



IOWA WATER QUALITY INITIATIVE

2015 Legislative Report

2014: Year Two Progress through the WQI

We continue to see exciting momentum for the Iowa Nutrient Reduction Strategy. Iowans are engaged and we continue to see new partners participating and providing additional resources and expertise.

In 2014:

- Demand remains strong from farmers for incentives to try new water quality practices.
- \$1.4 million was made available statewide for participants to try a new practice on their farm. Funds were obligated within 5 business days.
- 5 new watershed demonstration projects were selected.
 - ⇒ \$1.8 million of WQI funding was obligated to these demonstration projects over the next three years.
 - ⇒ An additional \$2.5 million in partner contributions will support water quality improvement efforts in these demonstration projects.

Just as Iowa is a leader in production of agricultural products, we're also leading the way in developing and implementing the technologies that make our farmers even more sustainable.



Bill Northey, Iowa
Secretary of Agriculture
pictured in his field displaying cover
crops planted into corn

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% reduction in nitrogen and phosphorus losses to our waters using an integrated approach with 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 deliver a clear and consistent message to the agricultural community to reduce nutrient loss and improve water quality.

Statewide Practices Cost-Share

In July of 2014, \$1.4 million was made available to all 100 Soil and Water Conservation Districts for cost share on conservation practices through the Water Quality Initiative (WQI). As in 2013, farmers and landowners remain very interested in new water quality practices and all the funds were obligated in five business days. Nearly 600 farmers signed up for funding in 2014, committing at least \$1.4 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, N inhibitor, and cover crops. The vast majority of the sign-ups were for cover crops. Surveys of applicants are being taken to provide farmer input and improve delivery of state programs. Of the surveys returned by the time of this report, over 2/3 of cover crop applicants through WQI in 2014 indicated they plan to continue to use cover crops.

FY2014 WQI Statewide Practices Cost-Share

WQI Statewide Practice Type	Cumulative Implementation	Nitrogen Reduction (tons)	Phosphorus Reduction (tons)
Cover crops	94,880 acres	404	11.25
N inhibitor	4,279 acres	6	NA
No-till/Strip-till	1,020 acres	NA	0.29
Totals		410	11.54

This table represents calculated load reductions of nitrogen and phosphorus based on practices installed in 2013 through the WQI.

This only accounts for practices installed with assistance from FY14 WQI statewide program funding and not other state, federal or private programs.

USDA Regional Conservation Partnership Program (RCPP) Applications

In an effort to expand the resources available through the WQI, IDALS partnered with multiple groups and 4 other states in the Mississippi River Basin to submit 3 RCPP proposals to USDA-NRCS. The applications seek to leverage WQI statewide funding to access federal resources to increase practice adoption statewide and in targeted watershed projects.



Planting soybeans into cereal rye cover crop



Iowa Leaders in Conservation:

Iowa Farm Environmental Leader Award recipient and family farmer, Bob Lynch, has continued to advance conservation measures on his farm as technology and understanding has improved. Moving from ridge-till to strip-till to incorporating cover crops, among other practices, has not only improved his farm operation environmentally, it also makes sense for the long-term economic viability of his farm.

"We have the opportunity to use these practices that not only make us better stewards of the land, but also improve crop production. It's very important to me that I continue to improve my farm for my kids and grandkids."

-Bob Lynch Cover crop and Strip-till Farmer, Humboldt County

Find out about more Iowa Leaders in Conservation at CleanWaterIowa.org

Targeted Demonstration Watershed Projects

Currently 13 Targeted Demonstration Watershed Projects have been funded to help implement and demonstrate the effectiveness and adaptability of a host of conservation practices highlighted in the NRS on a watershed scale.

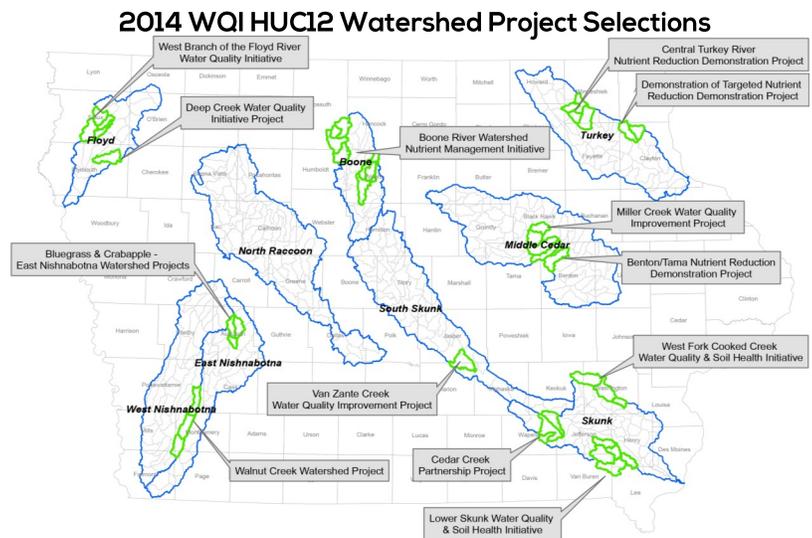
The \$6 million in state funding supporting these projects is leveraging \$10.3 million in additional funding provided by partners and landowners.

