



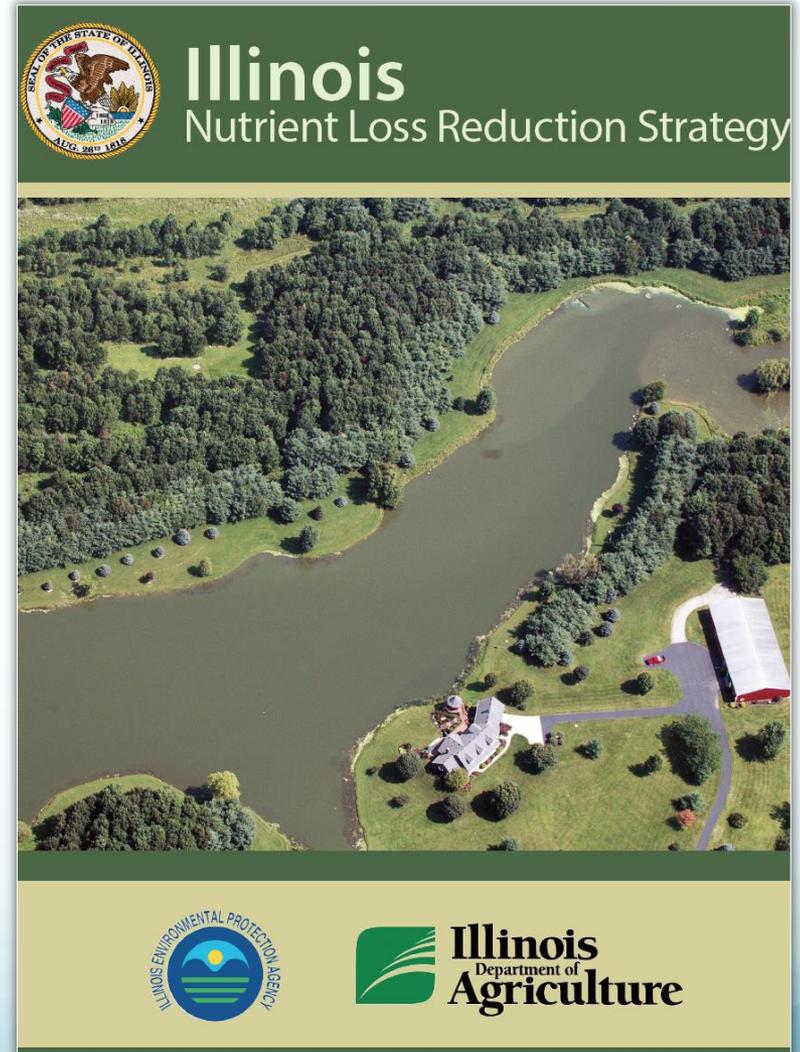
Illinois Nutrient Loss Reduction Strategy

Environmental Advocacy Groups' Perspective

Dr. Cindy Skrukrud, Clean Water Advocate
Illinois Sierra Club

Background

- Nutrient loss and runoff is a major threat to water quality in Illinois.
- Excess nitrogen and phosphorus fuel algae blooms that decrease oxygen needed by aquatic plants and animals.
- Nutrients washed down by the Mississippi River have created a "dead zone" that stretches for thousands of square miles in the Gulf of Mexico.
- Dual nutrient strategy targeting at least a 45% reduction in riverine total nitrate-nitrogen and total phosphorus load.
- Framework for using science, technology, and experience to assess and reduce nutrient loss to Illinois waters and the Gulf of Mexico.
- Developed in response to U.S. EPA 2008 Gulf Hypoxia Action Plan.



Environmental Groups' Goals for Strategy

- An established timeline for reducing Illinois nitrogen and phosphorus output to the Gulf of Mexico by 45% by 2040.
- Assure that discharges of phosphorus and nitrogen do not cause or contribute to violations of Illinois' dissolved oxygen standards or the narrative standard against plant or algal growth of other than natural origin in Illinois waters.
- Set the course to resolve Illinois' nutrient problems—both for in-state waters and our state's contribution to Gulf Hypoxia.

Concerns

- Draft Strategy is a step in the right direction.
- Draft Strategy does not clearly lay out the necessary course of action with benchmarks along the way to achieve the needed reductions.
- Sufficient scientific evidence exists to establish numeric criteria for total phosphorus for Illinois rivers and streams immediately.

Recommendations

- Establish a 2040 target end date to meet the 45% nitrate-nitrogen and phosphorus load reduction goals.

