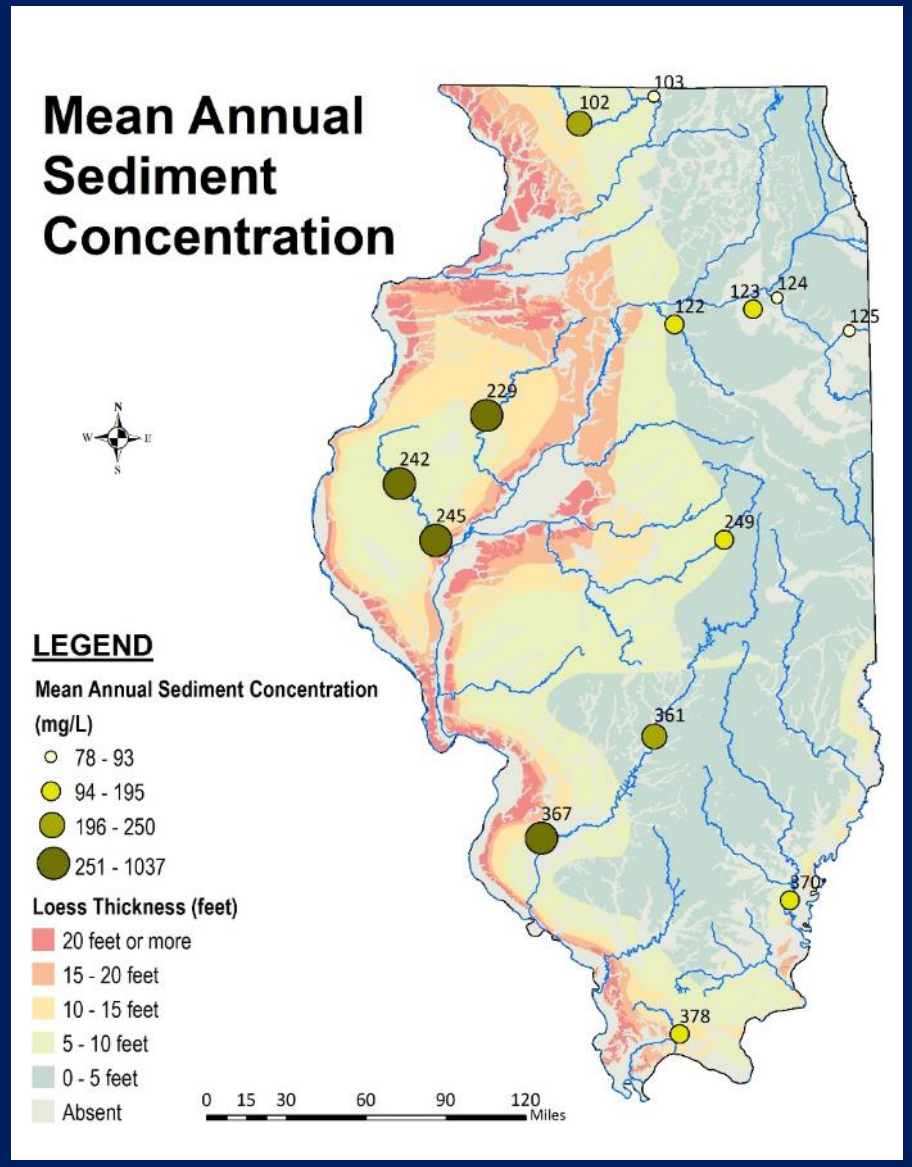
- Currently – 40th year
  - Closed 2 stations
  - Reopened 2 stations
  - Establish 1 new station

