



# IOWA WATER QUALITY INITIATIVE



## 2019 Legislative Report



### 2018: FIVE YEARS OF PROGRESS THROUGH THE WATER QUALITY INITIATIVE

Collaboration and implementation continues to build around the Nutrient Reduction Strategy since it was released in 2013. Iowans are engaged and new partners are participating and providing additional resources and expertise.

#### In 2018:

- Due to increasing interest, record funding was obligated to participants to install cover crops and other in-field management practices to reduce nutrient loss.
- Completed initial year of first-of-its-kind cover crop-crop insurance partnership with USDA's Risk Management Agency (RMA) to expand cover crop usage in the state.
- Secured \$240,000 in contributions from private entities to advance WQI-based projects
- Developed new public-private partnerships with two companies to help advance conservation planning targeted to three HUC 8 watersheds in support of the Midwest Ag Water Quality Partnership Regional Conservation Partnership Program (RCPP).
- Extended three Targeted Demonstration Watershed Projects and four Targeted Practice Demonstration Projects to build on early success of the projects and continued engagement with local farmers, landowners and partners.
- Received \$1 million cooperative agreement from EPA-Gulf of Mexico Program to demonstrate practices and concepts to advance conservation drainage practices.
- Continued to measure efforts and practices underway that support the Iowa Nutrient Reduction Strategy. 2018 report can be found here: [nutrientstrategy.iastate.edu/documents](https://nutrientstrategy.iastate.edu/documents)



**Iowa Secretary of Agriculture  
Mike Naig**

### ABOUT THE IOWA WATER QUALITY INITIATIVE

The Water Quality Initiative was established during the 2013 legislative session to help implement the Nutrient Reduction Strategy (NRS). The NRS provides a road map to achieve a 45 percent reduction in nitrogen and phosphorus losses to our waters using an integrated approach that includes point and non-point sources working together for improvement.

The WQI seeks to harness the collective ability of both private and public resources and organizations to rally around the NRS and implement proven conservation practices to reduce nutrient loss and improve water quality.

### STATEWIDE PRACTICES COST-SHARE - FY2018

In July 2018, over \$5.0 million was obligated to applicants through Soil and Water Conservation Districts for cost share on conservation practices through the Water Quality Initiative (WQI). Farmers and landowners continue to show increasing interest in new water quality practices and all the funds were obligated quickly. Over **2800 farmers** signed up for funding in 2018, committing an estimated **\$9.1 million** of their own money to implement these practices.

The funding was again targeted to first-time users of four practices: no-till, strip-till, nitrification inhibitor, and cover crops. As in 2017, the program offered a lower incentive for past users as a way to work with cover crops in additional years and weather patterns.

As in past years, the vast majority of the sign-ups were for cover crops. Surveys of applicants are being taken to collect farmer input and improve delivery of state programs. **Of the surveys returned by the time of this report, more than 80 percent of cover crop applicants through WQI indicated they are planning to continue to use of cover crops as a conservation practice.**

#### WQI Statewide Practices FY2018 Recap

WQI Statewide	FY18 Application Totals (acres)	Nitrogen Reduction (tons)	Phosphorus Reduction (tons)
Cover Crops	206,739.70	880.30	24.49
Nitrification Inhibitor	5,763.16	8.10	NA
No-till/Strip-till	15,010.24	NA	1.22
<b>Totals</b>		<b>888.39</b>	<b>25.71</b>

This table represents calculated load reductions of nitrogen and phosphorus based on practices installed in FY2018 through Statewide WQI. **This does not include practices installed through other state/federal programs or privately funded efforts.**

### NEW APPROACH TO SCALING-UP COVER CROPS

In late 2017, IDALS partnered with the USDA-Risk Management Agency (RMA) to develop the Cover Crop-Crop Insurance Demonstration Project. The project partners with the federal crop insurance program to provide a premium discount to producers for the acres they have in cover crops outside of acres currently enrolled in state or federal programs. The program also directly counters the notion that current crop insurance rules prohibit cover crop usage. In year 1, IDALS approved over **700** applicants and nearly **170,000** acres of additional cover crops. More information can be found at: [cleanwateriowa.org/covercroppdemo](http://cleanwateriowa.org/covercroppdemo)



### TARGETED PRACTICE DEMONSTRATION PROJECTS

In 2018, IDALS provided extensions for 7 practice demonstration projects. Practice demonstration projects focus on building innovative delivery mechanisms to advance the scale of targeted nutrient reduction conservation practice adoption. These projects pair successful partnerships, financial models, and cropping systems in locations which lend themselves to accelerated implementation. The continued support and assistance has led to establishing a successful framework for expanded practice installation on a broader scale statewide.