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Table 2.1. Watershed milestones and targets.

Nutrient	Phase 1 Milestones	Target
Nitrate-nitrogen	15 percent by 2025	45 percent by 2040
Total phosphorus	25 percent by 2025	45 percent by 2040

Recommendations

- Lay out a scenario of wastewater treatment improvements and agricultural management practice changes necessary to meet the 2025 milestone and 2040 target.
- Adopt a target schedule to implement needed improvements of 20% by 2020, 40% by 2025, 60% by 2030, 80% by 2035 and 100% by 2040.

Recommendations

Lay out a scenario of wastewater treatment improvements and agricultural management practice changes necessary to meet the 2025 milestone and 2040 target.

- Scenario NP2
 - developed in **Science Assessment** by Mark B. David, Gregory F. McIsaac, Gary D. Schmitkey, George F. Czapar, Corey A. Mitchell, peer reviewed by academics in the Upper Mississippi region
 - Meets 45% reduction goal for both phosphorus and nitrate-nitrogen
 - Includes reductions from both point sources and agriculture
 - Elements include—
 - Maximum Return to Nitrogen application of nitrogen
 - spring-only N application
 - bioreactors on 50 percent of acres
 - no P fertilizer on 12.5 million acres above Soil Test Phosphorus maintenance
 - reduced till on 1.8 million conventionally tilled acres eroding >T
 - cover crops on all corn/soybean acres
 - point source to 1 mg total P/L and 10 mg nitrate-N/L

Recommendations

Adopt a target schedule to implement needed improvements of 20% by 2020, 40% by 2025, 60% by 2030, 80% by 2035 and 100% by 2040.

- NP2 example— bioreactors on 50 percent of acres
 - On 10% acres by 2020, on 20% acres by 2025, on 30% acres by 2030, on 40% acres by 2035, on 50% acres by 2040
- A number of improvements likely can move forward on a quicker schedule
 - Agricultural measures that reduce costs, including MRTN, reduced phosphorus, reduced tillage
 - Improvements at sewage treatment plants
- Adaptive management— reassess every 5 years

Recommendations

Nutrient Science Advisory Committee should—

- swiftly move forward on recommending statewide phosphorus standards for rivers and streams to supplement the existing phosphorus criteria for lakes.
 - The 2011 Framework states “reasonable timetable would include developing numeric N and P criteria for at least one class of waters within the state (e.g., lakes and reservoirs, or rivers and streams) within 3-5 years.”
 - Make use of work from surrounding states, including Wisconsin’s 0.070 mg/L (streams) and 0.1 mg/L (rivers) standards and Minnesota’s 0.15 mg/L standard for its southern corn belt region.
- conduct additional scientific review to help develop appropriate criteria for nitrogen.

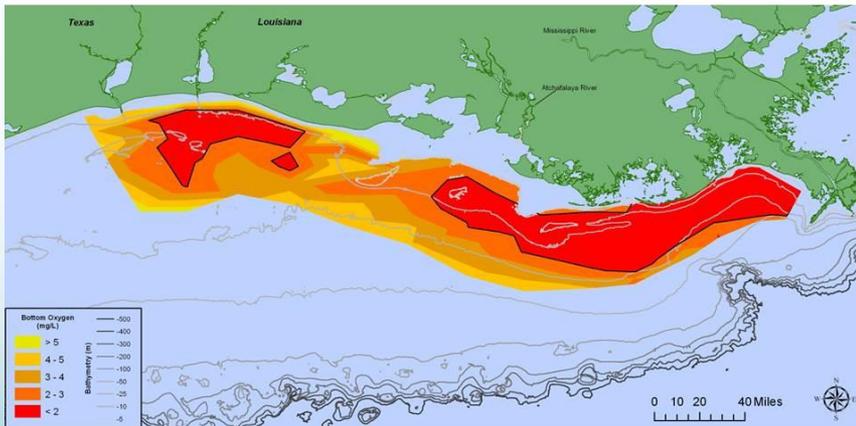


Thank You!

cindy.skrukrud@sierraclub.org

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Bottom-water Dissolved Oxygen – 2014



Distribution of bottom-water dissolved oxygen July 27-August 1 (west of the Mississippi River delta), 2014. Black line indicates dissolved oxygen level of 2 mg/L.



Data source: Nancy N. Rabalais, LUMCON, and R. Eugene Turner, LSU
 Funding sources: NOAA Center for Sponsored Coastal Ocean Research and U.S. EPA Gulf of Mexico Program