More than 70 organizations are participating in the demonstration projects, including partners from agriculture organizations, institutions of higher education, private industry, and local, state and federal agencies. All are working with the Soil and Water Conservation Districts (SWCD) as the project leaders. These projects will utilize the collective resources of their partners to demonstrate conservation practices paired with strong outreach and education components.

This effort will promote increased awareness and adoption of available practices and technologies. Successful projects will serve as local and regional hubs for demonstrating practices and providing practice information to farmers, peer networks, and local communities.

2014 WQI Demo Project Obligations		
Practice	Amount	Units
Cover Crop	20,421	acres
Denitrifying Bioreactor	1	no.
Drainage Water Mgmt	1	no.
Pasture/Ext. Rotation	424	acres
N Mgmt Practices	7,409	acres
Residue Mgmt	2,229	acres
P Mgmt Practices	2,320	acres
Terraces	146,383	ft.
Wetlands	1	no.

summary of practices obligated for funding in year 1 of the WQI Targeted Demonstration Watershed Projects



Project Contact Information

PROJECT NAME	LEAD	PHONE
Benton/Tama Nutrient Reduction Demonstration Project	Benton SWCD	319-472-2161
Bluegrass & Crabapple - East Nishabotna Watershed Projects	Audubon SWCD	712-563-4248
Boone River Watershed Nutrient Management Initiative	Wright SWCD	515-532-2165
Cedar Creek Partnership Project	Wapello SWCD	641-682-0752
Central Turkey River Nutrient Reduction Demonstration Project	Winneshiek SWCD	563-382-4352
Deep Creek Water Quality Initiative Project	Plymouth SWCD	712-737-2253
Demonstration of Targeted Nutrient Reduction Systems for Clayton County	Clayton SWCD	563-245-1048
Lower Skunk Water Quality and Soil Health Initiative	Henry SWCD	319-385-2824
Miller Creek Water Quality Improvement Project	Black Hawk SWCD	319-296-3262
Van Zante Creek Water Quality Improvement Project	Marion SWCD	641-842-5314
Walnut Creek Watershed Project	Montgomery SWCD	712-623-9680
West Branch of the Floyd River Water Quality Initiative	Sioux SWCD	712-546-8858
West Fork Crooked Creek Water Quality and Soil Health Initiative	Washington SWCD	319-653-6654

Outreach

A major focus of the Water Quality Initiative has been expanding learning and outreach opportunities. Partners and organizations have conducted numerous outreach activities in relation to the Nutrient Reduction Strategy and Water Quality Initiative.

WQI Grower Events

In 2014, the WQI directly assisted partners in more than 60 events throughout the state. These events were in cooperation with over 50 outside groups and organizations. These events & activities included field days, workshops, demonstration plots and other activities that deliver information on practices and the proper management needed for successful implementation.



Attendees view Conservation District of Iowa's Cover Crop plot, a part of Conservation Central at the 2014 Iowa Farm Progress Show

Farm Progress Show

One example of the collective effort from IDALS and partners to spread the message of the WQI and Iowa NRS was at the Farm Progress Show (FPS). The FPS provided an opportunity to showcase the WQI and nutrient reduction practices through partners and other groups. Numerous exhibits and events were on display.

Iowa State Fair

Water quality was a theme of the Department's "Farmville" location in the Agriculture Building at the Iowa State Fair. Numerous displays of conservation practices and over 15,000 water quality themed magnets were distributed to fairgoers.

Iowa Power Farming Show

Cover crop use and management was a focus of the Iowa Power Farming Show in 2014. Over 1200 farmers attended these sessions over the course of 3 days of the show. About half of the attendees that returned cards had never used cover crops before and were interested in learning more about the practice.

Introducing the Iowa Agriculture Water Alliance (IAWA)



Expanding upon Agriculture's commitment to the Iowa NRS, 3 commodity groups -- Iowa Corn Growers Association, Iowa Soybean Association, and Iowa Pork Producers -- collectively established the Iowa Agriculture Water Alliance. The alliance's purpose is to help increase the pace and scale of implementation of the Iowa NRS. The 3 groups committed at least \$1 million each over the next 5 years. This alliance will be a valuable partner in seeking additional resources to advance implementation of the Strategy, increase adoption of conservation practices and help to improve water quality in Iowa.

