



**ILLINOIS**  
NUTRIENT LOSS  
REDUCTION STRATEGY

Improving our  
water resources  
with collaboration  
and innovation

# IL Nutrient Loss Reduction Strategy (NLRS) for SWCDs

**ISWCDEA Winter Training 2018**  
8 a.m. Wednesday, December 5th  
Emerald Room

Kara Downin, RC, Knox County SWCD  
& AISWCD NLRS Committee staff-person

# This Session's Focus...

1. Prioritize conservation practices for maximum effectiveness
2. Promote these practices
3. Available resources for support & promotion
4. Awareness of water quality regulations in other states
5. Report on NLRS progress

*Stay Awake*

Released July 2015



Released Aug. 2017



You don't have to read me, but it wouldn't hurt. I need your information for reporting twice/year.

Have you read me?  
Skip Ch.3, unless you **LOVE** science



# Illinois Nutrient Loss Reduction Strategy

## Statewide Goals

- ▶ END GOAL = 45% reduction in the annual loading of nitrate-nitrogen and phosphorus compared to 1980-1996 (baseline conditions) to MS River
  - ▶ Short-term goal by 2025....only 6 years away!
    - ▶ 15% reduction in nitrogen loads
    - ▶ 25% reduction in phosphorus loads



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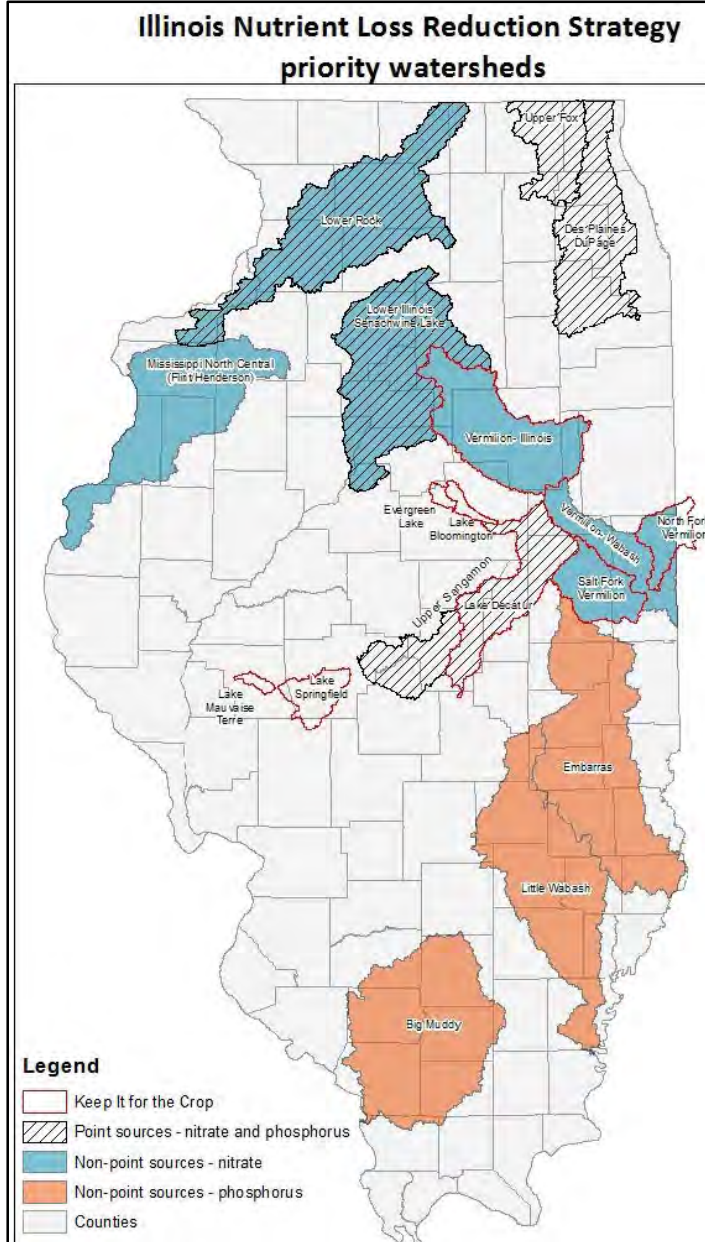


