TRY ONE THING

WHAT WILL YOU ADD TO YOUR STRATEGY?

GETTING STARTED GUIDE

WHAT IS THE ILLINOIS NUTRIENT LOSS REDUCTION STRATEGY?

The Illinois Nutrient Loss Reduction Strategy (NLRS) is a framework for using science, technology and industry experience to assess and reduce nutrient loss to Illinois waters and, ultimately, the Gulf of Mexico.

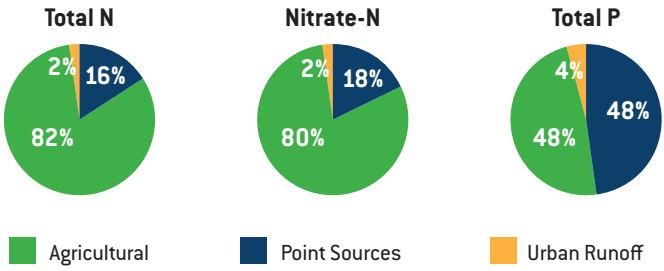
Nutrient loss is a threat to water quality in Illinois. State and local efforts to manage nutrient use and reduce losses have yielded positive results, but new strategies are needed to secure the future health of our waters throughout Illinois and the Mississippi River Basin.

The Illinois NLRS builds upon existing programs to optimize nutrient loss reduction while promoting increased collaboration, research and innovation among the private sector, academia, non-profits, wastewater agencies, and state and local government.

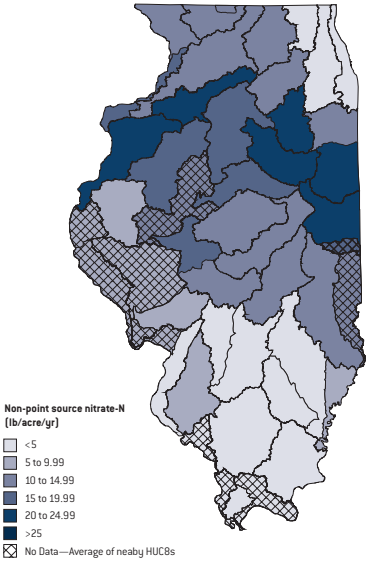
WHO IS RESPONSIBLE FOR REDUCING NUTRIENT LOSS?

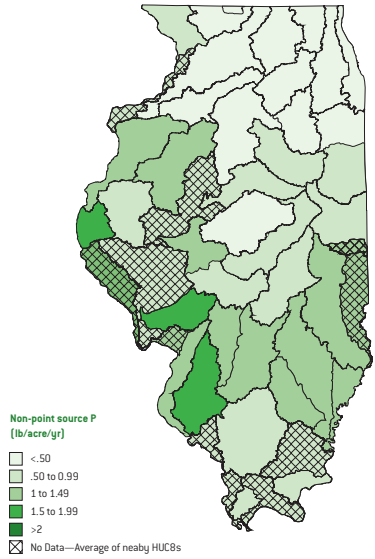
Everyone has a role to play, whether you live and work in a rural, suburban or urban area. Specific to farmers, the Illinois NLRS includes recommendations for reducing nitrogen and phosphorous losses from erosion and runoff by implementing voluntary best management practices.

Illinois soybean farmers have a long history of increasing productivity while decreasing environmental impact. This has helped us meet ever-increasing worldwide demand for our beans. Every Illinois farmer must consider adopting voluntary best management practices on every acre of land to help meet Illinois NLRS goals, and we must do so profitably. In Illinois we already have solutions to reduce nutrient losses from agriculture. We also have the ability to find solutions that will help the entire supply chain, from the soybean field to consumers around the world. But to do so, we must work together.



NUTRIENT	PHASE 1 MILESTONES	TARGET
Nitrate-nitrogen	15 percent by 2025	45 percent
Total phosphorus	25 percent by 2025	45 percent





HOW IS AGRICULTURE ADDRESSING NUTRIENT MANAGEMENT?

Healthy soils are crucial to farmers' livelihood, while a clean, abundant water supply is important to all Illinois residents. **Illinois farmers continually evaluate and adopt best management practices to conserve natural resources, keep their fertilizer investment for the crop and protect water quality.** This includes investing in conservation tillage, buffer strips, nutrient management and cover crops.

Illinois farmers also invest in research by supporting the Illinois Nutrient Research and Education Council (NREC). NREC invests in nutrient research and education to improve nutrient use efficiency, increase crop production and protect water quality. During the last three years, research on farms and at universities has involved 40 projects totaling $6.4 million. Farmers and professionals use these science-based findings to determine methods to reduce nutrient losses.

Illinois Council on Best Management Practices (C-BMP) members, including the Illinois Soybean Association (ISA) checkoff program, are committed to extensive Illinois NLRS education. It is expected that voluntary implementation of best management practices will increase and that farmers will build on their existing nutrient management plans as these efforts continue. C-BMP will report on outcomes and adoption rates of these practices to reduce nutrient losses.

TO LEARN MORE:

Illinois Soybean Association
(309) 808-3610 | ilsoy.org/sustainability

Illinois Corn Growers Association
(309) 231-7440 | ilcorn.org

Illinois Council for Best Management Practices
(217) 528-3434 | illinoiscbmp.org

Illinois Farm Bureau
(309) 557-3153 | ilfb.org

IN FIELD

COVER CROPS

Incorporating cover crops[1] into your rotation helps to improve soil health and reduce nutrient losses by taking up nutrients left over from the previous crop.

