

# Confluence

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## **Introduction**

Tracking and quantifying nitrogen and phosphorus movement from their source to the Gulf of Mexico is difficult. This is especially true for plant nutrients derived from agricultural landscapes due to variability in management, soils, hydrology and climate among other factors, all of which affect complex biological and chemical transformations that determine their fate in the environment and their impact on water quality.

To effectively minimize nutrient losses from agricultural landscapes requires: 1) the ability to identify the location of the nutrients and determine how much and when nutrients are moving from a management unit such as a field or farm or a watershed to a receiving water body, 2) the ability to determine how to apply reduction practices specific to an individual management use in terms of what practices are effective and practical, 3) and the ability to measure or monitor the effect of reduction so that adaptive management takes place to account for the dynamic nature of living biological systems.



Another difficulty in finding effective solutions is the geographical scale at which the solution should be applied or defined. For agricultural producers, scale is often on a field- by- field basis or within a field such as variable rate applications. For others that serve agricultural producers, the solution scale might be on a farm by farm basis. For those that manage waterbodies that scale might be at multiple watershed scales and for policy makers, the solution scale might actually align with political boundaries rather than hydrological boundaries.

Solution strategies can be categorized into educational, incentive or market-based, regulatory, or some combination among the three, each having its own geographical or political scale. For example, voluntary financial incentive programs such as the Mississippi Healthy River Basin Initiative (MRBI) utilize local conservation partnerships to develop funding proposals that define issues and matching NRCS-approved conservation practices at the 12 –digit watershed-scales. If funded, NRCS administers locally (County or Conservation District scale) federal financial incentives based on a pre-determined ranking system of eligible producers to adopt conservation.

As far as regulatory approaches, Ohio, Minnesota and Arkansas among other states have passed some form of nutrient management legislation for agriculture during the previous decade. The federal Clean Water Act rules pertaining to Concentrated Animal Feeding Operations (CAFO's) are also an example of a regulatory strategy at a different scale.

If issues cannot seemingly be resolved by voluntary (education and incentives) or regulatory approaches, then lawsuits may ensue. Lawsuits over the quality of runoff or drainage from agricultural operations appear to be increasing in importance. For example, the Des Moines Water Works, an Iowa water utility, recently sued several upstream drainage districts over levels of nitrate in discharge from agricultural tile drains.

Navigating through the complexities of nutrient management – both the science in the fate of nutrients in the environment and the range of potential solutions – is a big challenge. Obviously more research and education as well as effective collaborations among stakeholders are required to reduce some of the barriers to defining progress. While we cannot make progress with just a newsletter such as *Confluence*, we are striving to provide a combination of articles that addresses the things we discussed above. For example, in this issue, we will focus on: 1) a new soil test developed to reduce nitrogen needs in rice production, 2) outcomes from the MRBI program in Missouri, 3) the Des Moines Water Works potential lawsuit and what legal outcomes are possible, and 4) efforts being made in the Great Lakes area. We hope these examples will provide a range of information that will inform your work, whether you're focusing on a small local watershed or on national water and agricultural policy.

Sincerely, your Co-Editors

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## Missouri MRBI Efforts Combat Water Pollution from Agricultural Lands

Missouri is at the nation's water crossroads with the Missouri, Ohio, and Mississippi rivers all intersecting our state's borders. These rivers have sustained our population with basic necessities and helped shape our commerce and our culture.

Because Missouri receives drainage from a large section of the country, the quality of our water partially reflects characteristics of natural settings and the upstream actions of neighboring states. In turn, we pass along the water-quality consequences of our actions to individuals that live downstream.

Missourians have a long track record of implementing conservation to improve the quality of life for themselves and others. In 1984, Missouri voters passed a state sales tax that generates about \$30 million each year to help fund voluntary conservation programs. These funds complement the various federal efforts aimed at protecting our natural resources. With more than 90 percent of our state's land privately owned, this voluntary approach to solving soil and water issues has proven effective.



(from left) Mark Krueger, NRCS district conservationist, Ranjith Udawatta, University of Missouri Research Assistant Professor, and Steve Hefner, NRCS water quality conservationist, check data in a station at an MRBI site in northeastern Missouri.



Signs were created and placed at high-visibility locations in each of Missouri's MRBI watersheds.

First initiated in 2010, the Mississippi River Basin Healthy Watersheds Initiative (MRBI) has been used to encourage landowners in critical watersheds to restore wetlands and establish other management systems that reduce soil runoff into streams. Considering the state's track record for being a conservation leader, Missouri's enthusiastic response to MRBI was no surprise. Through September 2014, Missouri established 22 projects and contractually obligated \$40 million to treat 151,000 acres with conservation practices through MRBI. The Federal funds have been amplified with contributions from program participants, local conservation organizations, and state agencies. More than 60 partners have rallied to support MRBI in Missouri.

