# Celebrating Progress

*2011 ACWA Progress Report*

# What is ACWA?

Agriculture's Clean Water Alliance (ACWA) is an association of 13 ag retailers operating in the Des Moines and Raccoon River basins. We are direct competitors. Yet, as ag retailers, we are aware of our dual mission to help farmers improve agronomic performance in the field while supporting environmental performance beyond the field's edge, so we work together toward that end.

Because of their role as drinking water sources, sport fisheries and paddling destinations, the Raccoon and Des Moines Rivers are important indicator streams for Iowa. Also, because their course takes them through one of the world's most fertile agricultural regions, they are important environmental indicators for agriculture.

The Raccoon River is the primary water supply for the City of Des Moines, serving a population of about 500,000. Its watershed drains land from 17 counties and 2.3 million acres, 6.4 percent of Iowa's total land area. Agriculture is dominant in the basin with more than 80 percent of the land area in agriculture production.

Consistently collected data along these waters draining agricultural lands was lacking before 1999. Our agribusinesses stepped up to the plate. Neither we nor our farmer customers wanted the products intended for improving crops to end up, instead, in our local and downstream waters.

Thus was born the ACWA, a nonprofit organization funded by member dues taken from a percentage of our annual nitrogen fertilizer sales.

***The organization began with the simple premise of collecting data through a certified water sampling effort. Just as we use agronomic data to predict agronomic performance, ACWA and its partners believe we need good environmental data to understand the nature of the problems we face, identify solutions for those problems and evaluate the effectiveness of those solutions.***

***In 2008, ACWA doubled our scope by recruiting members from the Des Moines River Watershed in North Central Iowa and extending our water monitoring network to cover the mainstem and tributaries of the Des Moines River, which is the***

***secondary water supply for the Des Moines Water Works. Now made up of 13 member retailers, ACWA has monitored as many as 130 sites in the Des Moines and Raccoon River Basins; in 2011 monitoring was consolidated to 107 sites.***

While monitoring remains ACWA's cornerstone, ACWA's mission grew to include reducing nitrogen and phosphorous loss from farm fields. This led to a partnership with the Sand County Foundation to demonstrate bioreactors as an innovative practice for reducing nitrate transport from tile drainage. The USDA Natural Resources Conservation Service (NRCS) has now approved an interim standard for bioreactors as an eligible cost share project based in part on our demonstration.

ACWA water monitoring data, collected and analyzed frequently and regularly for over a decade, has characterized conditions in upstream waters, identified geographic uniqueness, highlighted the need and potential for a portfolio of solutions tailored to the issues and conditions in specific watersheds, helped target projects and been valuable in obtaining resources for implementing appropriate remedial strategies.

***Since 1999, ACWA members have invested more than $1 million in water quality monitoring in the Raccoon and the Des Moines Rivers and their largest tributaries. Well over 10,000 samples have been collected by more than 100 certified samplers.***

This progress report describes how ACWA's monitoring data directly led to a Water Improvement Review Board (WIRB) funded project conducted by Des Moines Water Works (DMWW), ACWA and several other partners in the Upper Brushy Creek Watershed, resulting in a 50 percent reduction in *E. coli* bacteria measured at Dedham, Iowa. ACWA data were also instrumental in securing Watershed Development and Planning Assistance Grants for the Elk Run and Lyons Creek Watersheds and an Iowa DNR/EPA Section 319 grant for implementation in Lyons Creek. Those data were used to target 25 subwatersheds, including the West Buttrick and East Buttrick (in the Raccoon) and Lyons Creek, Lower Eagle and Buck Creek watersheds (in the Boone) as locations for USDA Mississippi River Initiative (MRBI) grant applications, resulting in four years of focused, additional funding support and partnership efforts to apply priority conservation practices in these watersheds. In addition to MRBI grants, ACWA monitoring helped secure Iowa Department of Agriculture and Land Stewardship (IDALS)/Department of Natural Resources (DNR) planning grants and Iowa Soybean Association (ISA) cooperative agreements.