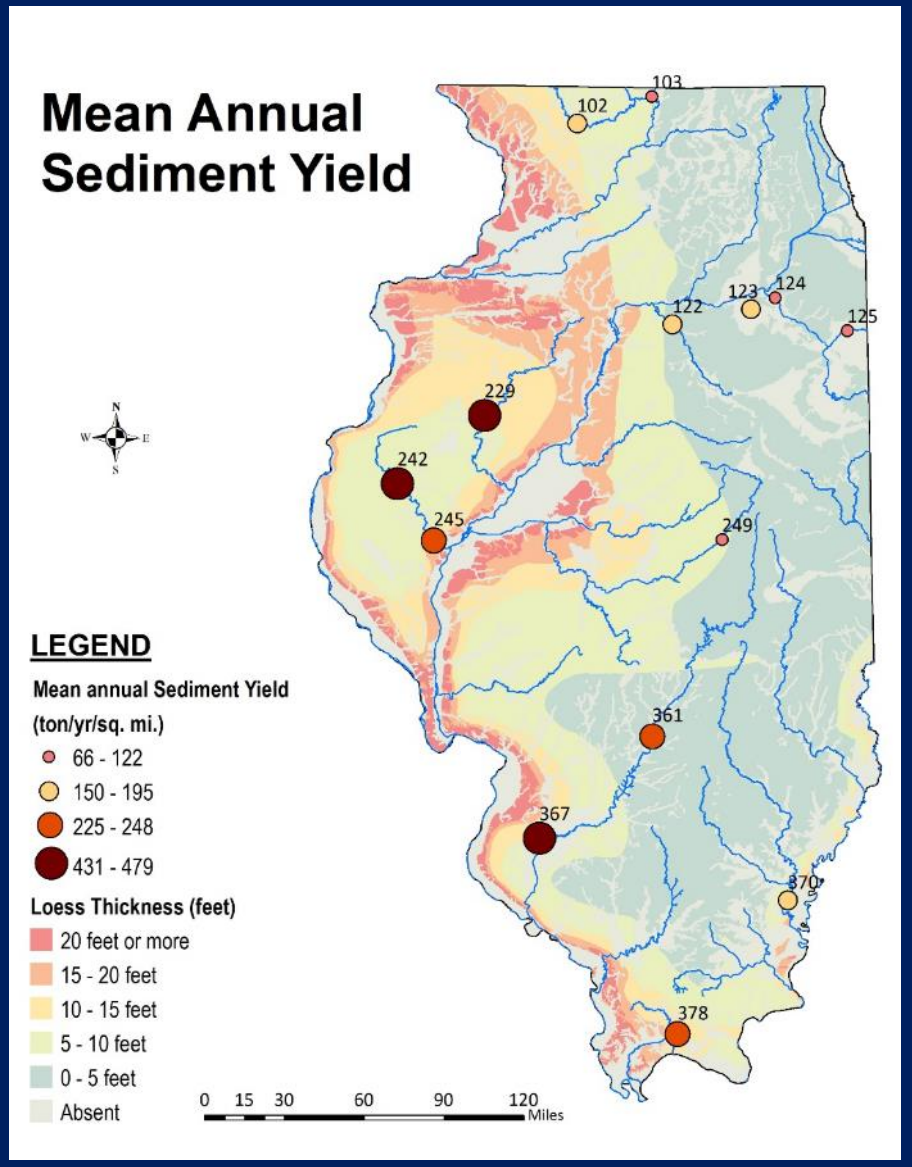


BSMN Stations Analyzed in This Study

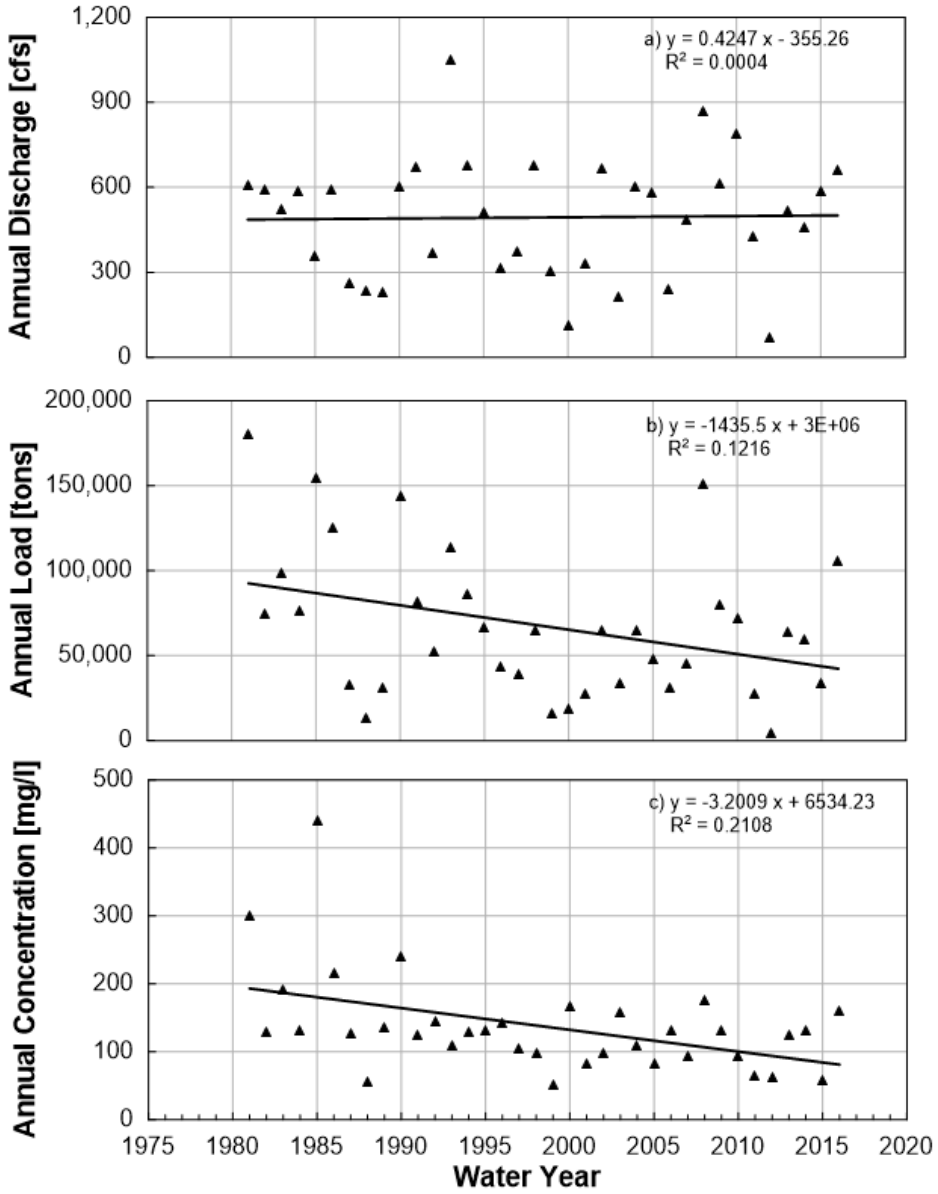
ISWS number	USGS number	Station name	Drainage area (sq mi)	Drainage area (sq km)	Total number of water years	Period of record (in water years)
102	5435500	Pecatonica River at Freeport	1326	3434	35	1981, 1982, 1984-2016
103	5437500	Rock River at Rockton	6363	16480	36	1981-2016
122	5555300	Vermilion River near Leonore	1251	3240	33	1984-2016
123	5542000	Mazon River near Coal City	455	1178	29	1981-1997, 2002-2013
124	5527500	Kankakee River near Wilmington	5150	13338	34	1983-2016
125	5520500	Kankakee River at Momence	2294	5941	31	1982-1985, 1987, 1988, 1991, 1993-2016
229	5569500	Spoon River at London Mills	1062	2751	31	1981-1987, 1992, 1994-2016
242	5584500	La Moine River at Colmar	655	1696	32	1981-1988, 1993-2016
245	5585000	La Moine River at Ripley	1293	3349	31	1984-1990, 1993-2016
249	5572000	Sangamon River at Monticello	550	1424	36	1981-2016
361	5592500	Kaskaskia River at Vandalia	1904	4931	35	1981-1988, 1990-2016
367	5594800	Silver Creek near Freeburg	464	1202	28	1981, 1982, 1984-1988, 1990-2010
370	3381500	Little Wabash River at Carmi	3102	8034	29	1981-1985, 1993-2016
378	3612000	Cache River at Forman	244	632	36	1981-2016

Mean Annual Yield & Concentration





Trends for Annual Discharge, Sediment Load, & Sediment Concentration



#249 Sangamon at Monticello

Trend Analysis Results for Discharge (D), Sediment Load (SL) and Sediment Concentration (SC)