Many of the conservation practices installed through MRBI will serve the public for many years. Because local stakeholders assisted in the project design, solutions were tailored to meet the specific needs of the watersheds. These conservation practices improve the environment, especially when they are part of a systems approach.

MRBI provides an avenue for participants to monitor runoff. With our partners at the University of Missouri and the Missouri Department of Natural Resources, we set up high-tech stations in crop fields that allow us to collect and monitor water samples to study the effectiveness of conservation practices. Preliminary results confirm these conservation practices are effective and we plan to use the lessons learned to refine the administration of our programs.



Missouri is monitoring rainfall and volume of runoff from selected MRBI sites.

As I travel across the state I receive feedback from landowners and organizations about how MRBI has made a positive impact to their region. Local conservationists tell me that the targeted efforts have accelerated practice implementation by about 10 years. This is exciting and a source of great optimism, because landowners are installing practices that work in watersheds that eventually feed into the Mississippi River and the Gulf of Mexico. We are unsure about how much time it will take, but we are confident that our conservation investments will positively affect the local lakes and streams, larger rivers, and the Gulf.

With the passage of the 2014 Farm Bill, NRCS embarked on the next round of MRBI efforts. As an agency, we are once again eager to partner with entities to develop effective projects in critical areas. First and foremost, we desire to assist private landowners with sound conservation planning to achieve their goals of profitable and sustainable landscapes.

Improving the quality of our water is a big task. It requires the support and participation of many individuals, groups, and agencies. By working together in critical watersheds in Missouri local farmers will improve their crop production and water quality benefits will be realized all the way to the Gulf.

--- J.R. Flores, State Conservationist, USDA Natural Resources Conservation Service, Columbia, MO

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## Drainage Districts, Agriculture, and the Clean Water Act: What Happens in Des Moines Stay in Des Moines?

### Summary

On January 9, 2015, Des Moines Water Works (DMWW), an Iowa water utility, communicated its intent to file a lawsuit involving several Iowa drainage districts “for the discharge of pollutants into the Raccoon River in violation of the Clean Water Act, Iowa Code § 455B.186, and for other claims under state statute and common law of nuisance, trespass, and negligence.”<sup>1</sup> This article focuses on the DMWW Clean Water Act (CWA) arguments raised in the letter of intent to sue.<sup>2</sup>



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On March 10, DMWW voted to move forward with the lawsuit.<sup>3</sup> DMWW filed the complaint in mid-March after the requisite sixty-day notice period mandated by the CWA for private party lawsuits.<sup>4</sup> The DMWW action is a high stakes and novel legal challenge that will have far-reaching impacts on agricultural production as well as the ongoing debate over the impact of agricultural production on water quality in Iowa and beyond, especially in the Mississippi River Basin states.

This article provides a very brief and objective discussion of the DMWW action and key legal issues involved regarding the Clean Water Act (CWA) claim. The article also highlights two related legal and policy issues that help shape the broader context in which the DMWW action arises. These issues include the debate over the jurisdictional scope of the CWA and the development of numeric nutrient water quality criteria under the CWA. These two issues are important standing alone or coupled together independent of the DMWW action, but are of added importance in light of a legal proceeding that challenges whether drainage districts are point sources under the CWA.

Should the drainage districts be required to obtain an NPDES permit that placed effluent limitations on nitrates or other nutrients, there would likely be increased scrutiny towards farm fields and other actors that contribute flows into the drainage districts. This potential shift is accentuated in light of ongoing debate regarding the jurisdictional scope of the CWA and the development of numeric nutrient criteria. Moreover, the outcomes of the DMWW action will influence whether or how similar actions are instituted in other jurisdictions.

### Background

The DMWW was established in 1919 to serve as an independently owned and operated public utility. Today, DMWW is the largest water utility in Iowa and is managed by a five member Board of Trustees, each of whom is appointed by the Mayor of the City of Des Moines.

On January 8, 2015, the DMWW Board of Trustees voted unanimously to formally notify the Chairpersons for the Sac County Board of Supervisors, the Calhoun County Board of Supervisors, and the

Buena Vista County Board of Supervisors of their intent to sue over their concerns about nitrate pollution entering the Raccoon River and the Des Moines River. The following day, DMWW issued its letter to the three County Chairpersons, along with other local and state officials.