In 2011 ACWA initiated a new partnership, teaming with NRCS to make $800,000 in Environmental Quality Incentives Program (EQIP) funding available to farmers to work on nutrient management enhancements through a Mississippi River Basin Initiative (MRBI) Cooperative Conservation Partnership Initiative (CCPI) project.

ACWA water monitoring has positively linked water users and institutions in a way that enhances water quality while recognizing farmers' needs to remain profitable and meet growing demand for their crops. We have demonstrated the importance of partnerships and how water quality needs and issues can be addressed in a nonadversarial way by focusing on facts and identifying and promoting multiple solutions that deliver sustainable results.


# *Agriculture's Clean Water Alliance receives* Environmental Impact Award

In May 2011, ACWA was recognized with an Environmental Impact Award during a ceremony at the Des Moines Botanical Center. The coalition of Des Moines organizations sponsoring the awards includes the Metro Waste Authority, Des Moines Water Works, Greater Des Moines Partnership and the Center for Sustainable Communities. The Environmental Impact Awards were established to recognize organizations and leaders who exemplify environmentally sustainable practices. Awards are given for several categories; ACWA was the recipient of the "Civic" award.

ACWA President Harry Ahrentholtz says, "This recognition means ACWA's effort is being recognized for our unique collaboration. In addition to our work in rural areas, we're building awareness in the urban community that didn't previously exist. City residents are pleased to learn about the agricultural community's focus on clean water and the environment."

Roger Wolf, ACWA's executive director, agrees. "No doubt the issues we are working on are important to our farmers, but having the folks downstream recognize and applaud our efforts is a tangible result of the investment and the work accomplished by the ACWA over the past 12 years."

*Pictured above: ACWA President Harry Ahrenholtz, West Central, and Board Member Dan Dix, NEW Cooperative, accept the Environmental Impact Award at the Des Moines Botanical Center.*

# President's Letter

As we reflect on 12 years of committed effort to improve the water quality in the Raccoon and Des Moines River Watersheds, ACWA has much to be proud of. What started as a leap of faith has grown into a focused vision to solve questions about water quality.

We celebrate 2011 as a year in which the value of our efforts has been proven and recognized in numerous ways.

It was gratifying to be honored with the Greater Des Moines Environmental Impact Award, truly an acknowledgement that our work is appreciated by those for whom we originally began our effort.

This year we welcomed two new associate members that represent major suppliers to ACWA member companies, Dow AgroScience and Koch Fertilizer Company. We are proud these suppliers recognize our work and see the value in joining forces with us to advance that work to a new level. We have also been privileged to work closely with key partners, including Iowa Soybean Association, Des Moines Water Works, Iowa Department of Natural Resources, Iowa Department of Agriculture and Land Stewardship, and USDA-Natural Resources Conservation Service (NRCS).

In March, the McKnight Foundation awarded ACWA $80,000 to create a monitoring and evaluation framework for the Boone River watershed and support related monitoring expenses. This project assembles Iowa scientific leaders to provide analysis and information to local partners as they determine the path forward. ACWA monitoring data will provide the foundation for this work. Project leaders intend the framework to be transferable to other agricultural basins.

In 2008, ACWA initiated a project with Sand County Foundation to demonstrate the value of denitrifying bioreactors. Thanks in large part to that project and the data collected to document their effectiveness, NRCS has now adopted an interim standard for bioreactors, making them eligible for Environmental Quality Incentives Program (EQIP) cost share funds.

With the wrap-up of the three-year WIRB project in Brushy Creek, numerous successes were reported, including a 50 percent reduction in *E. coli* bacteria at Dedham. Farmers are excited about new practices, and a lasting impact has been made. ACWA water monitoring data was instrumental in securing that project and in documenting its accomplishments.

Similarly, ACWA data was used to obtain approval of project funding for several MRBI projects that will bring more than $14 million in EQIP funds to the Boone and Raccoon River Watersheds over the next several years. ACWA successfully initiated a project to make NRCS EQIP funds available to help farmers enhance nutrient management plans.