#### Targeted Practice Demo Summary

Practice Category	Practices	Amount Installed to Date	Units	Pending Installation/Obligated	Units
In-field	Cover Crop - 1 Year	113,828	acres	22,654	acres
Land Use	Ext Rotation/Pasture/Conservation Cover	1,443	acres	123	acres
	Denitrifying Bioreactor	5	no.	2	no.
Edge-of-Field	Saturated Buffer	4,900	ft.	-	ft.
	Wetlands	-	acres	78	acres
	Buffers	11,754	ft.	-	ft.

### ADVANCING TARGETED DEMONSTRATION WATERSHED PROJECTS

In 2018, IDALS funded extensions for three WQI Targeted Demonstration Watershed Projects to build upon the early momentum and successes of their projects. The purpose is to help demonstrate the effectiveness and adaptability of a host of conservation practices highlighted in the Nutrient Reduction Strategy. Projects are advancing innovative methods of watershed planning and accountability to focus and target implementation efforts of their individual, locally led watershed plans.

The \$1.4 million in state funding supporting these three project extensions is leveraged with nearly \$2.2 million in additional funding provided by partners and landowners.

WQI is funding 14 demonstration watershed projects in total. More than 127 organizations have been active participants, providing valuable resources and input in helping develop and implement the plans. These organizations include partners from agriculture and conservation organizations, institutions of higher education, private industry, and local, state, and federal agencies.

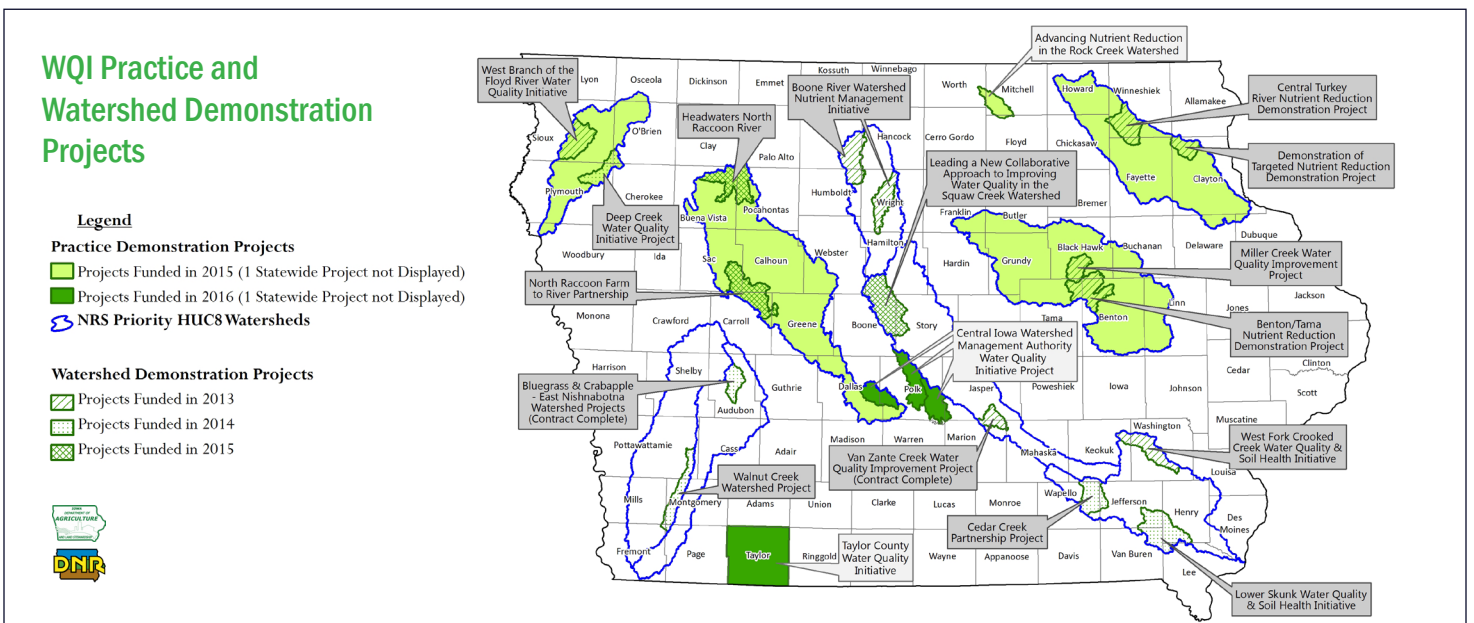
These projects utilize the collective resources of their partners to demonstrate conservation practices paired with strong outreach and education components. This effort promotes farmer to farmer interaction to increase awareness and adoption of available practices and technologies. Successful projects serve as local and regional hubs for demonstrating practices and providing information to farmers, peer networks and local communities.