ISWS number	Station Name	Trends		
		D	SL	SC
102	Pecatonica River at Freeport	↔	↔	↔
103	Rock River at Rockton	↔	↔	↓
122	Vermilion River near Leonore	↔	↔	↓
123	Mazon River near Coal City	↔	↔	↔
124	Kankakee River near Wilmington	↔	↔	↔
125	Kankakee River at Momence	↔	↔	↔
229	Spoon River at London Mills	↔	↔	↔
242	La Moine River at Colmar	↔	↔	↔
245	La Moine River at Ripley	↔	↓	↔
249	Sangamon River at Monticello	↔	↓	↓
361	Kaskaskia River at Vandalia	↔	↔	↔
367	Silver Creek near Freeburg	↔	↓	↓
370	Little Wabash River at Carmi	↔	↔	↓
378	Cache River at Forman	↔	↓	↓

Summary

- Highest mean annual sediment yields and concentrations at stations generally located in western and southern Illinois
- Trends (presence or absence)
  - No increasing trends for annual discharge, load, concentration
  - No trend for annual discharge at all stations
  - 90% confidence limit:
    - 4 stations decreasing sediment load
    - 6 stations decreasing sediment concentration
  - 80% confidence limit:
    - 5 stations decreasing sediment load
    - 7 stations decreasing sediment concentration

What's next?

- ISWS-BSMP sediment monitoring network – 40th year
- IDNR- CREP detailed watershed monitoring – 20th year
- Initiated the development of **W**eighted **R**egression on **T**ime, **D**ischarge and **S**eason (WRTDS) models
  - Describe evolving nature of Illinois watersheds
  - Estimate concentration/fluxes to understand changes in river's water quality and its impact on riverine ecosystem.
  - Estimate flow-normalized concentration/fluxes to identify any sediment/nutrient improvements as a result of land management changes in watershed

ILLINOIS

Illinois State Water Survey

PRAIRIE RESEARCH INSTITUTE

Additional Implementation Scenario Development

Trevor Sample, Illinois EPA

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REDUCTION STRATEGY

Additional Implementation Scenarios Development

- Agreement process between IEPA and University of Illinois will occur once funding is received from USEPA.
- Implementation Scenario development will be conducted by Dr. Reid Christianson.
- Anticipated start date March/April 2020.
- A minimum of SIX scenarios will be developed.
  - 3 to meet 2025 interim reduction goals (15% nitrate/25% total phosphorus).
  - 3 to meet 45% reduction nitrate/total phosphorus.

Additional Implementation Scenarios Development

Each Implementation Scenario will include:

1. A combination of agricultural conservation practices to meet water quality goals for either nitrogen, phosphorus, or both
2. Maximum practical implementation potential of each practice in the scenario
3. The estimated annual nitrogen and phosphorus nutrient loss reduction of the scenario
4. The estimated annual cost of the scenario
5. Data sources available to measure progress – along with current progress
6. All Scenarios will include point source reductions for total phosphorus

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Additional Implementation Scenarios Development

- Conservation practices included in each scenario will based on those practices recommended in the NLRS. There may be variations in the scale of implementation for certain practices.
- Dr. Christianson will also evaluate implementation potential for Saturated Buffers and Water and Sediment Control Basins to allow incorporation into future implementation scenarios.
- Are there practices we definitely want to include?
- Are there practices we do not want to include?

Additional Implementation Scenarios Development

- Anticipating a six month process.
- Draft scenarios will be developed and presented to AWQPF members at a future meeting for discussion and comment.
- Scenarios will be revised based on feedback.
- Final Report will be submitted to IEPA.
- Scenarios will be presented at the NLRS Workshop, November 2020.
- Additional Implementation Scenarios will be included in the Science Assessment Chapter of the 2021 Biennial Report.

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Additional Implementation Scenarios Development

Graphs containing the new Implementation goals will be included in the Adaptive Management Chapter.

