



Metropolitan Water Reclamation District of Greater Chicago

Press Release

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Rural-urban collaboration yields alternative solutions to improve state water quality

A partnership between the Metropolitan Water Reclamation District of Greater Chicago (MWRD) and Illinois Farm Bureau (IFB) is making headway in its goal to develop strategies to improve the nation's water quality.

This innovative collaboration was borne out of the USEPA's goals to reduce the hypoxic zone in the Gulf of Mexico, restore and protect local and regional water quality in the Mississippi River basin, and improve land management throughout these communities. Based on this framework, the Illinois Nutrient Loss Reduction Strategy (NLRS) was established in 2015 to reduce total phosphorus (25 percent) and total nitrogen (15 percent) loads by 2025 with the long-term goal of a 45-percent reduction of the loss of these nutrients to the Mississippi River.

But with so many sources contributing to these nutrients, a challenging environmental problem would require an intricate solution between different players. To tackle these Illinois NLRS goals, point sources like the MWRD, which transformed 1.47 billion gallons of wastewater in 2019 and discharged it as clean water into area waterways, joined forces with non-point sources representing the agricultural industry.

Stakeholders across Illinois came together to reduce the amount of nutrients entering the waterways from wastewater treatment plants (point sources) and farm field fertilizer runoff (non-point source). They realized they could achieve a greater benefit at a lower cost through collaboration between each other, rather than a targeted approach aimed solely at point sources.

In addition to deploying new nutrient recovery technology, the MWRD voluntarily established a program at its Fulton County site to foster collaboration with the agricultural sector to develop and expedite nutrient reduction practices in non-point source areas.

The 13,500-acre property, located in Fulton County between Canton and Cuba, Illinois, was originally purchased



Last year MWRD Principal Environmental Scientist Guanglong Tian explained cover crop inter-seeding to a group of farmers and clean water professionals at an agricultural test site the MWRD manages in Fulton County, Illinois.

in 1970 to restore strip-mined land and approximately 4,000 acres were converted to productive farmland. Years later it became the ideal site to use some of the farm fields to develop and test best management practices to reduce non-point source nutrients.

Since 2015, research and demonstration projects have been established at the site in collaboration with many partners such as the University of Illinois at Urbana-Champaign (UIUC) Crop Science Department, UIUC Department of Agricultural and Biological Engineering, Illinois Sustainable Technology Center, Illinois Central College, Ecosystem Exchange, IFB, and Fulton County Farm Bureau. The projects established include inter-seeded cover cropping, riparian grass buffer, denitrifying bioreactors, runoff irrigation, subirrigation, drainage water managements, designer biochar, and watershed-scale nutrient reduction demonstration.

“The synergies between the MWRD, IFB, University of Illinois, Illinois Central College and other agricultural partners are giving us a better understanding of what strategies are most effective and practical in *(continued)*

Rural-urban collaboration yields alternative solutions, *cont.*

addressing nutrient loss reduction,” said MWRD President Kari K. Steele.

MWRD Commissioner Marcelino Garcia said that “through this collaboration, we can contribute to the NLRS by sharing data and educating more farmers, all with the intent to improve water quality and help farmers impact the greater good for the planet.”

The partners, including the UIUC and MWRD, recently received a \$1 million grant from the EPA for more research, which include the development and scale up an innovative bioreactor and treatment system to effectively capture nutrients from subsurface drainage water, recycle nutrient-captured biochars as a slow-release fertilizer, and keep nutrients in the closed agricultural loop.

“This partnership brings together a powerful mix of collaborators that helps bridge the gap between rural and urban communities,” said Lauren Lurkins, director of environmental policy, IFB. “The real strength here is that we have the whole spectrum – researchers, farmers and clean water professionals – working together to move the needle on the state’s NLRS.”

Findings from these projects are reaching local and regional agricultural communities, through annual field days and workshops, and publications.

In the summers of 2018 and 2019, the partners came together to host a field day on the Fulton County site. These field days drew crowds of area farmers and stakeholders to hear MWRD clean water experts’ and soil scientists’ research presentations showcasing research on water quality and practices to reduce nutrient loss.

Partners have also had the opportunity to showcase Illinois’ efforts on the national stage at the Annual Water Resources Conference of the Universities Council on Water Resources and the National Institutes for Water Resources held in Utah last summer.

Additionally, MWRD has hosted IFB farmer leadership on several occasions for tours and discussions of their operations in the Chicagoland area. Regular meetings, both in-person and conference or video calls make for a steady dialogue and constant collaboration.

“This partnership proves to be a win-win as farmers and fellow state water quality stakeholders share their goals and struggles and engage in that conversation, especially during face-to-face tours and sit-down discussions that we’ve had over the past few years,” said Jeff Kirwan, Mercer County



Not far from the banks of the idyllic Spoon River, the MWRD in 2014 initiated a research and demonstration program in Fulton County to develop and test best management practices to reduce nutrient loss from Illinois farm fields.

farmer and IFB district 3 director, who joined a MWRD facilities tour with the IFB Strength With Advisory Team in 2019.

In 2020, an internal-facing virtual focus group was held with stakeholders, including Farm Bureau staff, UIUC and MWRD researchers and farmers to discuss ongoing efforts at length and plans for future work within the partnership.

The partners involved in this project look forward to continuing to explore ways to strengthen their collaboration, with the goal of bringing farmers and the MWRD research team together at the Fulton County research and demonstration site in 2021. In addition, the partners plan to engage Cook County Farm Bureau leadership in both the Fulton County site, and brainstorm on ways to expand the partnership closer to the city.

For more information on the partnership and its efforts, please visit <http://www.ilfb.org/take-action/current-priorities/protecting-our-environment/rural-urban-partnerships/> and <https://mwrld.org/fulton-county>.

About the Illinois Farm Bureau

The Illinois Farm Bureau is a member of the American Farm Bureau Federation, a national organization of farmers and ranchers. Founded in 1916, IFB is a non-profit, membership organization directed by farmers who join through their county Farm Bureau. IFB has a total membership of more than 386,291 and a voting membership of 79,159. IFB represents three out of four Illinois farmers.

Recovering Resources, Transforming Water

Established in 1889, the Metropolitan Water Reclamation District of Greater Chicago (MWRD) is an award-winning, special purpose government agency responsible for wastewater treatment and stormwater management in Cook County, Illinois. Learn more at mwrld.org.