As we look back over the past 12 years, it is refreshing to review the database that has been compiled, the experiments that have been initiated and the partnerships that have been formed. There has been progress, for sure, but there is still much to do.

While the work of our organization is generally recognized and respected in the scientific community, we are concerned it may not be as well understood in our local communities. One of our areas of focus for 2012 is to clearly communicate these efforts to the public and garner their support and recognition to help take this work forward and sustain enthusiasm for tackling these long-term issues.

We have a great story to share about the progress we have made, and better yet, the exciting new horizons ahead.

Harry Stronhaltz

ACWA President

# Water Monitoring

*Water monitoring is the cornerstone of ACWA's efforts. A comprehensive database has helped establish a water quality baseline, is valuable in leveraging funding and tracks changes as management practices evolve.*

Since it was formed in 1999, ACWA has been committed to establishing a comprehensive database of water quality monitoring information. The initial goal was to set up an ongoing regime within the watershed to establish baseline water quality data, help watershed stakeholders better understand the conditions of surface waters and identify areas of concern.

Numerous water quality parameters can be evaluated, including nitrate (nitrogen), phosphorus, bacteria, dissolved oxygen, temperature and turbidity – all common characteristics used in evaluating the attributes of surface water.

With a baseline set, ongoing water quality monitoring tracks any changes as management practices evolve across a number of farming operations in a watershed. This method is used in reports such as the one presented to ACWA in November on the progress made in the Brushy Creek project.

Data from water quality monitoring proves valuable in providing scientific support that helps leverage grants and other funding, such as selection of the Boone River watershed as one of four key Iowa watersheds for Mississippi River Basin Initiative (MRBI) projects.

*Water monitoring data is available on the ACWA website at www.acwa-rrws.org*

# Certified Samplers

*ACWA's 29 certified samplers collected 1,148 samples from 107 sites in 2011, demonstrating their personal commitment to protecting our natural resources.*

ACWA's water monitoring network includes 107 sampling sites. A total of 1,148 samples were collected and analyzed in 2011.

The monitoring program wouldn't be possible without ACWA's water quality monitoring samplers. Many individuals, groups and organizations assist with monitoring efforts, including certified samplers from Soil and Water Conservation Districts, County Conservation Boards, Future Farmers of America and local watershed groups.

"There is no substitute for real world data to address water quality issues. The work our certified samplers do is invaluable," says ACWA Watershed Management Specialist Anthony Seeman, who oversees water sampling activities.

ACWA's certified samplers are trained with clearly detailed expectations for how sampling is done according to protocols established in ACWA's DNR/EPA-approved Quality Assurance Project Plan (QAPP). The QAPP ensures that ACWA data is credible and useable by the scientific community.

Dave Hansen, who lives north of Ventura, is one of those highly valued certified samplers. He got his start sampling from the Winnebago River near his farm. After putting land in the Wetlands Reserve Program (WRP), he also did pond sampling.

His commitment as a water sampler fits naturally with his love of nature and being outdoors. He and his wife, Patty, spend a good deal of time out in their wetland area. Out in nature he can engage in his hobby of photography and she in hers of identifying plants.

"We both have a strong affection for the environment and want to do what we can to protect it," Hansen says.

He commits about three hours every other week to sampling the Boone River.

Hansen, who has been a Cerro Gordo County Soil Commissioner for 20 years, says, "We are not going to get more of our natural resources, so we have to take care of them. With hypoxia in the Gulf of Mexico, it is apparent that we must work to lessen our impact."

Noting that the use of land has changed through the years, Hansen says, "Years ago, prolific use of the moldboard plow changed the condition of the land, but as that has slowed, I believe conditions have improved. With current high prices, we must continue to be conscious of doing the right thing by nature.

"It's not just for today. It's also for future generations."