WS Demo Project Summary (2014 through December 2018)*							
Practice Category	Practices Implemented	Amount Installed to Date	Units	Amount Installed with Non-WQI-Demo funding (through 2/18)	Units	WQI-Demo Pending Installation/Obligated	Units
In-field	Nutrient Mgmt	63,392.5	acres	1,421.60	acres	16,855.8	acres
	Residue Mgmt-NT/ST	46,322.0	acres	2,547.20	acres	7,191.8	acres
	Cover Crops	136,831.2	acres	18,436.70	acres	25,900.9	acres
Land Use	Ext Rotation/Pasture/Cons Cover	120.9	acres	1,650.00	acres	3.2	acres
Edge of Field	Drainage Water Mgmt	178.2	acres	40.00	acres	-	acres
	Grade Stabilization Structure	2.0	no.	8.00	no.	-	no.
	Saturated Buffer	3,461.0	ft.	1,530.00	ft.	2,000.0	ft.
	Terraces	287,640.0	ft.	344,581.00	ft.	88,634.0	ft.
	Water and Sediment Control Basin	5.0	no.	44.25	no.	4.0	no.
	Denitrifying Bioreactor	5.0	no.	7.00	no.	3.0	no.
	Wetlands	56.3	acres	140.39	acres	123.04	acres
Other Non-NRS Practices	Grassed Waterways	-	no.	64.60	no.	-	no.
	Livestock Waste Mgmt Systems	-	no.	1.0	no.	-	no.
	Urban Stormwater Mgmt	-	no.	5.00	no.	-	no.

\*This summary only accounts for practices installed through WQI-Demo funding and other state/fed programs. It does not account for practices installed by landowners themselves.



Edge-of-Field Practice field day hosted by Elk Run Watershed Project near Lake City



### LEVERAGING STATE APPROPRIATIONS WITH FEDERAL FUNDING

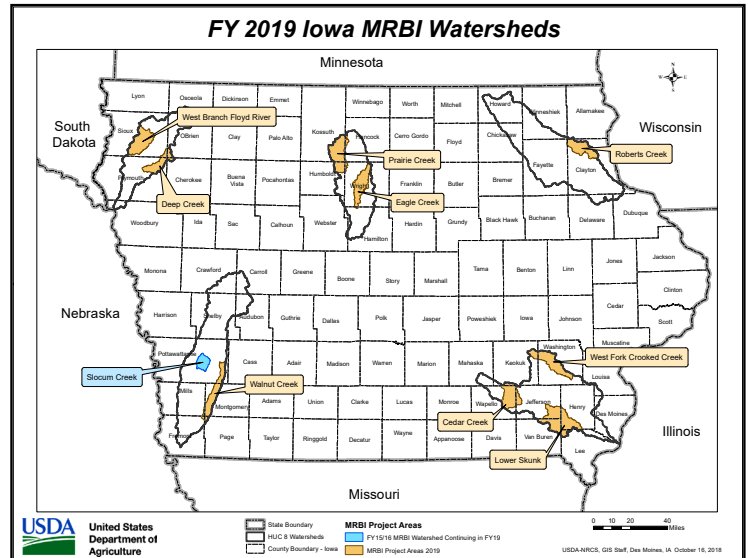
#### USDA-NRCS Mississippi River Basin Healthy Watershed Initiative (MRBI)

IDALS worked with WQI Demo projects to submit a request to USDA-NRCS for MRBI funding.