BENEFITS

- Improved soil health
- Improved water infiltration
- Increased soil organic matter
- Hold nutrients in the soil profile
- Reduced soil erosion
- Reduced compaction
- Increased biological activity

CHALLENGES

- Selecting the right species for your needs
- Choosing the right planting method
- Planting early enough to realize benefits before winter
- Establishing a good stand late in the season
- Timely termination in the spring
- Winterkill

>> GETTING STARTED

Most experts agree: start small and work with others in your area who have experience with cover crops.

"I don't want my farm to go down the creek. It could take 50 years to put back soil that's been lost."

— Ralph Upton, Fairfield, IL

IN FIELD

PRECISION AG

Investing in precision agriculture[2] allows growers to use technology to create management systems based on site-specific data on soils, crops, nutrients, pests, moisture or yield.

BENEFITS

- Precise nutrient and pesticide application
- Increased efficiency of crop inputs
- Reduced compaction, reduced runoff and increased infiltration

CHALLENGES

- Steep learning curve
- Investment in new technology
- Determining ROI of technology and consulting

>> GETTING STARTED

Work with your equipment dealer, crop consultant or local crop advisor to get started.

IN FIELD

REDUCED TILLAGE

Reduced tillage[3] systems save time, labor and fuel costs, while providing important benefits such as reduced soil erosion, increased organic matter and improved overall soil health.

BENEFITS

- Saves time and labor
- Reduced fuel and machinery wear
- Improved water infiltration and reduced erosion
- Helps build soil organic matter
- Improved overall soil health

CHALLENGES

- Changes weed control program
- Getting a good crop in the spring may be a challenge with certain soil types

>> GETTING STARTED

Work with your crop consultant or local crop advisor to learn more.

IN FIELD

SPLIT NUTRIENT APPLICATIONS

Dividing total nutrient application[4] into two or more treatments can help growers enhance nutrient efficiency, promote optimum yields and mitigate the loss of nutrients.

BENEFITS

- Nutrients applied when plants need them
- Improved ROI on nutrient investment
- Reduced loss to the environment
- Better nutrient use efficiency

CHALLENGES

- Weather can impact ability to get into the field
- Costs from additional applications

"We side-dress nitrogen on the vast majority of our corn when it's knee high. We can put less on, because we apply it when the crop needs it."

— Doug Schroeder, Mahomet, IL

>> GETTING STARTED

Work with your crop consultant or local crop advisor to get started.

EDGE OF FIELD

BIOREACTORS

Creating a bioreactor[5] can be as simple as a buried trench filled with woodchips serving as a food source for microorganisms that will help break down nitrate in the tile water by converting it to atmospheric nitrogen (N_2).

BENEFITS

- No land taken out of production
- Immediately begins removing nitrate from tile water
- Less expensive than wetland restoration
- No negative impact on drainage

CHALLENGES

- At peak water flows, they may not capture all nitrates
- Woodchips must be replaced every 10 – 20 years
- Installation costs average $8,000, but funding may be available

>> GETTING STARTED

Work with your local FSA office to determine eligibility requirements for program and funding support.

"Bioreactors are new and there isn't a lot of information out there yet, but it's exciting to look into something new that has the potential to make a big difference on my farm."

— Kevin Marshall, Big Rock, IL

EDGE OF FIELD

WORKING WETLANDS

Working wetlands[7] are a valuable approach to reducing nutrient loss from tile drainage.

BENEFITS

- Specifically designed to intercept tile water
- Uses natural processes to remove excess nutrients
- Minimizes impact on farming operation

CHALLENGES

- May remove land from production
- Not always viewed as a farm asset

>> GETTING STARTED

Work with your local FSA office to determine eligibility requirements for program support.

EDGE OF FIELD

SATURATED BUFFERS

Using saturated buffers[6] helps to remove nitrates from subsurface drainage water at low cost.

BENEFITS

- No effect on field drainage
- Significantly improves drainage water quality
- Provides wildlife habitat and reduces flood impacts

CHALLENGES

- Cost can vary greatly
- Requires a control structure to divert flow

"We've been getting easily seven to nine inches of rain a week. A pond will catch that flooding, and the pond without nearby prairie cover will rise a good four feet, as opposed to just a foot with prairie cover."

— Robert "Woody" Woodruff, Modesto, IL

>> GETTING STARTED

Work with your local FSA office to determine eligibility requirements for program support.

LAND CONVERSION

WATERWAYS

Waterways[6] establish a natural drainageway for water flowing off the field.

BENEFITS

- Prevents gullies from forming
- Vegetation filters nutrients from runoff water
- Provides cover for wildlife

CHALLENGES

- May remove land from production
- Costs can vary

>> GETTING STARTED

Work with your local FSA office to determine eligibility requirements for program support.

Sources:

1 http://www.mccc.msu.edu/
2 http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1043474.pdf
3 http://www.ctic.purdue.edu/resourcedisplay/293/
4 http://www.nutrientstewardship.com/implement-4rs/article/split-fertilizer-application-helps-optimize-nutrient-management
5 http://www.iasoybeans.com/environment/node/109
6 http://slideplayer.com/slide/3447203/
7 http://www.wetlands-initiative.org/growing-wetlands-for-clean-water/?rq=growing%20wetlands%20for%20clean%20water

ILLINOIS SOYBEAN ASSOCIATION

Funded by the **Illinois** soybean checkoff.

ilsoy.org/sustainability

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