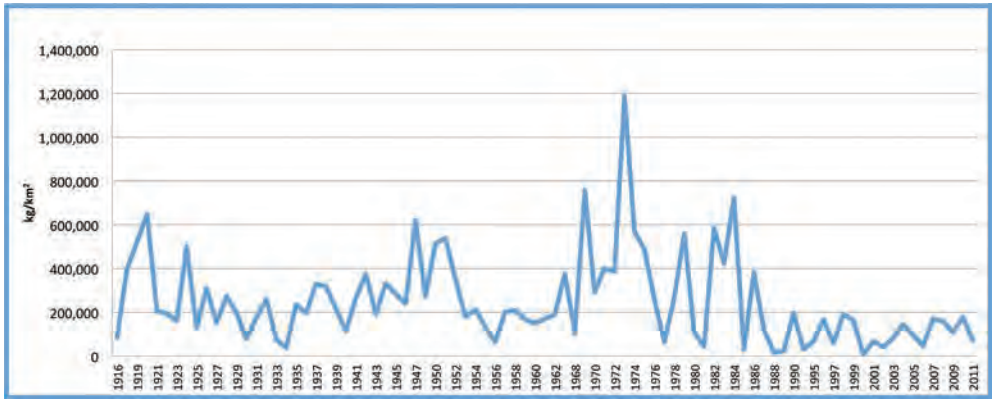
# *Raccoon River Water Quality Data*
# Are we headed in the right direction?

*Data dating back to 1916 show sediment concentration and load in the Raccoon have been stable and low since 1988. ACWA data from the Jefferson site suggest there also may be a downward trend in the nitrate levels.*

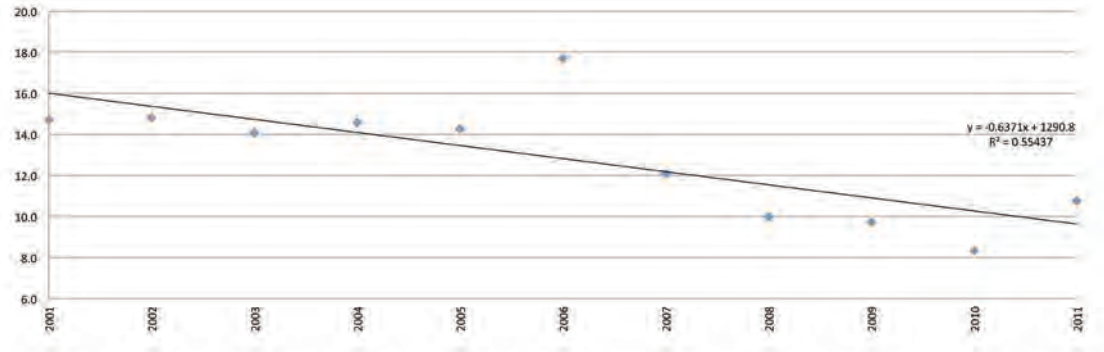
Caution is always merited when linking trends in water quality to practices conducted on the landscape. Changes on the land can take many years or even decades to manifest themselves in the stream, especially in a watershed as large as the Raccoon basin. Furthermore, climatic forces can confound analyses and suggest trends where they don't exist. Finally, we humans tend to view things in the context of the length of our own lifetime and not in the geologic time frame. Nonetheless, water turbidity data for the Raccoon River watershed is abundant compared to most other streams. Can we make some conclusions?

While little other data existed before 2000 regarding the Raccoon River's water quality, sediment data for the Raccoon dates back to 1916 – more than 20,000 actual measurements. With this amount of data, we can make some conclusions about trends. Concentrations of suspended sediment in the river were highest in the 1930s, while sediment loading (total amount of sediment delivery) was highest in the 1970s. Both concentration and load began a downward trend in 1983, and have been stable and low since 1988. This information may be telling us that practices such as terraces, no-till and reduced tillage, grass waterways

