



IOWA WATER QUALITY INITIATIVE

2018 Legislative Report

2017: FOUR YEARS OF PROGRESS THROUGH THE WQI

We have seen collaboration and implementation build exponentially around the Iowa Nutrient Reduction Strategy since it was released in 2013. Rural and urban Iowans are engaged and new partners continue to join and provide additional resources and expertise.

In 2017:

- Due to growing interest by Iowa farmers, a record level of funding (**\$4.8 million**) was obligated to match the \$8.7 million farmer/landowner investment to install cover crops and other in-field practices to reduce nutrient loss.
- First-of-its-kind cover crop-crop insurance partnership was launched with USDA's Risk Management Agency (RMA) to expand and build upon cover crop usage in the state.
- Secured over **\$250,000** in contributions from private entities to advance WQI-based projects.
- New public-private partnership with two companies was created to help advance conservation planning in three targeted watersheds.
- Four of the targeted demonstration watershed projects were extended to build on the early success of the projects and build on the partnerships with local farmers, landowners, and partners.
- Submitted \$1 million proposal to EPA-Gulf of Mexico Program to demonstrate practices and concepts to advance conservation drainage concepts.
- A comprehensive accounting of activities underway to support the Iowa Nutrient Reduction Strategy can be found at nutrientstrategy.iastate.edu/documents.



Bill Northey
Iowa Secretary of Agriculture
pictured at a field day for the
installation of a new saturated
buffer in the North Raccoon
watershed.

IOWA WATER QUALITY INITIATIVE

The Water Quality Initiative (WQI) 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% reduction in nitrogen and phosphorus losses to our waters using an integrated approach that includes point and non-point sources working together.

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

ADVANCING TARGETED DEMONSTRATION WATERSHED PROJECTS

Currently, there are 15 Targeted Watershed Demonstration Projects in place across the state focused on demonstrating and implementing water quality practices. Their purpose is to help demonstrate the effectiveness and adaptability of the conservation practices highlighted in the Nutrient Reduction Strategy and support practice adoption. Projects are advancing innovative methods of watershed planning and accountability to focus and target implementation efforts of their individual, locally-led watershed plans.

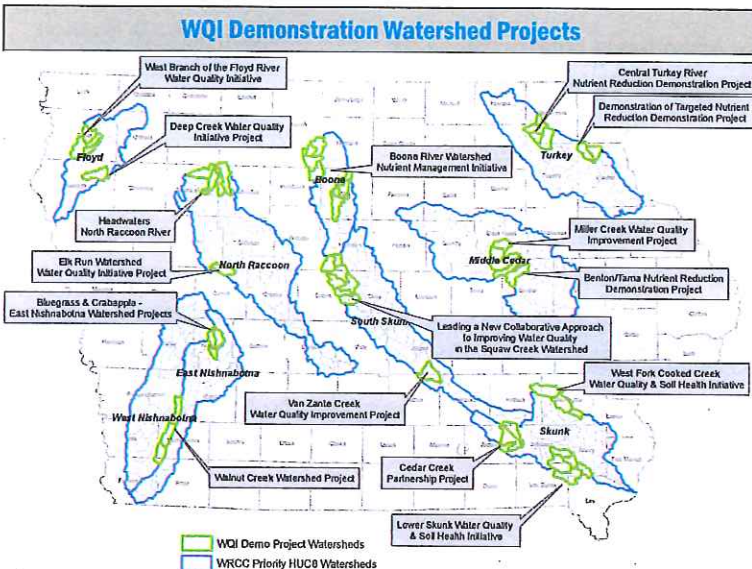
More than **150** organizations have been active participants in these watershed demonstration projects, providing valuable resources and input in helping develop and implement their locally developed watershed plans. These partner organizations provided **\$21.4 million** to match the **\$13.9 million** in state funding that is supporting these projects. Organizations participating include agriculture and conservation organizations, institutions of higher education, private industry, and local, state, and federal agencies.