In 2018, 8 WQI projects were selected to receive **\$2 million** through MRBI to leverage WQI funding. Funding will support practices to improve water quality in these watersheds. A critical component of this funding was active projects with continued financial support, committed landowners and farmers in the watersheds, and development of watershed assessment and plans to help inform implementation activities.

Watershed projects selected for this funding include:

- Boone River WQI
- Cedar Creek Partnership WQI
- Clayton County WQI
- Deep Creek WQI
- Lower Skunk WQI
- Walnut Creek WQI
- West Branch Floyd River WQI
- West Fork Crooked Creek WQI



#### EPA-Gulf of Mexico Funding

In 2018, IDALS received a cooperative agreement of \$1 million from the EPA-Gulf of Mexico Program. This collaborative program works to facilitate actions that protect, maintain and restore the health and productivity of the Gulf.

IDALS and partners are leveraging WQI funding to advance demonstration of a variety of conservation drainage practices. This project addresses several recommendations developed by the Conservation Infrastructure effort. IDALS is working to advance these critical practices in the Des Moines River Watershed. The practices include up to 4 wetlands, 20 saturated buffers, 10 bioreactors, 3 drainage water recycling (DWR) systems, and 2 drainage water management (DWM) systems.

This grant brings additional resources to the state to provide for more boots-on-the-ground technical assistance, monitoring and practice funding.



Bioreactor installed in Keokuk County



Saturated buffer installed in Buena Vista County

### LONG-TERM, SUSTAINABLE WATER QUALITY FUNDING PASSED IN 2018

The Iowa Legislature, with the strong support of Governor Reynolds, committed more than **\$270 million** for water quality efforts in Iowa over the next 12 years. This legislation provides a growing source of funding to support water quality efforts in Iowa. Funding to the Iowa Department of Agriculture and Land Stewardship will ramp up over the next two years, reaching \$15 million annually through 2029. The remaining funds will go to the Iowa Finance Authority to support communities upgrading wastewater treatment facilities and urban water quality focused practices.

IDALS, IDNR and ISU continue to work on development of a robust, qualitative framework based on input through the Measures Subcommittee of the Water Resources Coordinating Council (WRCC). The WRCC preserves and protects Iowa's water resources and coordinates the management of those resources in a sustainable and fiscally responsible manner. The development of a logic model type framework is being employed to collect and report on progress made through the NRS. The third annual report using the logic model framework was completed and presented to the WRCC in fall 2018. This report is available at: [nutrientstrategy.iastate.edu/documents](http://nutrientstrategy.iastate.edu/documents)

Based on the data collected and progress to date, detailed in the NRS report, IDALS will use the additional funding to prioritize infrastructure-based conservation practices, particularly those that are proven to provide significant reductions of nitrogen in priority watersheds.

These practices are placed at the edge of fields to provide significant, long-term nutrient reduction and habitat benefits. The Department will also expand the technical capacity to deliver these practices as the funding increases in the future. With more than 250 partners already involved, this dedicated, long-term funding will help attract even more partners and outside funding.

IDALS will receive approximately \$2 million this year, \$4 million next year and then more than \$15 million annually from FY2021 to FY2029 from this legislation. This money will be in addition to the more than \$10 million the Department has received annually in recent years to support water quality demonstration projects, edge-of-field practices and in-field practices such as cover crops. This long-term funding commitment is critical as the Department works to attract even more partners and outside funding.

New funding will focus on scaling up edge-of-field conservation practices that benefit water quality, specifically wetlands, saturated buffers and bioreactors. A new edge-of-field coordinator will provide technical assistance to local Soil and Water Conservation Districts, farmers and landowners. Three new watershed implementation coordinators will serve as regional technical resources to expand water quality efforts in the North Raccoon, Middle Cedar and South Skunk priority watersheds.

To date, IDALS and partners have secured interest from several landowners on over a dozen wetlands and numerous bioreactors and saturated buffers to be installed with this funding. The practices are currently under design and will begin construction in 2019.