Raccoon River Annual Sediment Load




North Raccoon Flow Weighted Average NO3-N

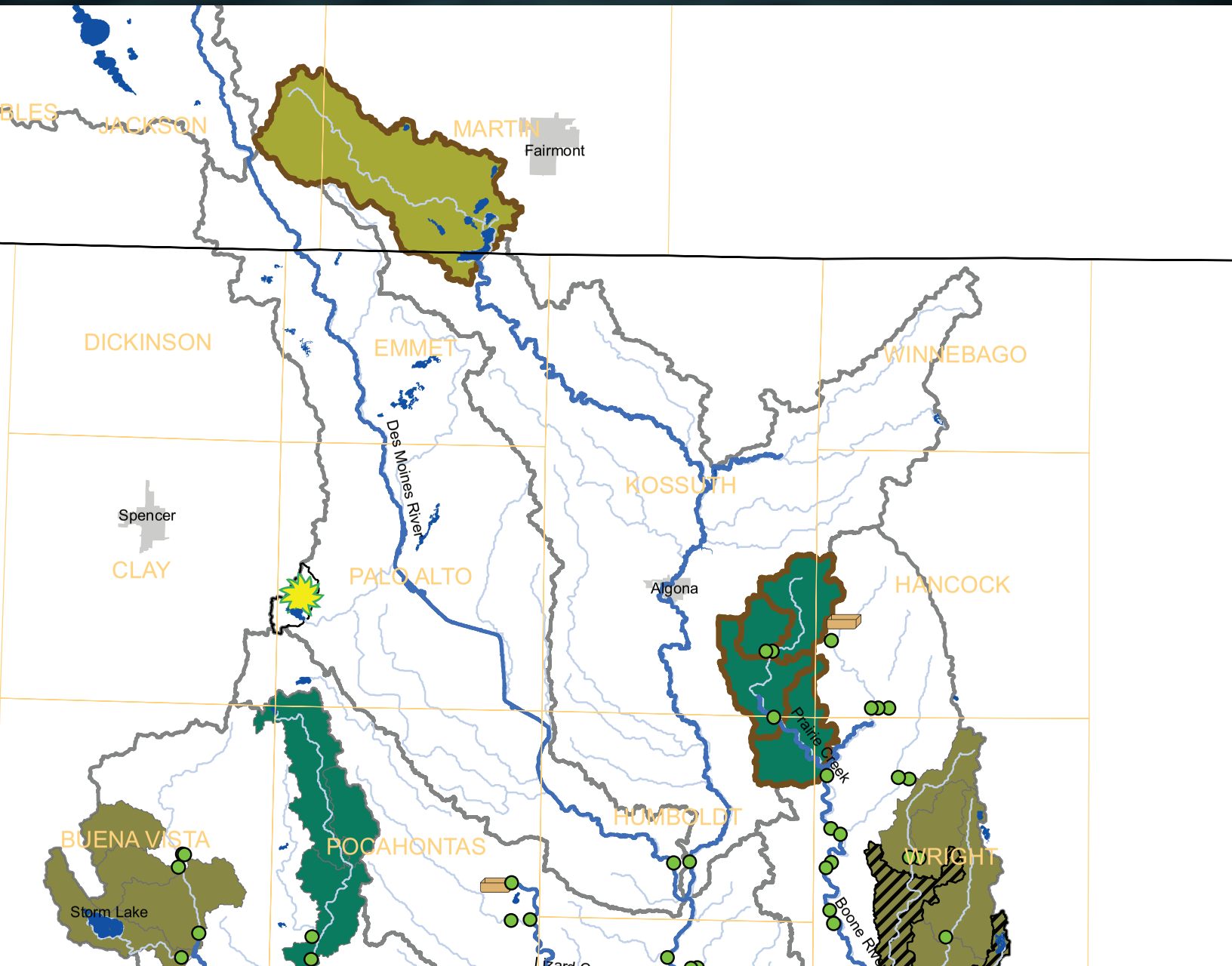


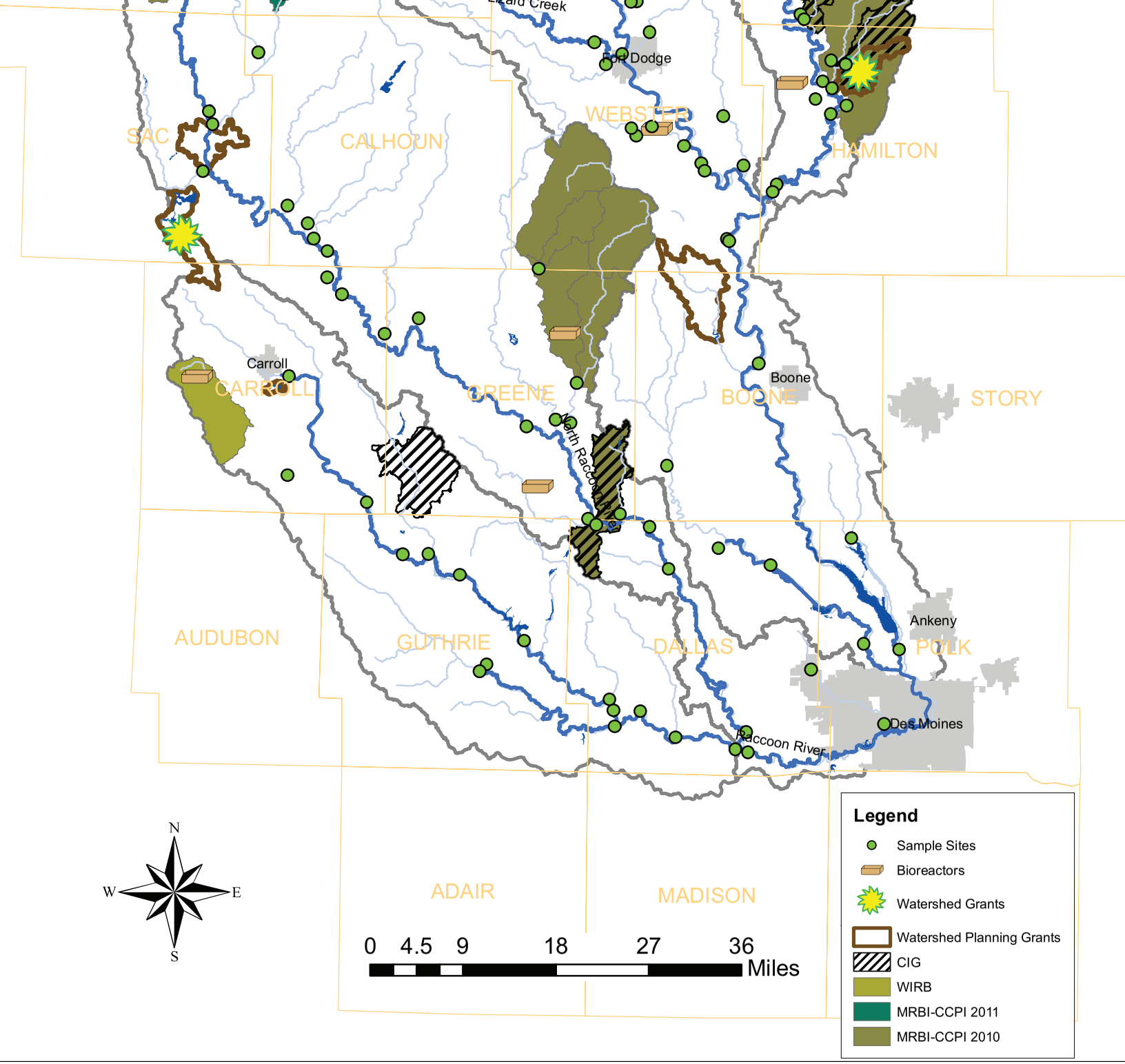

and buffers are working to reduce gully erosion, especially in the South Raccoon basin. These data and conclusions were recently published in a paper featured in the *Journal of Environmental Quality*, a publication of the American Society of Agronomy. The article was authored by Chris Jones of the Iowa Soybean Association and Keith Schilling of the Iowa Department of Natural Resources.