Iowa NRCS



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# IL Priority Watersheds for NLRs



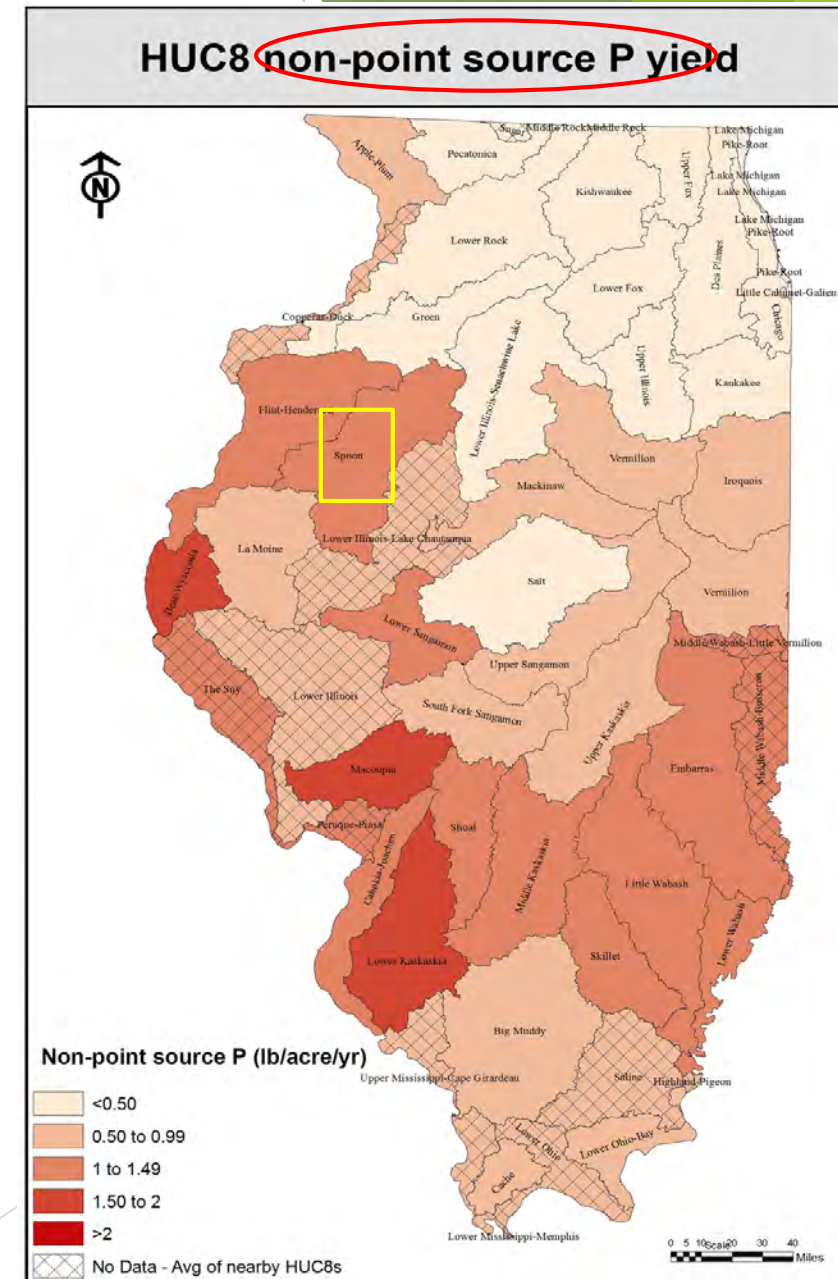
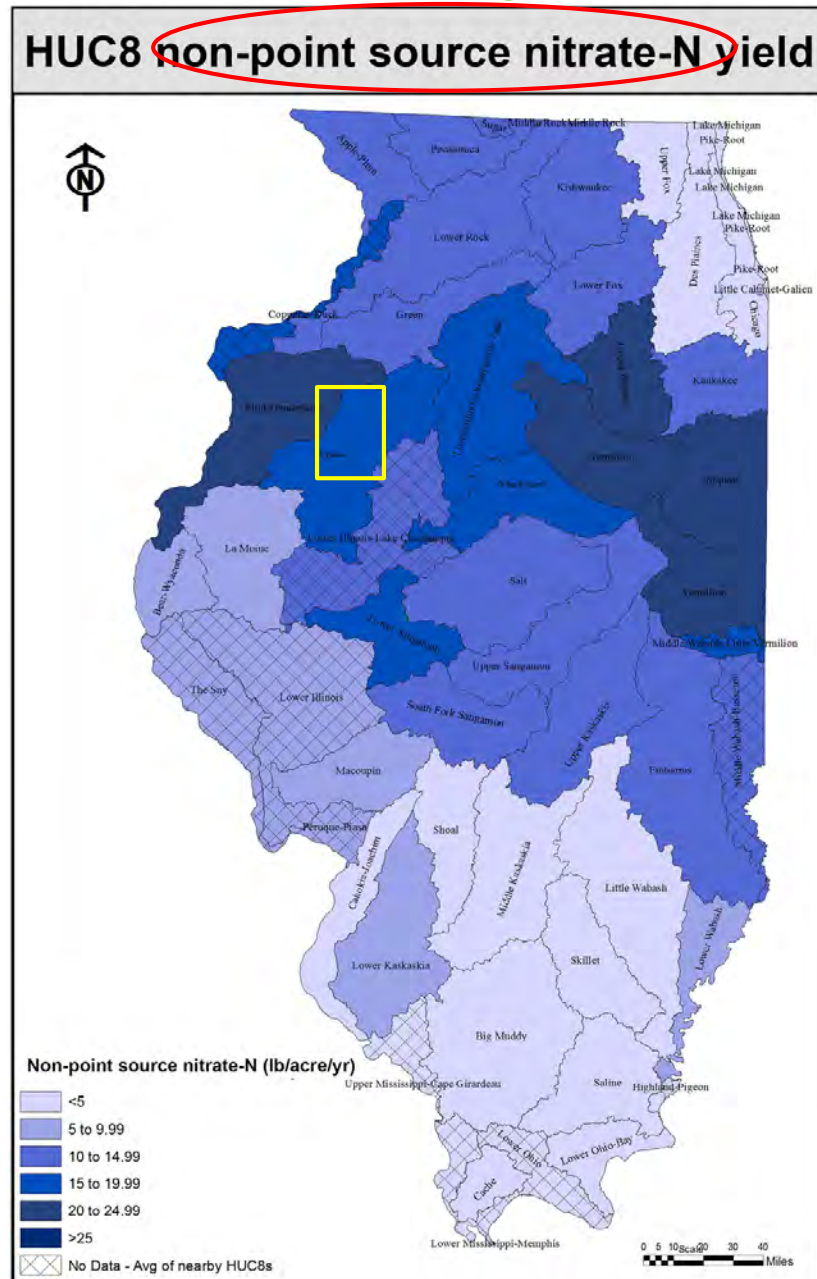
- Priorities for the State
  - Hydrologic Unit Code (HUC) - 8 level
  - Blue - nitrates focus
  - Orange - phosphorus focus
  - FY17 IDOA funds base
- Not necessarily the priorities for each District
- Set your District's priorities!
  - Work with Local Work Group, Board of Directors, etc.
  - Tie in with your Annual Plan of Work and Long Range Plans
- Where's the priority in each of 102 counties?