Aerial view of nutrient removal wetland located in Palo Alto County



During and post installation of a saturated buffer in Story County

## STATEWIDE BEST MANAGEMENT PRACTICES MAPPING RESULTS

A statewide effort to identify and map six types of conservation practices (terraces, ponds, grassed waterways, water and sediment control basins, contour strip cropping and contour buffer strips/prairie strips) has been completed and provides a comprehensive inventory of conservation practices in the state by watershed.

This mapping effort shows the scale and investment made by farmers, landowners, state and federal agencies, conservation partners and many others over several decades to reduce erosion and protect our natural resources. While the practices identified are focused on reducing soil erosion and phosphorus loss, seeing the progress that has been made illustrates how we can make similar progress with a long-term focus and investment in proven conservation practices targeted at reducing nitrogen loss.

Iowa is the first state to analyze every watershed within its borders using LiDAR and aerial imagery to create a detailed assessment of conservation practice implementation. This data allows for a much more detailed and accurate analysis of soil conservation efforts focused on phosphorus reduction because it includes all practices implemented by farmers, including those done without government cost share.

Maps and additional information about the project can be found at <https://www.gis.iastate.edu/gisf/projects/conservation-practices>.

Iowa Department of Natural Resources, Iowa State University GIS Facility, Iowa Nutrient Research & Education Council, Iowa Department of Agriculture and Land Stewardship, Iowa Nutrient Research Center, and the National Laboratory for Agriculture and the Environment provided the resources to complete the project.

### STATEWIDE MAPPING OF EXISTING CONSERVATION PRACTICES USING AERIAL IMAGERY SHOWS A STRONG FOUNDATION

**114,000** POND DAMS

**325,000** ACRES OF GRASSED WATERWAYS

**460 MILLION** FEET OF TERRACES

**240,000** WATER AND SEDIMENT CONTROL BASINS

**THESE EXISTING PRACTICES WOULD REQUIRE AN ESTIMATED \$6.2 BILLION TO BUILD TODAY**

## IOWA NUTRIENT RESEARCH CENTER (IOWA STATE UNIVERSITY)

The Iowa Nutrient Research Center (INRC) at Iowa State University has funded 16 new projects related to water quality.

The INRC was established by the Board of Regents from legislation passed in 2013 and works in cooperation with IDALS. The center addresses identified needs or gaps in nitrogen and phosphorus research of importance to Iowa in reducing the loss of nutrients to the environment. Its research is evaluating the performance of current and emerging practices, providing recommendations on implementing new or tested practices and developing tools to help decision-making in adopting effective management practices. The center has funded more than 60 projects led by scientists at Iowa State University, the University of Iowa and the University of Northern Iowa in cooperation with other interested partners.



More information on the center and projects can be found on the center's web site: [www.cals.iastate.edu/nutrientcenter](http://www.cals.iastate.edu/nutrientcenter). The site also includes previous projects and quarterly progress reports of each study.

## POINT SOURCE PROGRESS (IOWA DNR)



The point source portion of the NRS established a process to achieve significant reductions in the amounts of nitrogen and phosphorus discharged to Iowa’s rivers and streams by the largest industrial and municipal wastewater treatment plants. Major point sources will be required to assess the feasibility and reality of reducing the amounts of nitrogen and phosphorus discharged to Iowa surface waters. Improvements determined to be feasible and affordable will be required to be implemented.

The process is unique and innovative. In the traditional approach, limits are established in a permit and treatment facilities are constructed to meet those limits. In this approach, nutrient reduction facilities are constructed, sampling is performed and technology-based limits are developed using actual treatment plant performance data.



Of the 154 municipal wastewater plants and industrial facilities required to assess their nutrient removal capacity, 125 have been issued new permits. Of those, 82 have also submitted feasibility studies on potential technology improvements. Additionally, 14 cities and 10 industries met the NRS point source reductions targets for nitrogen removal this year (66% removal). 8 cities and 3 industries met the NRS point source reduction targets for phosphorus removal this year (75% removal). 27 wastewater treatment plants have committed to construct upgrades to remove nitrogen and phosphorus.

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## URBAN STORMWATER CONSERVATION PARTNERSHIPS



The program provides technical assistance to communities in developing programs and specific projects to address stormwater runoff following well established criteria and procedures detailed in the Iowa Stormwater Management Manual.