What about nitrate (N)? "Trending nitrate is very difficult because of the myriad of confounding factors," Jones says. "Also, there is some disagreement about what measure to evaluate – concentration or loading. Both are very dependent upon flow and may not accurately reflect on-farm practices. Another way of looking at the data is calculating a flow-weighted average: total loading divided by total discharge (flow). Recent work by U.S. Geological Survey (USGS) suggests this may be a more accurate assessment of landscape activities. When we look specifically at the ACWA data from the Jefferson site and consider the flow-weighted average beginning in the post-drought year of 2001, it seems there may be a distinct downward trend, maybe more than 30 percent. This stands to reason, as inputs have not increased dramatically (based on the ACWA fertilizer data), but crop yields have. Increased yields imply more N was removed in the crop. All other things being equal, N levels should decrease."

While it is too early to celebrate, this is positive news as it relates to concern about ag nitrate flowing downstream and ultimately contributing to hypoxia in the Gulf of Mexico.

# Des Moines & Raccoon River Targeted Watershed Projects




Lizard Creek
Fort Dodge
WEBSTER
SAC
CALHOUN
HAMILTON
Carroll
CARROLL
GREENE
Boone
BOONE
STORY
North Raccoon River
AUDUBON
GUTHRIE
DALLAS
Ankeny
POLK
Des Moines
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Miles
Legend
Sample Sites
Bioreactors
Watershed Grants
Watershed Planning Grants
CIG
WIRB
MRBI-CCPI 2011
MRBI-CCPI 2010

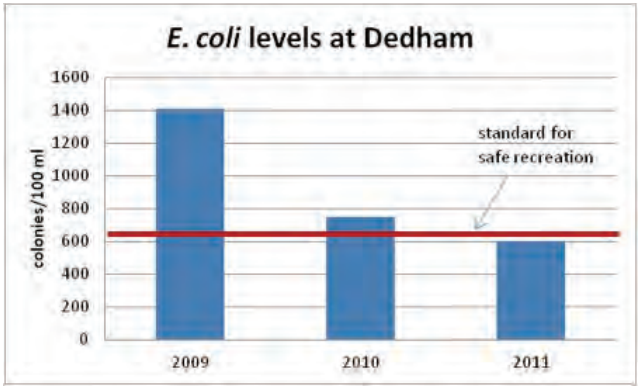
# *Brushy Creek WIRB Project* DEMONSTRATES SUCCESS

*ACWA data laid the foundation for a three-year, collaborative project in Brushy Creek. Conservation applied in the project reduced stream E. coli significantly, making it safe for recreational use. Livestock thrived and farmers are increasing the conservation practices.*

ACWA has been a part of many great partnerships over the years. One of the most successful was the Upper Brushy Creek collaboration in Carroll County. Brushy Creek is a tributary of the Raccoon River.

ACWA data provided the foundation for a Watershed Improvement Review Board (WIRB) proposal submitted in 2007. The three-year project was funded for $206,000 (more than $400,000 with in-kind contributions). The goal was to reduce nitrate and bacteria levels in the stream. Partners included Des Moines Water Works (DMWW), Iowa Soybean Association (ISA), USDA Natural Resources Conservation Service (NRCS), Iowa Department of Natural Resources (IDNR), Heartland Co-op, Dedham Co-op and ACWA.

Prior to the project, a variety of natural and manmade factors made water quality improvements in Brushy Creek difficult. The stream was known to have a very high nitrate concentration, multiple fish kills had been reported and bacteria levels indicated the stream was not safe for recreation.




Much of the project's work focused on practices to prevent manure transport from feedlots to the stream. ISA and NRCS staff also worked with producers on Comprehensive Nutrient Management Plans and corn stalk nitrogen testing to identify opportunities for improving management without reducing crop production. ACWA and DMWW partnered in conducting extensive water monitoring. Two denitrifying bioreactors were installed. Carroll County Soil Conservationist Patrick Corey was able to attract substantial Environmental Quality Incentives Program (EQIP) dollars into the watershed for grass waterways, vegetated strips, terraces, and maybe most importantly, open-air hoop building cattle confinements. These not only help prevent manure transport during rainstorms, but evidence from Brushy suggests they are also improving animal health.