In the January 9 letter, DMWW detailed its concerns over nitrates in the water supply, the financial costs it claims it must bear to properly clean the water as a result of the presence of high concentrations of nitrates, and human health risks associated with high levels of nitrates. In light of the numeric nutrient criteria issue, discussed more below, it bears noting that the January 9 letter also states that “[e]utrophication and the development of hypoxic conditions in the Gulf of Mexico’s dead zone are also directly attributable to nutrient transport from agriculture into the tributaries of the Mississippi, including the Raccoon River and Des Moines River.”<sup>1</sup>

To understand the legal issues raised in the DMWW, one must have at least a cursory understanding of the use of tile drainage in agriculture.<sup>5</sup> The use of tile drainage in agriculture is a longstanding and common practice in Iowa and other states. Generally stated, tile drainage optimizes the productivity of agricultural lands by removing excess subsurface moisture from the soil. The tile drainage transports flows through numerous underground pipes that are typically transported into open ditches or other pathways until they reach a surface water. Drainage districts, such as the ones at issue in the DMWW action, are the administrative entities that typically oversee the construction and maintenance of the ditches, streams, and similar structures that facilitate drainage from the watershed. Technically, the process initiated by DMWW focuses on drainage districts rather than tile drainage at farm fields.

### **DMWW Clean Water Act Argument**

In 1972, Congress enacted the CWA “to restore and maintain the chemical, physical, and biological integrity of the nation’s waters.”<sup>6</sup> The CWA applies to “navigable waters”, which is defined as “the waters of the United States, including the territorial seas.”<sup>7</sup> The CWA distinguishes between “point source” and nonpoint source pollution. Nonpoint source pollution is water runoff that emanates from broad areas such as that from agricultural and non-agricultural areas, rather than from a specific point of discharge. Specifically, the CWA requires that a “point source” must obtain an NPDES permit in order to discharge a pollutant into a navigable water, while nonpoint source is addressed through voluntary programs that do not involve permitting.

The CWA defines “point source” as follows:

any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture.<sup>8</sup>

The core argument raised by DMWW is that the drainage districts are point sources under the CWA and, therefore, must obtain an NPDES permit. Specifically, DMWW alleges in its January 9 letter that the “elaborately engineered government drainage systems consisting of pipes and conduits have been

overlooked as point sources under the CWA but they transport high concentrations of nitrate and are the main source of nitrate pollution in the Raccoon River and Des Moines River.”<sup>1</sup>

This is a novel legal argument that triggers the fundamental question of whether the flows at issue -- or some part of those flows -- fall under the "agricultural stormwater discharge" exclusion.<sup>8</sup> Consequently, the assertion that the drainage districts are point sources is one that tests the boundaries of the CWA agricultural stormwater exclusion found in the definition of point source.<sup>1,9</sup> The results of this legal test is of great significance to the DMWW parties, but will also cast a long shadow over similarly situated parties in other states.

For its part, DMWW alleges that the flows at issue do not fall under the agricultural stormwater discharge exemption. DMWW argues that "the high nitrate effluent from artificial drainage systems created and maintained by the Drainage Districts is not exempt from NPDES permitting under the agricultural stormwater exemption for the simple reason that the effluent is not a stormwater



discharge, but rather is composed of artificially drained groundwater.”<sup>1</sup> However, in the *Closter Farms* case, the United States Court of Appeals for the Second Circuit held that “the discharged groundwater and seepage can be characterized as ‘return flow from irrigation agriculture.’”<sup>10</sup>

Regardless of the outcome of any action DMWW ultimately pursues, the legal process will likely take years to conclude. And, assuming DMWW ultimately prevailed on its CWA argument, the role of the drainage districts in their post-NPDES permit world could also take years to address. As noted, this process would evolve at the same time as the ongoing issues of jurisdictional scope of the CWA and the development of numeric nutrient criteria which are briefly discussed below.

### **Related CWA Issues**

As noted earlier, the jurisdictional scope of the CWA extends to "the waters of the United States, including the territorial seas."<sup>8</sup> The CWA does not further define "waters of the United States", leaving it to the Environmental Protection Agency (EPA) and the United States Army Corps of Engineers (Corps) to define. The issue of what waters fall under the jurisdictional scope of the CWA remains controversial and the subject of debate in the judicial, legislative, and executive branches of government. The EPA and the Corps have defined the term several times and the application of those definitions has been litigated on many occasions.

In 2001 and 2006, the United States Supreme Court issued rulings that interpreted the jurisdictional scope of the CWA more narrowly than the agency definition. These decisions contributed to ongoing confusion regarding the jurisdictional scope of the CWA, and triggered, among other things, the EPA and the Corps to issue agency guidance documents in 2003 and 2008. As a general rule, waters that are usable in interstate commerce -- "traditional navigable waters" -- are accepted as being within the jurisdictional scope of the CWA. Likewise, the more isolated or removed waters are from being used in

interstate commerce, the more likely there is to be disagreement between the agency and others regarding whether it is within the jurisdictional scope of the CWA.