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 (through 12/17)							
Practice Category	Practices	Amount Installed to Date	Units	Amount Installed with Non-WQI-Demo funding (through 2/17)	Units	WQI-Demo Pending Installation/Obligated	Units
In-field	Nutrient Mgmt	54,436.3	acres	10,658.0	acres	11,041.4	acres
	Residue Mgmt-NT/ST	28,958.1	acres	1,436.0	acres	7,775.2	acres
	Cover Crops	110,983.2	acres	28,013.0	acres	12,401.6	acres
Land Use	Ext Rotation/Pasture/Cons Cover	261.0	acres	4,029.0	acres	6.4	acres
Edge of Field	Drainage Water Mgmt	178.2	acres	-	acres	-	acres
	Grade Stabilization Structure/Pond	2.0	no.	10.0	no.	-	no.
	Terraces	216,186.0	ft.	666,670.0	ft.	118,901.0	ft.
	Water and Sediment Control Basin	3.0	no.	55.0	no.	-	no.
	Denitrifying Bioreactor	5.0	no.	4.0	no.	1.0	no.
	Saturated Buffer	3,461.0	ft.	3,750.0	ft.	-	ft.
	Wetlands	56.3	acres	60.0	acres	-	acres
	Buffers	-	acres	598.0	acres	-	acres
	Other Non-NRS Practices	Grassed Waterways	-	acres	68.0	acres	-
	Livestock Waste Mgmt Systems	-	no.	1.0	no.	-	no.
	Urban Stormwater Mgmt	-	no.	5.0	no.	-	no.

Summary of practices implemented since 2014 and currently obligated for funding in the WQI Targeted Demonstration Watershed Projects.

*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.



Construction underway at a CREP wetland located in the Boone River watershed

TARGETED PRIORITY PRACTICE DEMONSTRATION PROJECTS

Implementation continued of 7 targeted practice demonstration projects funded by IDALS focused on building the capacity to deliver water quality practices. The projects are in targeted locations and/or cropping systems and are focused on increasing adoption and informing scale-up of priority water quality practices. The increase in assistance has led to a framework for expanding practices installation on a broader scale.

Targeted Practice Demo Practice Summary					
Practice Category	Practices	Amount Installed to Date	Units	Pending Installation/Obligated	Units
In-field	Cover Crops	69,957.59	acres	40,607.50	acres
Land Use	Ext Rotation/Pasture/Conservation Cover	153.00	acres	512.00	acres
Edge-of-Field	Denitrifying Bioreactor	2.00	no.	1.00	no.
	Saturated Buffer	1,682.00	ft.	1,220.00	ft.
	Wetlands	-	acres	34.95	acres
	Buffers	4,139.20	ft.	8,400.00	ft.

STATEWIDE PRACTICES COST-SHARE

In July, over **2600** Iowa farmers signed up for cost share for conservation practices targeting water quality. The State obligated a record amount of \$4.8 million in funding, and it will be matched by an estimated \$8.7 million from farmers and land owners.

The funding was again targeted to first-time users of four practices: no-till, strip-till, N inhibitor, and cover crops. As in 2016, 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 get farmer input and improve delivery of state programs. Of the surveys that have already been returned, over 80% of cover crop participants in 2016 indicated they are planning to continue the practice.

WQI Statewide Practices FY2017 Recap			
WQI Statewide	FY17 Application Totals (acres)	Nitrogen Reduction (tons)	Phosphorus Reduction (tons)
Cover Crops	165,477.03	704.6	19.6
N Inhibitor	3,486.92	4.9	NA
No-till/Strip-till	8,615.59	NA	0.7
Totals		709.56	20.35

[This table represents calculated load reductions of nitrogen and phosphorus based on practices installed in FY2017 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 2017, IDALS partnered with the USDA-Risk Management Agency (RMA) to develop the Cover Crop-Crop Insurance Demonstration Project. The initial 3-year project provides a \$5 per acre premium reduction to farmers and land owners on their crop insurance on acres planted with cover crops that are not covered by other state or federal programs. This program provides a complementary and more streamlined incentive for cover crop users to support efforts to dramatically expand usage of cover crops in Iowa. It is anticipated that up to 200,000 acres could be enrolled in the first year of this 3-year demonstration project.



