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Innovative Plan to Reduce Pollutants in Illinois Waterways Holds Promise, Study Finds

Conditions are right to pursue a market-based system to protect Mississippi River and Gulf of Mexico

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December 7, 2021 (Chicago) – An innovative solution is within reach to address excessive nitrogen and phosphorus from Illinois that threaten drinking water and choke aquatic life, including in the Gulf of Mexico, according to water quality experts.

The solution, a trading system for pollution reduction, is a cost-effective means to incentivize Illinois farms to adopt new practices and technologies to prevent nutrients from reaching waterways.

The findings are contained in a [white paper](#) on the Illinois Nutrient Trading Initiative being released today by [Current](#), the non-profit water quality innovation organization; and the [Abrams Environmental Law Clinic](#) at the University of Chicago Law School.

Current and the Abrams Clinic convened stakeholders beginning in 2018 to evaluate market-based solutions that would reduce levels of nitrogen and phosphorus that end up in Illinois streams and rivers, as well as in the Mississippi River and ultimately into the Gulf of Mexico. Excess nutrients feed the growth of algae, which consumes so much oxygen that it creates enormous “dead zones” in bodies of water like the Gulf of Mexico. Locally, algae can be toxic for people and pets and can foul drinking water.

Nutrients come from many sources, including farms, sewage treatment facilities, and run-off from lawns and golf courses. Run-off from Illinois farms is one of the major contributors to these dead zones, and the agricultural community has identified new technologies and practices to limit nutrients leaving farmlands.

“Looking ahead, we must collectively find ways to achieve water quality at the lowest cost to all. Agriculture is in a unique position to voluntarily adopt solutions on the farm, where the environmental impacts are far greater, and the expense is far less,” said Chris Kopman, general manager of Newtrient, a company that provides manure management technologies and participated in the study.

Current and the Abrams Clinic have concluded that, despite challenges, conditions are generally favorable to move forward in Illinois with a market-based nutrient trading system.

“A well-designed nutrient trading program could deliver strong economic opportunities and verifiable environmental benefits at lower costs,” said Alaina Harkness, executive director of Current.

“We know that the 20th century regulatory approach isn’t working to address this defining water quality problem of the 21st century,” said Mark Templeton, Clinical Professor of Law and Director of the Abrams Environmental Clinic at the University of Chicago Law School. “After three years of work, we have found that there are opportunities to align the interests of the agricultural community, municipal wastewater plant operations and watershed groups to address these challenges.”

Related programs in Iowa and Wisconsin provide valuable insights into how a trading system could work. The geography of Illinois’ nutrient sources and the features of agriculture practices in the state – such as existing drainage systems that would allow for significant monitoring – increase the likelihood of success.

In a simplified example, a dairy producer would adopt environmentally friendly features on their land, which would be assigned a credit value based on the volumes of nutrients they credibly prevent from entering a waterway. Then, a facility like a wastewater treatment plant could buy those credits to meet its own regulatory requirements, rather than making more expensive upgrades to

its equipment -- creating revenue for the dairy producer to invest in solutions while improving water quality and reducing compliance costs funded by utility ratepayers.

Among the findings contained in the 50-page white paper produced by Current and the Abrams Clinic, available [here](#), are:

- Illinois is one of the biggest contributors to the dead zone in the Gulf of Mexico, which has reached the size of the state of New Hampshire and is growing despite expensive mitigation efforts.
- Despite some progress, Illinois is not meeting goals to reduce phosphorus as spelled out in the state's Nutrient Loss Reduction Strategy. In fact, while the plan called for phosphorus to drop by 25% by 2025, instead it grew by 26% because of a variety of factors.
- Wastewater treatment plants have spent more than \$300 million over three years to assess nutrient discharges, and while the money is well spent, there could be greater return spending additional money in agricultural and other rural and suburban areas.
- For every \$1 spent to reduce phosphorus from wastewater plants, in some cases it could cost only about 20 cents to produce the same amount of reduction through agricultural programs.
- There is broad consensus among stakeholders that a new approach is needed, and conditions in Illinois could support a market-based approach.

The paper's authors acknowledge the difficulty in launching a new system, and the study outlines hurdles that must be overcome to create a trading system, including:

- Establishing stricter and more immediate limits on phosphorus and other pollutants at large sources like municipal wastewater treatment plants, where justified by the need to reduce overall levels of pollution. These limits would facilitate market-based approaches for compliance, and would help attain water quality goals through lower-cost reduction alternatives on agricultural land.
- Identifying and accelerating the technologies that need to be in place to monitor, measure, and verify the outflow of pollutants; and
- Agreeing on how to measure and verify the environmental benefits of specific efforts that capture nutrients of agricultural operations.

Stakeholders who participated in the study are working on pilot projects and testing technologies that can be used for development and implementation of the market-based trading system.

About Current

Current is a catalyst for better, cleaner water. Founded in Chicago in 2016, our mission is to grow an inclusive Blue Economy, accelerate innovation, and solving the pressing water challenges. We bring together corporations, nonprofits and governments to develop water management policies and test new technologies — projects that would be too risky or even impossible for any one group to undertake. Our innovation hub is growing because water is no longer an issue; it's a crisis. Our health and environment hang in the balance.

About The Abrams Environmental Law Clinic

The Abrams Environmental Law Clinic at the University of Chicago Law School attempts to solve some of the most pressing environmental problems throughout Chicago, the State of Illinois, the Great Lakes region, and the United States. On behalf of clients, the clinic challenges those who pollute illegally, fights for stricter permits, advocates for changes to regulations and laws, holds environmental agencies accountable, and develops innovative approaches for improving the environment.