Against this backdrop, the EPA and the Corps published a proposed rule on April 21, 2014 designed to define the jurisdictional scope of the CWA. The agencies' perspective, generally stated, is that the proposed rule revises the definition of "waters of the United States" in a manner consistent with the 2001 and 2006 U.S. Supreme Court decisions and provides clarification to the ongoing confusion about scope of CWA jurisdiction. Others disagree, specifically including agricultural stakeholders, arguing, generally speaking, that the proposed rule is a regulatory overreach by the agency outside the scope of the CWA.

Regardless of one's view on the proposed rule, it would expand the jurisdictional scope of the CWA beyond the scope set out in the agency guidance document. For example, current implementation of the CWA includes, among other waters, a tributary to a traditional navigable water. The proposed rule broadens the definition of the term tributary beyond that which is currently implemented. Another example is that current CWA implementation includes wetlands that are adjacent to traditional navigable waters. The proposed rule modifies the scope of the CWA to include all waters adjacent to, among other waters such as interstate wetlands, traditional navigable waters.

The jurisdictional scope of the CWA is an important issue nationwide, but specifically in the DMWW process. This issue could be central to determining whether certain parts of a drainage district are within the jurisdictional scope of the CWA currently or in the years ahead. If the areas at issue are determined to be outside the scope of the CWA, then the DMWW CWA claims would fail. However, it bears noting that the DMWW state claims could survive even if the CWA claims are defeated.

### **Numeric vs. Narrative Water Quality Standards**

The CWA requires that states and tribes develop water quality standards that, among other requirements, specify designated uses for water bodies and the water quality criteria that will be implemented to protect those designated uses. The water quality criteria are stated as narrative or numeric standards. An example of a narrative criteria is "[s]urface waters shall be virtually free from floating non-petroleum oils of vegetable or animal origin, as well as petroleum-derived oils."<sup>11</sup> An example of numeric criteria is "[t]he ambient water quality criterion for cadmium is recommended to be identical to the existing drinking water standard, which is 10 µg/L (micrograms per liter)."<sup>11</sup> Consequently, numeric criteria focuses on establishing limits on the presence of specific pollutants in a water body, such as phosphorous or nitrogen that enter water bodies such as the Des Moines River, its tributaries, or adjacent water bodies.

The states and tribes must submit their self-recommended standards to EPA for EPA review and approval. In the event EPA declines approval of a state-recommended standard, the state has the opportunity to resubmit approved standards. If the state does not resubmit revised standards, then EPA is required to establish federal standards. However, the CWA provides EPA authority to initiate a process to establish standards independently of state-recommended standards.

In recent years, several environmental groups have attempted to compel EPA to establish numeric nutrient criteria for up to 31 states located in the Mississippi River Basin. These groups assert that nutrient loading into the Mississippi River substantially contributes to the Gulf of Mexico hypoxic "dead zone" referenced in the DMWW January 9 letter. EPA has taken the position that it does in fact have legal authority to establish numeric criteria, but prefers to work in partnership with states and tribes in developing those standards. Unsatisfied with the EPA position, these groups filed a lawsuit against EPA in March of 2012 that seeks to compel EPA to establish numeric nutrient criteria for the Mississippi River Basin states.

That litigation is ongoing, and like the DMWW action, carries far-reaching implications for agricultural production as well as the ongoing debate over the impact of agricultural production on water quality throughout the Mississippi River Basin states.

## **Conclusion**

The DMWW action initiated on January 9, 2015 is a significant legal development that warrants attention of stakeholders in Iowa and beyond, specifically including within the Mississippi River Basin states. The DMWW action tests the boundaries of the CWA agricultural stormwater exemption, as well as whether or to what extent drainage districts in Iowa and beyond may be a point sources and, therefore, subject to NPDES permit requirements. The outcome of this issue alone raises serious implications for the agricultural sector, the conservation community, and others involved in the ongoing debate over the impact of agricultural production on water quality. The importance of the issue is heightened further when in tandem with continued consideration of what constitutes a jurisdictional water under the CWA as well as the establishment of numeric nutrient criteria.

If the DMWW were to ultimately succeed on its CWA claim, the drainage districts at issue would be required to obtain a NPDES permits that placed limits on pollutants that flowed out of the drainage districts and into the Raccoon River and the Des Moines River. This would be a dramatic legal development that would reverberate throughout Iowa and other states. And, it would represent a very significant shift in the environmental regulation of agriculture. That said, the DMWW legal process could take years to conclude, which will overlap with the ongoing debates over the jurisdictional scope of the CWA and the development of numeric nutrient criteria.