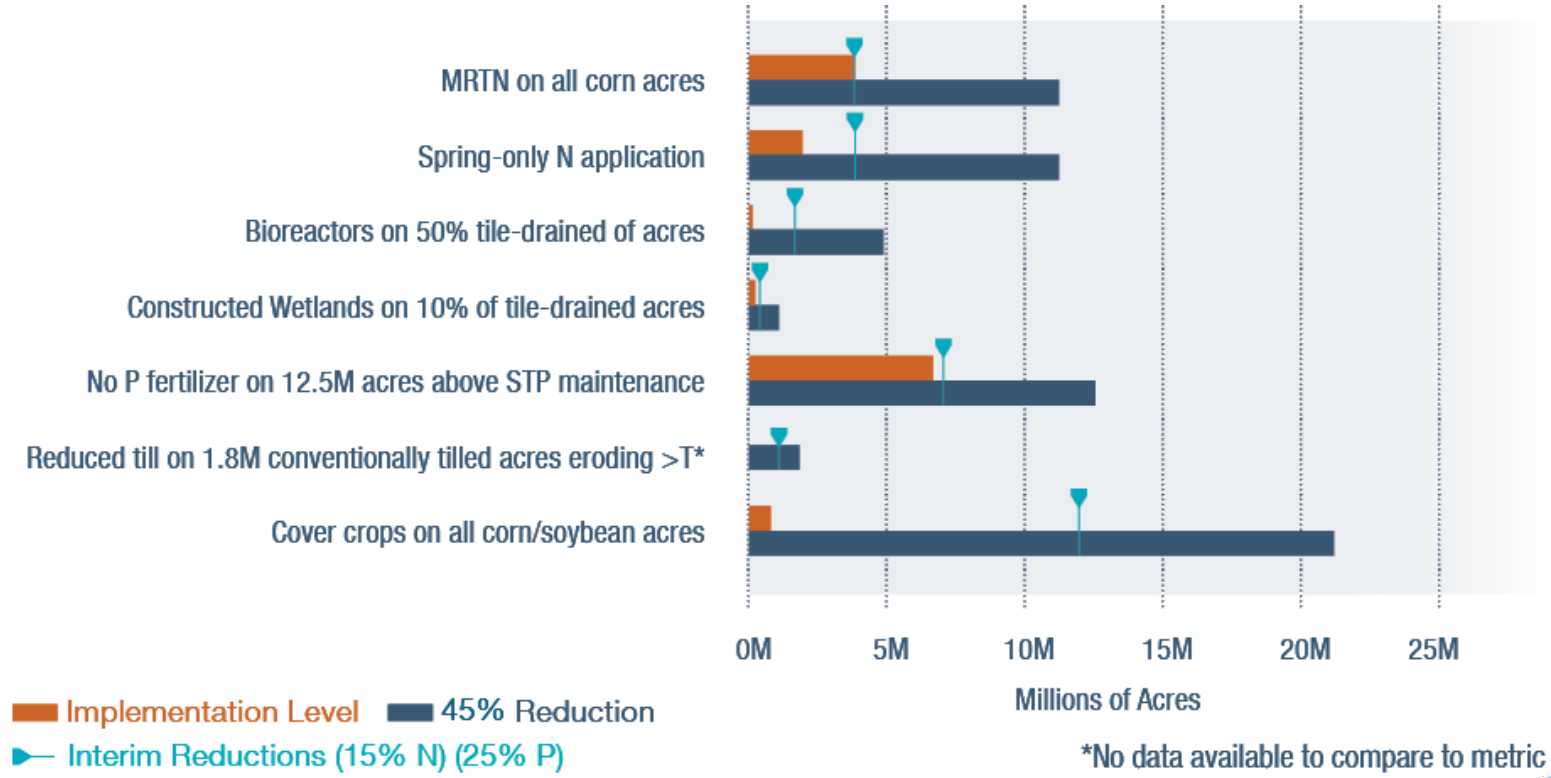

Figure 8.3. Agricultural implementation as compared to Scenario NP2

ILLINOIS NUTRIENT LOSS REDUCTION STRATEGY

QUESTIONS?

Next Steps

Eliana Brown, Illinois Extension

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NLRS Partnership Workshop

Fri, Nov 6, 2020

iHotel in Urbana

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