"The Iowa Agriculture Water Alliance is a farmer-led initiative that is collaborating with the IDALS, ISU, and other committed partners to raise awareness of the Iowa Nutrient Reduction Strategy and drive adoption of conservation practices like improved nutrient management, cover crops, no-till, strip-till, nutrient treatment wetlands, bioreactors and saturated buffers that scientific research has demonstrated improve water quality."

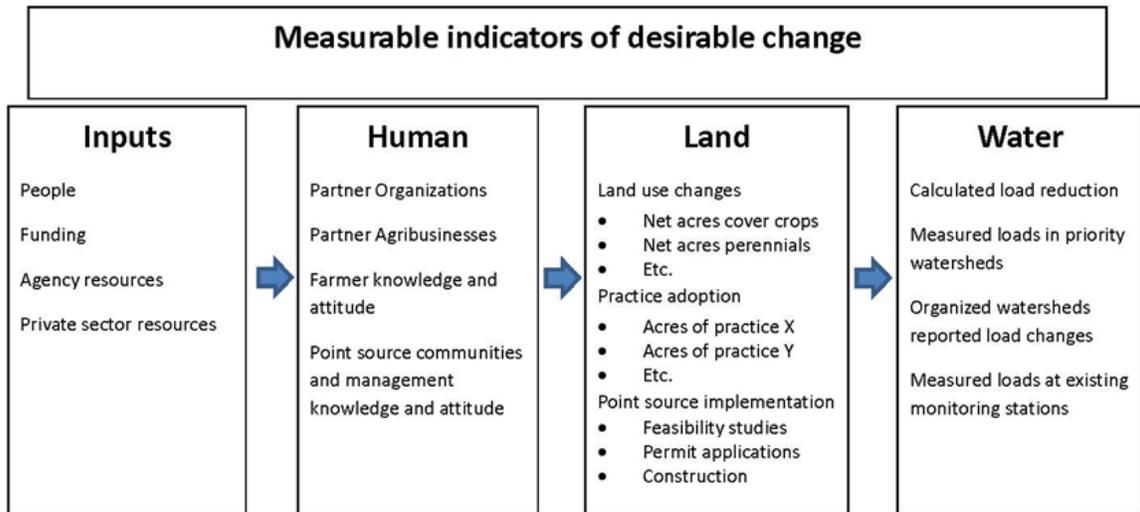
-Sean McMahon, Executive Director of the Iowa Agriculture Water Alliance

Tracking/Accountability

IDALS, DNR and ISU continue to work on development of a robust and qualitative framework to track and record progress towards nutrient reduction in Iowa waters. ISU conducted an assessment of publicly funded practices through IDALS, USDA-FSA, and USDA-NRCS. This data collection will be reported annually. ISU’s assessment will help inform agencies of additional information that would be helpful in analyzing the practices installed through publicly funded programs. This data will be available at: nutrientstrategy.iastate.edu

Information available from these and other agencies is unable to account for collective investment by farmers, landowners, and other organizations. Publicly funded practices are more accessible for reporting purposes. IDALS is coordinating with ISU and the Agribusiness Association of Iowa to better coordinate tracking of in-field management practices. This information will better quantify the extent of NRS practices installed collectively.

Through the Measures Subcommittee of the WRCC, the development of a logic model type framework will be employed to collect and report on progress made through the NRS.



The logic model looks at a variety of parameters to assess a reasonable chronological order that can be applied to cumulative efforts being conducted throughout the state involving multiple groups and individuals. The subcommittee will assess the pertinent information currently available and make suggestions for areas that need to be augmented or possibly created if they don’t exist.

When completed, the logic model will act as a dashboard for advancing the NRS and will allow more responsiveness and feedback in investing resources and programming.

The subcommittee continues to work on developing recommendations on the information to be collected as part of the logic model, where to access the information from existing resources, and what resources are not yet available and should be developed.

Nutrient Research Center

Approved Projects

Resulting from the 2013 Iowa legislative session, the Iowa Board of Regents created the Iowa Nutrient Research Center (NRC) and its advisory council at Iowa State University.