LEVERAGING STATE APPROPRIATIONS WITH FEDERAL FUNDING

USDA-NRCS Regional Conservation Partnership Program (RCPP) Projects

IDALS is currently leading 2 and partnering in 4 more USDA-NRCS RCPP projects. These projects are leveraging current funding to bring in millions in additional federal support for water quality projects.

The Iowa Targeted Demonstration Watersheds Partnership Project brought an additional **\$3.5 million** to Iowa for water quality efforts. The project funds are nearly 100% obligated and IDALS has submitted a request for an additional \$1.3M in funding.

The Midwest Agriculture Water Quality Partnership Project (MAWQP) received **\$9.5 million** from USDA, the largest RCPP award of its kind in the nation. The project assembled a diverse group of over 40 public and private partners. The project just completed its first year and has obligated over 20% of the available funding.

One of the key goals of this project is to develop public-private partnerships to deliver conservation and water quality assistance. IDALS contracted with 2 private companies to provide conservation planning services in three targeted watersheds. These contractors will develop conservation plans on over 40,000 acres.

2018 RCPP-IDALS Partnership Summary					
Project Name	Lead Partner	Award Date	RCPP Funding Amount	WQI Contributions	Other IDALS Program Match
Iowa Targeted Demonstration Watersheds Partnership Project	IDALS	2015	\$3,500,000.00	\$4,600,000.00	\$ -
Midwest Agriculture Water Quality Partnership	IDALS	2016	\$9,500,000.00	\$2,500,000.00	\$ -
Middle Cedar Partnership Project	City of Cedar Rapids	2015	\$2,100,000.00	\$874,000.00	\$ -
Upper Cedar Watershed Urban-Rural Partnership	City of Charles City	2016	\$1,600,000.00	\$275,189.00	\$540,240.00
Fox River Water Quality Project	Davis SWCD	2017	\$900,000.00		\$651,350.00
Innovative Conservation Agriculture	Allamakee SWCD	2017	\$646,670.00	\$ -	\$19,000.00
Totals			\$18,246,670.00	\$8,249,189.00	\$1,210,590.00



Landowners meet with CREP staff to view construction of their new CREP wetland in the Upper Cedar Watershed in Floyd County in 2017.

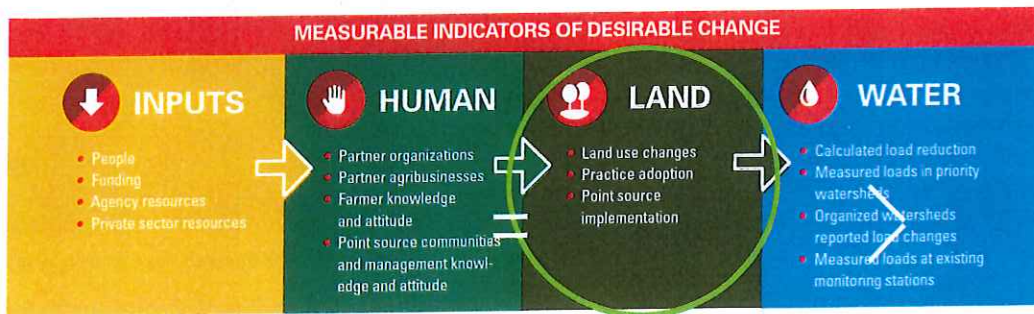
EPA-Gulf of Mexico Funding Proposal

IDALS has also submitted a proposal for \$1M 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.

The proposal would leverage WQI funding to demonstrate a variety of conservation drainage practices within the Des Moines River Watershed. The project would support the construction of 4 wetlands, 20 saturated buffers, 10 bioreactors, 4 drainage water recycling (DWR) systems, and 2 drainage water management (DWM) systems.

MEASURING PROGRESS

IDALS, the Iowa Department of Natural Resources and Iowa State University released the third Iowa Nutrient Reduction Strategy Annual Progress Report in December 2017. The report uses the logic model framework to identify each of the factors necessary to make water quality improvements and looks at measurable indicators of change that can be quantified. The report provides a full overview of the progress that has been made toward the goals of achieving a 45 percent reduction in nitrogen and phosphorus loads leaving the state. The full report can be found at www.nutrientstrategy.iastate.edu/documents.