The development of numeric nutrient criteria in those water bodies would establish specific limits on specific pollutants -- i.e., phosphorous, nitrogen, and pathogens -- present in the water body, which could then lead to more rigid and traceable discharge requirements under the applicable NPDES permit. One net effect of this scenario would likely be that the drainage districts would institute measures that controlled or further managed the flow of water through its infrastructure with the goal of reducing one or more targeted pollutants. Because of the relationship between drainage districts and farmers it may require the districts to shift the burden of compliance "upstream" to the farmers themselves which would create a new paradigm in the way agriculture is regulated in the future.

<sup>1</sup> Letter from William Stowe, Sixty-day Notice of intent to Sue, (January 9, 2015) available at <http://www.dmww.com/upl/documents/about-us/announcements/notice-of-intent-to-sue.pdf> (hereinafter DMWW Letter). In its January 9, letter, DMWW sometimes refers only to the Raccoon River, but refers to both the Raccoon River and the Des Moines River at other times.

<sup>2</sup> This article is based off the letter of intent to sue sent by William Stowe. The complaint was filed on March 17, 2015 and is available at <http://nationalaglawcenter.org/wp-content/uploads/2015/03/258963666-Board-of-Water-Works-Trustees.pdf>.

<sup>3</sup> Des Moines Water Works Announcement, (March 10, 2015) available at <http://www.dmww.com/about-us/announcements/board-of-water-works-trustees-votes-to-pursue-lawsuit-against-drainage-districts.aspx>.

<sup>4</sup> 33 U.S.C.A. § 1365(b)(1)(A).

<sup>5</sup> The explanation provided here is cursory in nature, and does not account for the varying types of legal status drainage districts may have from one jurisdiction to another.

<sup>6</sup> 33 U.S.C.A. § 1251(a).

<sup>7</sup> 33 U.S.C.A. § 1362(7).

<sup>8</sup> 33 U.S.C.A. § 1362(14).

<sup>9</sup> There have been cases regarding drainage and drainage tile from irrigated farming operations, however, this case law has primarily focused on the “return flows from irrigated agriculture” exclusion and not the agricultural stormwater language. *See, e.g.,* Pac. Coast Fed'n of Fishermen's Ass'n v. Glaser, No. CIV S-2:11-2980-KJM, 2013 WL 5230266, (E.D. Cal. Sept. 16, 2013) and Fisherman Against the Destruction of the Env't v. Closter Farms, 300 F.3d 1294, 1297–98 (11th Cir.2002).

<sup>10</sup> *See* Closter Farms, 300 F.3d at 1297.

<sup>11</sup> Environmental Protection Agency, <http://water.epa.gov/learn/training/standardsacademy/mod3/page6.cfm>.

*--- Harrison Pittman, Director of the National Agricultural Law Center and Rusty Rumley, Senior Staff Attorney at the National Agricultural Law Center*

The National Agricultural Law Center ([www.nationalaglawcenter.org](http://www.nationalaglawcenter.org)) serves as the nation's leading source of agricultural and food law research and information

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## **Agriculture, Interior Departments Partner To Measure Conservation Impacts on Water Quality**

The United States Department of Agriculture (USDA) and the U.S. Department of the Interior (DOI) announced a new partnership agreement recently that will provide a clearer picture of the benefits of farmers' conservation practices on the quality of our Nation's water. Working together, USDA's NRCS and DOI's USGS will quantify the benefits of voluntary agricultural practices at a watershed scale. This information will strengthen the effectiveness of state and federal nutrient reduction strategies while protecting the privacy of individual farmers. The agreement was announced at the Mississippi River Gulf of Mexico Watershed Nutrient Task Force Meeting.

"On a voluntary basis, the agricultural community has put extensive effort into the management of nutrients and reducing runoff into waterways. This collaboration will help evaluate the impact of farmers' conservation efforts on improving water quality," said Ann Mills, USDA's deputy under secretary for Natural Resources and Environment.

Mills said when hundreds of farms take action in one watershed, it can make a difference-it can help prevent an algal bloom downstream or lessen the need for water treatment plants to treat for nitrates

The U.S. Geological Survey will now use Natural Resources Conservation Service data on conservation work to factor into its surfacewater quality models, which track how rivers receive and transport

nutrients from natural and human sources to downstream reservoirs and estuaries. This information will help provide a more accurate picture of the conservation systems in the watershed that contribute to water quality improvement and will provide crucial information for voluntary nutrient management strategies and watershed planning.

"This agreement will allow NRCS and USGS to combine resource management capabilities with science, and will give us the information we need to prioritize the most effective conservation strategies so that we can improve the quality of streams throughout the Mississippi River Basin," said Lori Caramanian, DOI deputy assistant secretary for Water and Science.