Five urban conservationists serve as technical resources for communities and individuals interested in implementing storm water protection practices. In 2018, efforts built upon recent expansion in the urban conservation area. 10 new urban conservation demonstration projects were funded with \$789,100 from WQI combined with \$3.2 million in partner contributions:

- Algona - East Fork Des Moines Water Quality Demonstration Project
- Ames - Grand Avenue Extension Urban Water Quality Project
- Atlantic - Atlantic Urban Conservation and Education Project
- Cherokee - 2018 Stormwater Improvements
- Clive - Angel Park Soil Quality Restoration Demonstration Project
- Coralville & North Liberty - Coral Ridge Avenue (Ranshaw Way) Reconstruction Phase Two Improvement Project
- Garnavillo - Stormwater Quality Improvement Project
- Grimes - Grimes Main Street Park Project
- Muscatine - Muscatine Parking Lot Runoff Solutions
- Sioux City - Sioux City Expo Center Water Quality Improvement Project



Gov. Reynolds, Lt. Gov. Gregg and Sec. Naig attend ribbon cutting at new Ankeny stormwater wetland.

IDALS is in the process of selecting more Urban Demonstration projects with an anticipated funding announcement to be made in April 2019.

## FY2020 BUDGET REQUEST

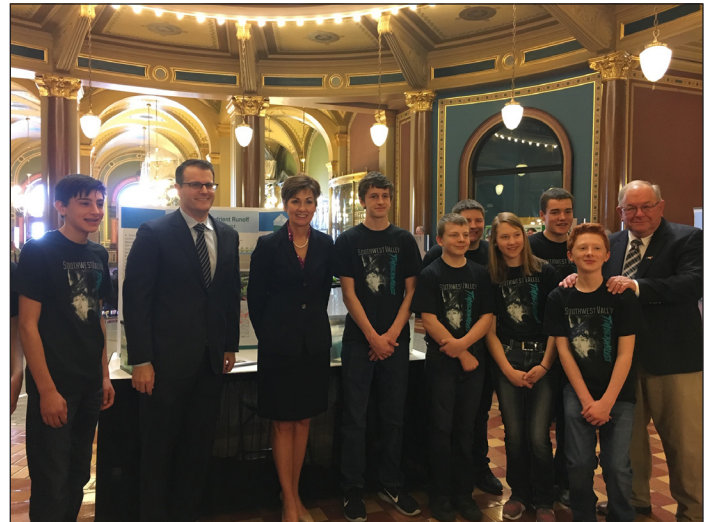
Iowa Secretary of Agriculture Mike Naig has requested continued funding of \$10.575 million for the Iowa Water Quality Initiative as part of the Iowa Department of Agriculture and Land Stewardship’s fiscal year 2020 budget. Sec. Naig applauds legislators for passing significant sustainable funding last legislative session to reinforce Iowa’s commitment to scale-up implementation of the Iowa Nutrient Reduction Strategy. This new funding will scale up over time, and remains complementary to current WQI and other state appropriations.

The Department received a total of **\$10.575 million** for the current fiscal year for the Water Quality Initiative to support conservation and water quality improvements in Iowa.

In addition to the projects detailed in this report, the Department has put into motion new initiatives that will leverage partner resources and continue the momentum towards scaling up conservation practices. These initiatives include innovative cover crop programs, a focus on edge-of-field practices, wetlands, and other infrastructure-based practices.

The Department is committed to leveraging state resources to expand the program and increase implementation of practices.

This includes partnering with private and public groups to quantify the results, and maximize the return on investment with state funding. Additional state funding will increase the leveraging power to bring in additional resources, This will increase the pace and scale of implementing the practices needed to meet the goals of the Iowa Nutrient Reduction Strategy.



Lt. Gov. Gregg and Gov. Reynolds visit with students at the 2018 Partnership Day at the Capitol.

**“Implementation of the Iowa Water Quality Initiative has always been focused on working collaboratively to get more practices on the ground and across the state. Through farmer-led Initiatives and public-private partnerships, the Department continues to encourage innovation in conservation. I am proud of the work Iowans have done, but know there is more to do. I want to thank Governor Reynolds and the Legislature for their steadfast support of the effort and commitment to building on the momentum we’ve generated together.”**

**-Mike Naig, Secretary of Agriculture**

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