# Do you know the impairments in your District?

## Find your District...

- For example; Knox County has 3 HUC 8 watersheds
- They range from
  - low-high on nitrate loading
  - low-moderate phosphorus loading
- Knox needs to focus on nitrate reduction practices, without forgetting phosphorus reduction practices



# 1. IL NLRs Recommended Practices to Reduce Nitrate Loss

- Consider all listed practices to promote/implement in your District
- Or, “laser focus” on the top 3 or 5 practices (top 1 in blue)
  - most cost effective practices
  - greatest N reduction
  - Once you get the ball rolling on these, then branch out on the other listed practices
- Promote the “biggest bang for the buck”, your time and available District resources

Table 3.11. Example statewide results for nitrate-nitrogen reductions, with shading to represent in-field, edge-of-field, land use, and point source practices or scenarios.

Practice/scenario	Nitrate-N reduction per acre (percent)	Nitrate-N reduced (million lb)	Nitrate-N reduction from base-line (percent)	Cost (\$/lb removed)
Reducing N rate from background to MRTN on 10 percent of acres	10	2.3	0.6	-4.25
Nitrification inhibitor with all fall-applied fertilizer on tile-drained corn acres	10	4.3	1	2.33
Split application of 50 percent fall and 50 percent spring on tile-drained corn acres	7.5-10	13	3.1	6.22
Spring-only application on tile-drained corn acres	15-20	26	6.4	3.17
Split application of 40 percent fall, 10 percent pre-plant, and 50 percent side dress	15-20	26	6.4	
Cover crops on all corn/soybean tile-drained acres	30	84	20.5	3.21
Cover crops on all corn/soybean non-tiled acres	30	33	7.9	11.02
Bioreactors on 50 percent of tile-drained land	25	35	8.5	2.21
Wetlands on 35 percent of tile-drained land	50	49	11.9	4.05
Buffers on all applicable crop land (reduction only for water that interacts with active area)	90	36	8.7	1.63
Perennial/energy crops equal to pasture/hay acreage from 1987	90	10	2.6	9.34
Perennial/energy crops on 10 percent of tile-drained land	90	25	6.1	3.18
Point source reduction to 10 mg/l		14	3.4	3.3



# 1. IL NLRs Recommended Practices to Reduce Phosphorus Loss

- Consider all listed practices to promote/implement in your District
- Or, “laser focus” on the top 3 or 5 practices (top 1 in blue)
  - most cost effective practices
  - greatest P reduction
  - then branch out on the other listed practices
- Promote the “biggest bang for the buck”, your time and available District resources

Table 3.14. Example statewide results for total phosphorus reductions by practice/scenario with shading to represent in-field, edge-of-field, land use changes, and point source practices or scenarios.

Practice/scenario	Total P reduction per acre (percent)	Total P reduced (million lb)	Total P reduction from baseline (percent)	Cost (\$/lb removed)
1.8 million acres of conventional till eroding >T converted to reduced, mulch, or no-till	50	1.8	5	-16.6
P rate reduction on fields with soil test P above the recommended maintenance level	7	1.9	5	-48.75
Cover crops on all corn/soybean tile-drained acres	30	4.8	12.8	130.4
Cover crops on 1.6 million acres eroding >T currently in reduced, mulch, or no-till	50	1.9	5	24.5
Wetlands on 25 percent of tile-drained land	0	0	0	
Buffers on all applicable crop land	25-50	4.8	12.9	11.97
Perennial/energy crops equal to pasture/hay acreage in 1987	90	0.9	2.5	102.3
Perennial/energy crops on 1.6 million acres >T currently in reduced, mulch, or no-till	90	3.5	9	40.4
Perennial/energy crops on 10 percent of tile-drained land	50	0.3	0.8	250.07
Point source reduction to 1 mg/L (majors only)		8.3	22.1	13.71