Working together, NRCS and USGS will develop conservation intensity data sets that reflect the value of conservation actions, but do not reveal private information about individual farms, ranches or forests. Protecting the trust relationship between NRCS and farmers and their private information protected by law is vital to the continued success of voluntary conservation on private lands.

"We know our farmers are doing great work to protect our natural resources. Our goal with this partnership is to be able to better recognize these achievements and provide conservation and water quality management communities with science-based information for improving water quality," Mills said. "Farmers invest heavily in conservation systems to improve water quality, and we want to aid their decisions with the best science and information available."

The conservation intensity products developed through the agreement will provide a uniform representation of conservation activities for use in water quality assessments at local, regional, and national scales. Water quality and land resource managers will therefore have the assurance that they are using consistent and accurate information on conservation activities and a common platform for discussing conservation benefits.

Nutrient runoff from many different sources, including urban areas and industry, impacts our nation's waterways. Visit the following links to learn more about: real-time nitrate monitoring, annual and seasonal nutrient loads to the Gulf of Mexico, nutrient trends, and the Mississippi River basin nutrient model mapper.

Learn more about NRCS's Conservation Effects Assessment Project Cropland National Assessment and the Mississippi River Basin Healthy Watersheds Initiative.

To learn about technical and financial assistance available through conservation programs, visit [www.nrcs.usda.gov/GetStarted](http://www.nrcs.usda.gov/GetStarted) or local USDA service center.

--- *United States Department of Agriculture*

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## RCPP MRBI Member Projects for 2014/15

As part of the 2014 Farm Bill, NRCS is offering voluntary conservation programs to benefit agricultural producers and the environment. One such program is the Regional Conservation Partnership Program (RCPP).

According to NRCS the RCPP was developed to promote coordination between NRCS and its fellow conservation partners to assist producers and landowners with conservation efforts. Through program contracts, easement agreements, and partnership agreements, NRCS is able to provide conservation assistance to producers and landowners. NRCS considers eligible conservation partners to include Agricultural or silvicultural producer associations, farmer cooperatives or other groups of producers, state or local governments, American Indian tribes, municipal water treatment entities, water and irrigation districts, conservation-driven nongovernmental organizations and institutions of higher education.

The RCPP combines the authority of previous conservation programs: the Agricultural Water Enhancement Program, the Chesapeake Bay Watershed Program, the Cooperative Conservation Partnership Initiative and the Great Lakes Basin Program and provides assistance within the rules of EQIP, CSP, ACEP and HFRP; and in certain areas the Watershed Operations and Flood Prevention Program.

Project funding is allocated in three different categories. Critical Conservation Areas, chosen by the Secretary of Agriculture, i.e. Chesapeake Bay Watershed, Great Lakes Region, Mississippi River Basin, Colorado River Basin, Longleaf Pine Range, Columbia River Basin, Prairie Grasslands Region, and California Bay Delta receive 35% of funding. Nationwide and multistate projects receive 40% of funding. Finally Single State projects receive 25% funding.

Below are the MRBI RCPP projects, their lead partner, and the funding offered for the project.

2014/2015 Regional Conservation Partnership Program Project Slate, courtesy of NRCS.

Project Name	Participating States	Lead Partner	Number of Partners	Offer
<a href="#">Bayou Meto-Lower Arkansas Regional Conservation Partnership Proposal</a>	Arkansas	Bayou Meto Water Management District	17	\$3,000,000
<a href="#">Rice Stewardship Partnership - Sustaining the Future of Rice</a>	Arkansas, Louisiana, Mississippi, Missouri, California, Texas	Ducks Unlimited	39	\$10,000,0
<a href="#">Growing Conservation in the Illinois River Watershed</a>	Arkansas	Illinois River Watershed Partnership	11	\$1,200,000
<a href="#">Arkansas Red River Project</a>	Arkansas	Southwest Arkansas Resource Conservation and	10	\$800,000