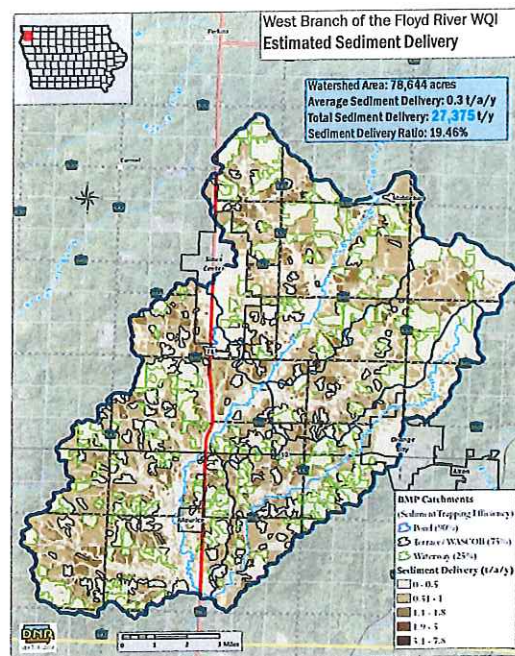
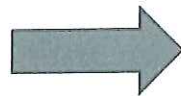
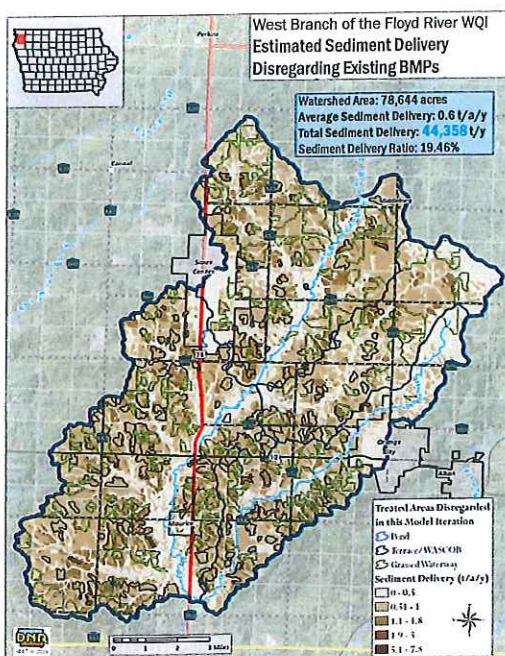
Conservation Practice Inventory and Tracking through Remote Sensing

A new tool to evaluate progress measurement and accountability efforts is a collaborative project between ISU, DNR, Iowa Flood Center (IFC), Iowa Nutrient Research and Education Council (INREC) and IDALS. It aims to identify and aggregate the number of certain conservation practices.

Practices identified as part of the analysis include visible terraces, water & sediment control basins, grassed waterways, pond dams, contour buffer strips, and contour strip cropping. These practices are identifiable by use of LIDAR elevation data and aerial photos, thereby enabling an accurate accounting of the practices present on the Iowa landscape.

This project is nearing completion of the 1st phase to collect a 2010 benchmark of the existence of structural conservation practices. When completed, this project will:

- Provide a comprehensive look at practice implementation.
- Assess impact of existing/new practices over time.
- Hindcast to past conditions using historic photos to show progress made over time. (Example below.)
- Aid watershed planning and implementation efforts.
- Track progress going forward from benchmark years.



Assessment of sediment delivery estimates without and with existing soil conservation practices mapped through this project.

EXPANDED PUBLIC-PRIVATE COLLABORATION TO SCALE-UP IMPLEMENTATION

IDALS and the Iowa Agriculture Water Alliance (IAWA) completed the initial phase of a Conservation Infrastructure initiative to help identify potential business and economic development opportunities associated with advancement of the Iowa Nutrient Reduction Strategy.

This collaborative effort involved representatives from over **50** organizations working to identify existing gaps in conservation and business infrastructure and develop an action plan focused on identifying economic drivers and market-based solutions. The action plan will also identify tools to quantify both the public and private benefits associated with successful implementation of water quality practices.



Conservation infrastructure meeting in 2017.