# Top 5 Most effective N and P reducing practices as per the NLRs document

## Nitrates

1. Buffers - Filter Strips, Field Borders, Etc.
2. Cover crops - all tile drained
3. Wetlands
4. Bioreactors
5. Cover crops - non tile drained

## Phosphorus

1. Buffers - Filter Strips, Field Borders, Etc.
2. Perennial crops/CRP on ac >T
3. All 3 tied for 3rd
  - Cover Crops - on ac >T
  - Decrease tillage: conv. tillage >T converted to no-till or strip-till
  - Reduce P applied on acres with P-test above maintenance level

**Matching Practices! Less work for us!**

## 2. Example Ideas for Promotion

- Talk about WQ practices on each visit (even on a CREP Monitoring appointment)
- Set up a table for hand-outs at each District Sales event
- Maintain a dedicated WQ section in your newsletter and on your website
- Radio interview each month and add a water quality topic each time
- Field Days - “Show Off” any of these practices
- Target workload - Target one creek at a time and reach out to landowners/operators to install filter strips (save on property taxes too! Vegetative Filter Strip Tax Assessment)
- Form Partnerships - Wetlands Initiative, IL LICA, IL Farm Bureau grants, etc. to make pilot projects happen
  - Bioreactors, Saturated Buffers, Constructed Wetlands



### 3. Available Resources

## Where can I find information to help me?

All documents have been posted to the  
AISWCD Member District Resources page

<http://www.aiswcd.org/about-aiswcd/member-resources/>

- Cover Crop Guide sheet for SWCDs – a step-by-step guide to help SWCDs spend cost-share funds on cover crops
  - Grant emailed out in AISWCD newsletter 9/27/18
- NRCS handout “5 Questions Landowners Should ask their Farmers About Soil Health” – March 2015
- U of I Factsheet “Ten Ways to Reduce Nitrogen Loads from Drained Cropland in the Midwest”
- IL NREC Resources – [www.illinoisnrec.org](http://www.illinoisnrec.org)

## 4. What is going on in other States?

12 states in the MS River Basin.

IL is one of the top contributors of both N and P

- Indiana - Spring and Fall Transect Surveys
- Iowa - 1st state to inventory every HUC12 Watershed. 3 year effort. Used LIDAR & aerial imagery to estimate BMP needs. Completed SU'2018.
- Minnesota - 2017 Buffer Law, up to 50 ft vegetation along lakes, rivers, & streams, 16.5 ft along ditches. SWCDs report installation progress
- Missouri - FY18 \$40M from the State to projects. Adding new practices to State Cost-Share list



## 4. What is going on in other States?

- Ohio - State funds for projects \$13.55M. Revised tool to help farmers assess their risk of P moving off the fields. EPA grants for home septic replacement, etc.
- Wisconsin - Tillage setbacks 5 - 20 ft
- Not in MS Watershed, but still noteworthy
  - Oregon - OWs work with SWCDs to avoid compliance issues/fines by the Oregon Dept of Ag.
  - Vermont - State “Phosphorus Innovation Challenge” to recover and sell P. \$250,000 in grants. State invested \$100M for clean water in last two years

## 5. NLRS Reporting

- IL NLRS Reporting is currently bi-annual from all partners to Extension to compile statewide
- Deadlines June 30<sup>th</sup> and December 31<sup>st</sup>
- AISWCD will be requesting reporting data shortly
- Should be similar Excel format like last summer
- Working with IDOA & IEPA to consider combining reports together, so SWCDS only have one report to completed (not 3 each year)



## 5. NLRs Reporting

Examples of reportable items (*water quality focused*)

- Education and outreach activities
- Tours, field days, meetings, plots
- Education events, speaking engagements
- Newsletter articles, press releases, radio, T.V., websites, social media
- Awards, recognition
- Surveys conducted with NLRs-type questions

# Questions?

Up next....

IEPA, Christine Davis - Watershed Planning