		Development Council		
<a href="#">Shorebird Conservation Acreage via Drainage Water Runoff Control</a>	Illinois	Department Natural Resources and Environmental Sciences	6	\$500,000
<a href="#">Conservation Cropping Systems For Improving Soil Health: Soil Health Assessment</a>	Illinois	Illinois Department of Agriculture-Bureau of Land and Water Resources	5	\$1,600,000
<a href="#">BMP Implementation for Nutrient and Sediment Loss Reduction in Macon County, Illinois</a>	Illinois	Macon County Soil and Water Conservation District	9	\$600,000
<a href="#">Preventing Nutrient Loss from Indiana Farms: Watershed-scale Pairing of Cover Crops and the Two-stage Ditch</a>	Indiana	Notre Dame Environmental Change Initiative	12	\$1,500,0
<a href="#">Iowa Targeted Demonstration Watershed Partnership Project</a>	Iowa	Iowa Department of Agriculture and Land Stewardship	20	\$3,500,000
<a href="#">Middle Cedar Partnership Project</a>	Iowa	City of Cedar Rapids	10	\$2,100,0
<a href="#">Managing Poo: Adoption of Nutrient Management and Conservation Practices</a>	Kentucky	Kentucky Division of Conservation	5	\$1,600,00
<a href="#">Securing Private Working Forests to Benefit Longleaf Pine, Threatened and Endangered Species, and Military Readiness</a>	South Carolina, Georgia, Florida, Louisiana	U.S. Endowment for Forestry and Communities	16	\$12,000,000
<a href="#">Rice Stewardship Program - Southwest Louisiana</a>	Louisiana	Ducks Unlimited, Inc.	9	\$1,500,000
<a href="#">Targeted Conservation Delivery to Improve Soil Health, Water Quantity and Quality</a>	Louisiana	Louisiana Department of Agriculture & Forestry/Office of Soil & Water Conservation	6	\$100,000
<a href="#">Red River Basin of the North Flood Prevention Plan</a>	Minnesota, North Dakota, South Dakota	Red River Retention Authority	8	\$12,000,00
<a href="#">ABC: Improving Forest Health for Wildlife Resources in MN, WI, MI</a>	Minnesota, Wisconsin, Michigan	American Bird Conservancy	25	\$5,000,000
<a href="#">Minnesota Agricultural Water Quality Certification Program National Demonstration Project</a>	Minnesota	Minnesota Department of Agriculture	5	\$9,000,000
<a href="#">Migratory Bird Habitat Creation in the Lower Mississippi River Valley</a>	Mississippi	Mississippi Fish and Wildlife Foundation	5	\$900,000

<a href="#">Wetland Habitat Restoration for Wildlife and Water Resources</a>	Mississippi	Delta Wildlife, Inc.	7	\$1,000,000
<a href="#">Our Missouri Waters Targeted Conservation</a>	Missouri	Missouri Department of Natural Resources	10	\$6,000,000
<a href="#">Little Otter Creek Watershed Project</a>	Missouri	Caldwell County Commission	2	\$1,300,000
<a href="#">Regional Grassland Bird and Grazing Lands Enhancement Initiative</a>	Missouri, Nebraska, Kansas, Iowa	The Missouri Department of Conservation	15	\$5,000,000
<a href="#">Northwest Missouri Urban and Rural Farmers United for Conservation</a>	Missouri	Jackson County Soil and Water Conservation District	4	\$800,000
<a href="#">Restoring Glade and Woodland Communities for Threatened Species in the Ozarks of Southeast Missouri</a>	Missouri	Missouri Department of Conservation	3	\$1,700,000
<a href="#">Tri-State Western Lake Erie Basin Phosphorus Reduction Initiative</a>	Michigan, Indiana, Ohio	Michigan Department of Agriculture and Rural Development	46	\$17,500,000
<a href="#">Cerulean Warbler Appalachian Forestland Enhancement</a>	Ohio, Pennsylvania, West Virginia, Kentucky, Maryland,	Appalachian Mountains Joint Venture (AMJV)	23	\$8,000,000
<a href="#">Promoting BMPs for Phosphorus</a>	Ohio	Delaware Soil & Water Conservation District	7	\$1,000,000
<a href="#">East Fork Watershed Nutrient Reduction Initiative</a>	Ohio	Clermont Soil and Water Conservation Districts	8	\$600,000
<a href="#">Reducing Total Phosphorus and Sediment Loads in the Yahara Watershed Through Wisconsin's Adaptive Management Option</a>	Wisconsin	Dane County land and Water Resources Department	6	\$1,600,000

--- Lee Riley, info from NRCS

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## **N-ST\*R Testing for Reducing Nitrogen Fertilizer Needs in Rice**

A nitrogen soil test that can save rice producers money and help improve yields on crops grown in silt loam soil in Arkansas, Louisiana and Mississippi is now available from the University of Arkansas' Division of Agriculture.

However, the testing under "N-ST\*R," or nitrogen soil test for rice, is limited to the first 5,000 samples, first come, first served. The cost for in-state producers is \$5 per sample or \$50 per field – that includes 10 samples. Costs are higher for out-of-state producers.

With nitrogen application accounting for 18 percent of production costs, it's the single biggest expense for the state's rice farmers.