The purpose of the center is to pursue a science-based approach to nutrient management research including, but not limited to, evaluating the performance of current and emerging nutrient management practices, and using an adaptive management framework for providing recommendations for the implementation of nutrient management practices and the development of new nutrient management practices. In FY2013, \$1.5 million was allocated to establish the Iowa NRC and begin funding research projects. More details and a full listing of all projects funded through the Center can be found at: www.nutrientstrategy.iastate.edu/center

Below is a list of the awarded projects through the Nutrient Research Center in 2014:

- Stream Nitrate Trends Affected by Farming Practices in the Walnut Creek Watershed
- Phosphorus Loss from Ephemeral Gully Formation and Sediment Transport
- Modeling of Nitrate Loads and Concentrations in the Raccoon River
- Developing Remote Sensing Protocols for Inventory of Nutrient Management Practices
- Drainage Water Quality Impacts of Current Future Agricultural Management Practices
- Nutrient Trading in Iowa: A Pilot Study in the Catfish Creek Watershed
- Prairie Seed Mixes for Contour Buffer Strips: On-Farm Demonstration and Workshops
- Developing Remote Sensing Protocols for Inventory of Permanent Vegetative Practices
- Measuring the Effectiveness of Stacked Nutrient Reduction Practices
- Scientific and Technological Tools to Implement Iowa Nutrient Reduction Strategy

For more information,
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Iowa Leaders in Conservation:

Resulting from a project partially funded by the Nutrient Research Center, a new practice has been included in the Nutrient Reduction Strategy. This practice, Saturated Buffers, enhances the water quality benefits of stream side buffer strips by diverting water from subsurface drain tile into the shallow groundwater beneath the buffer to provide an opportunity for treatment before reaching the stream.

Dr. Tom Isenhardt (pictured) and Dan Jaynes (USDA-ARS) have been the lead researchers and developers of this technology.

[Find out about more Iowa Leaders in Conservation at CleanWaterIowa.org](http://CleanWaterIowa.org)

Point Source (Iowa DNR)



The point source portion of the nutrient reduction strategy 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 reasonableness of reducing the amounts of nitrogen and phosphorus discharged to Iowa surface waters. Practices 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.

Thirty-five (35) National Pollutant Discharge Elimination System permits have already been issued with provisions to implement the strategy with intent to issue 20 permits per year. Several treatment plants that were already under construction while the strategy was being developed voluntarily included nutrient removal processes in their design including the Cities of Clinton and Iowa City.

For more information, contact:

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Iowa Leaders in Conservation:



The City of Iowa City completed construction of a new wastewater treatment plant in late 2013 that included biological nutrient removal for nitrogen. They are currently exploring options for phosphorus removal.

The Cities of Eldridge and Mount Pleasant have NPDES permits that include schedules to upgrade their current wastewater treatment plants to include nutrient removal. Upon completion of the upgrades in 2020, these will likely be the first facilities in Iowa to install nutrient removal since the implementation of the nutrient strategy.

[Find out about more Point Source at CleanWaterIowa.org](http://CleanWaterIowa.org)

Urban Conservation



Urban non-point source conservation practices are an important consideration for residents and city leaders to include in their communities. These practices can be retrofitted into existing infrastructure projects or incorporated into future project designs.

One example of a community working on urban stormwater practices is the city of Cedar Falls. Through the Dry Run Creek Project the Black Hawk SWCD is assisting in the installation of a host of practices designed to properly manage and treat stormwater runoff prior to reaching the creek.



Bioretention cell

FY2016/FY2017 Funding Request

Iowa Secretary of Agriculture Bill Northey has requested \$7.5 million for the Iowa Water Quality Initiative as part of each of the Iowa Department of Agriculture and Land Stewardship's fiscal year 2016/2017 budget requests. This request puts funding at the requested level of support sought for the soil conservation cost share program, or Iowa Financial Incentives Program (IFIP).

The Department received \$4.4 million for the current fiscal year for the 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 increase the adoption of conservation practices in the state. These initiatives include a focus on edge of field practices, streamside and in-field buffers, and demonstrating urban non-point source practices. The funding requested for Water Quality Initiative would allow the Department to continue and expand its work to address the quality of our streams and water resources in a scientific, reasonable and cost effective manner.

As demonstrated in 2014, the Department is committed to leveraging state resources to expand the program and increase implementation of practices, including partnering with private and public institutions to quantify the results, and maximize the return on investment with state funding.

"We are excited about the progress that has been made and the positive response we have seen to the Water Quality Initiative. Interest remains very strong in trying new voluntary, science based conservation practices to improve water quality. The strong support from the Governor, Lt. Governor and Legislature for the Water Quality Initiative has been critically important. This request is designed to allow us to continue to build on progress we have made to this point. Funding water quality and soil conservation efforts at equal levels will allow us to continue the exciting work taking place in both of these critically important programs," Northey said.



Wetland in Madison County

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