The Conservation Infrastructure effort has brought together technical experts and industry representatives to initially look at three aspects of this challenge:

- Overall Conservation Infrastructure Strategy
- Conservation Drainage
- Cover Crops

Learn more about the initiative at www.iowaagwateralliance.com/conservation-infrastructure/

IOWA NUTRIENT RESEARCH CENTER

The Iowa Nutrient Research Center at Iowa State University funded 11 new projects in 2017 focused on research and innovation to improve Iowa’s water quality. The research focuses on identified needs or gaps in nitrogen and phosphorus research, including evaluating the performance of current and emerging practices, providing recommendations on implementing new practices, and developing tools to help decision-making in adopting effective management practices. The center has funded more than 50 projects led by scientists at Iowa State University, the University of Iowa and the University of Northern Iowa in cooperation with other interested partners from agriculture and conservation organizations.

More information on all of these projects can be found at: www.cals.iastate.edu/nutrientcenter/.



The center pursues science-based approaches to areas that include evaluating the performance of current and emerging nutrient management practices, and providing recommendations on implementing the practices and developing new practices.

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.



City of Eldridge wastewater treatment plant.
Photo Courtesy of Mayland Aerial Photography

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 153 municipal wastewater plants and industrial facilities required to assess their nutrient removal capacity, 119 have been issued new permits. Of those, 49 have also submitted feasibility studies on potential technology improvements. Additionally, twelve cities and seven industries met the NRS point source reductions targets for nitrogen removal this year (66% removal). Five cities and three industries met the NRS point source reduction targets for phosphorus removal this year (75% removal). Thirteen wastewater treatment plants have committed to construct upgrades to remove nitrogen and phosphorus.

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URBAN STORMWATER CONSERVATION PARTNERSHIPS



The urban conservation program provides technical assistance to communities in developing programs and specific projects to address stormwater runoff.

Currently, five Urban Conservationists serve as technical resources for communities and individuals interested in implementing storm water protection practices. In 2017, 12 new projects were funded through WQI for urban conservation demonstration projects, bringing the total to 34 projects:

- Ankeny: Parkway Watershed in Prairie Trail
- Burlington: Tama Building Permeable Alley
- Cedar Falls/Waterloo: Stormwater Management for Education Institutions
- Cedar Rapids: Infiltration Practices along 6th Street SW Corridor
- Clive/Urbandale: Walnut Creek WMA Project Implementation: Nutrient Treatment/Flood Storage Wetlands
- Denison: Downtown Denison Urban Conservation Project
- Des Moines: Fourmile Creek Watershed Project Stormwater Wetland
- Emmetsburg: Five Island Lake Campground Urban Watershed Project
- Readlyn: Initial Steps toward a Large Scale Effort
- Slater: Permeable Paver Project
- Spencer: Clay County Fair Centennial Plaza
- Windsor Heights: Colby Water Quality Demonstration Park



Stormwater wetland in Storm Lake

IDALS is in the process of selecting more Urban Demonstration projects with an anticipated funding announcement to be made in April of 2018. More information about all the projects can be found at www.cleanwateriowa.org/urban-1/

FY2019 FUNDING REQUEST

Iowa Secretary of Agriculture Bill Northey has requested continued funding of \$10.575 million to support the Iowa Water Quality Initiative in the next fiscal year and also highlighted his support for identifying a long-term source of funding for the state's water quality efforts.

Long-term funding will allow the Department to build on the growing interest by farmers and landowners, better plan efforts and more effectively draw in outside sources of funding, including landowner investment.

The Department is already effectively leveraging outside resources focused on scaling up conservation practices in the state. Efforts underway include innovative cover crop programs, a focus on edge of field practices, wetlands, and other infrastructure-based practices.

"From the beginning of the Iowa Water quality Initiative, our approach has been to work collaboratively to get more practices on the ground that have been proven to help protect water quality. This includes a combination of statewide efforts along with **56** targeted demonstration projects located across the state. Critically important to the success of these demonstration projects are the more than 250 organizations participating in and supporting these projects. With all of this groundwork now in place, I truly believe now is the time to identify a long-term source of funding to allow us to continue to scale-up our water quality efforts," Northey said.



Governor Kim Reynolds and Lt. Governor Adam Gregg visit with farmers on their field planted with cover crops near Huxley, IA.

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