"This is a great opportunity for farmers to save money during the upcoming growing season by applying the right amount of nitrogen to the field," said Keith Perkins, Lonoke County extension agent for the University of Arkansas System Division of Agriculture. "By applying the correct amount of nitrogen the producer can maximize yields with minimum cost of nitrogen fertilizer."

Trent Roberts, assistant professor-soil fertility/testing, with the division, said Monday that "The purpose of N-ST\*R is to maximize producer profitability by utilizing field-specific nitrogen rates that allow producers to maximize yields while lowering nitrogen input costs."

### **SIX YEARS, THREE STATES IN THE MAKING**

Over the course of six years researchers from the University of Arkansas have worked closely with scientists from LSU, Mississippi State and Texas A&M to help build the calibration curves and validate N-ST\*R's ability to predict field-specific nitrogen rates for rice produced on silt loam soils.

"We have successfully validated the current N-ST\*R calibration curves in Arkansas, Louisiana and Mississippi and we feel comfortable give field-specific nitrogen rates for those states. Work is ongoing to determine the correct N-ST\*R rates for rice produced on silt loams in Texas and we should have something in the next year," Roberts said.

### **TAKING N-ST\*R SAMPLES**

Perkins said the tests help producers fine-tune the amount of nitrogen and can reduce the cost of application and also forestall disease and lodging – a condition where weak stems make the rice fall down – conditions associated with too much nitrogen.

How to collect samples for N-ST\*R:

- Collect 10 samples from each field the farmer wants tested
- Take samples from top 18 inches of soil
- Samples can be collected anytime between harvest and planting



Trent Roberts explaining the best means of taking samples

- Bring the samples, and appropriate fee, to your county extension office
- Fill out field information
- The soil lab will send the results to the rice grower
- The results include economical, optimum and maximum yield goals.

Perkins said only nitrogen will be tested in these samples. “Producers will still need routine soil samples to test for phosphorous, potassium, zinc and lime recommendations,” he said.

### **VIDEOS AND PDFs**

Two publications are available online or from your county extension office. They are FSA2167, “N-ST\*R: Nitrogen-Soil Test for Rice,” [www.uaex.edu/Other\\_Areas/publications/PDF/FSA-2167.pdf](http://www.uaex.edu/Other_Areas/publications/PDF/FSA-2167.pdf), and FSA 2168, “N-ST\*R Soil sample bucket and soil sample collection,” [www.uaex.edu/Other\\_Areas/publications/PDF/FSA-2168.pdf](http://www.uaex.edu/Other_Areas/publications/PDF/FSA-2168.pdf).

There are also three videos to help growers:

- “N-ST\*R Nitrogen soil test for rice: Assembling the tools,” <https://youtu.be/WZD37JlrXEG>
- “N-ST\*R Nitrogen soil test for rice: Collecting the samples,” [https://youtu.be/w\\_dzpmJs6NY](https://youtu.be/w_dzpmJs6NY)
- “N-ST\*R Nitrogen soil test for rice: Submitting the samples,” <https://youtu.be/XqY13TrxTsl>

To learn more about N-ST\*R, contact an Arkansas county extension office, or visit [www.uaex.edu](http://www.uaex.edu) or growers in Louisiana and Mississippi can contact the lab at: 479-575-7569 or [NSTARLAB@uark.edu](mailto:NSTARLAB@uark.edu).

--- Mary Hightower, Dir. of Communication, University of Arkansas Division of Agriculture

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### **Gulf Hypoxia Task Force Spring 2015 Public Meeting**

The Mississippi River Gulf of Mexico Watershed Nutrient Task Force conducts public meetings twice a year throughout the Mississippi and Ohio River basins to inform the public of the progress made in reducing the hypoxic zone in the Gulf of Mexico.

Hypoxia in the simplest of definitions is a deficiency of oxygen. Environmental phenomenon exists in the Northern Gulf of Mexico where dissolved oxygen concentrations in the water column have decreased to the point of no longer sustaining aquatic life. This Hypoxic zone in the Northern Gulf is widely accepted to be caused by Nutrient loading in the Mississippi River and its tributaries which all empty into the Northern Gulf. Some of which is theorized to be the result of agricultural runoff.

The Task Force is composed of officials from several federal agencies: the Environmental Protection Agency (EPA), Department of Interior, the National Tribal Water Council, Army Corps of Engineers, National Oceanic and Atmospheric Administration (NOAA), United State Geological Survey (USGS), several branches of the United States Department of Agriculture (USDA) including the Natural Resources Conservation Service (NRCS), as well as officials from several of the state environmental and conservation agencies from all 12 Task Force member states. The member states are composed of 12 states in the Mississippi River watershed.

This Spring's meeting will be held in conjunction with the SERA 46 meeting, May 18-21, 2015.

--- *Lee Riley*

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