Did this work manifest itself in improved water quality? Chris Jones, who is now at ISA but coordinated the WIRB application while supervising the laboratory at DMWW, says, "We think so, especially in the context of *E. coli* data. Density of *E. coli* in the stream at Dedham, the lower end of the project area, declined throughout the project. Data from 2011 indicate the stream is now indeed safe for recreation. This is a huge achievement, especially in light of the intensity of animal production in the watershed."

Reducing nitrate levels in stream and tile water is a more stubborn problem because so much of the stream flow is of tile origin. This suggests further implementation of edge-of-field practices, like bioreactors, has merit.

Brushy Creek farmers must be credited. They contributed more than $700,000 in matching funds to implement projects during the three years. This money, along with EQIP and WIRB funds, brought the total investment in Brushy Creek to more than $1.5 million since 2008. This project demonstrates what partnerships can achieve and what sort of commitment is needed to address water quality issues in the Raccoon basin.

Although grant funding for the WIRB project has run its course, the work will continue. Practices implemented during the life of the project will produce water quality benefits for years to come. In addition, Corey notes, Carroll County will continue to make the Brushy Creek a priority for EQIP funds, awarding extra points to those projects.

For 2012, the county already has applications for $377, 000 of cost share, including requests to convert open lots to total containment, seed cover crops on fields with fall applied manure and install terraces and waterways.

*"It's been a very successful project. Producers accepted the project well and were willing and eager to implement practices. The WIRB project helped cut costs and improve efficiency to maximize return. Producers found the livestock buildings were better for the environment and for the cattle. Feed efficiency is better and cattle finish faster with better herd health while reducing runoff. Stalk sampling also provided valuable information resulting in reduced nitrogen applied. A lot of work has been completed and a lot of farmers are changing practices to improve the environment."*

## Pat Corey

*NRCS Soil Conservationist in Carroll County, who took the lead in working with landowners*

# What leaders say about the Brushy Creek Project

*"Since the WIRB project ended, we already have EQIP applications for more livestock facilities and manure structures. That is the result of other farmers seeing the benefits for those who have completed projects. It is the result of farmers talking to farmers, neighbor to neighbor. They are hearing the investment pays off in improved feed efficiency and herd performance. This will have an impact for a long time."*

Tom Simons, *Carroll County SWCD Commissioner*

*"To me, the greatest benefit of the Brushy Creek project was nitrate stalk testing. Nitrogen is the biggest problem in the streams. By watching that and by properly applying the right amount of nitrogen, we can make big gains. We will save ourselves money and also have better water quality."*

Jim Riesberg, *Carroll farmer who has been committed to conservation for many years. He no-tills and also has filter strips along the stream on his farm.*

*"This project demonstrates things being done right in the Brushy Creek and helps shed a better light on producers and the environment. With small steps we can make a big difference."*

*Dedham Cooperative Association General Manager* Roger Shaw, *ACWA board member who supported the Brushy project and helped promote it*

*"ACWA monitoring helped identify the issues in this area. Bacteria levels were high. Water monitoring documented the project's success, which otherwise would be hard to capture. It's a tremendous success story that needs to be told about targeting the issues to address and establishing partnerships. We also need to recognize producers for the steps they've taken, including their investments. These farmers feel good about what they've accomplished. It shows farmers are interested in doing what they can when problems are identified."*

Roger Wolf, *ACWA Executive Director*

## Brushy by the Numbers

- The Brushy: 50,000 acres
- Years of WIRB project: 2009-2011
- WIRB funding: $206, 500
- Cost share: $433,110
- Farmers' investment: $782,166
- Total spent on projects: approximately $1.5 million
- Eight locations on Brushy Creek were sampled 40 weeks per year for nitrate, *E. coli* and turbidity (clarity).
- Documented reduction in *E. coli* levels at Dedham: 50 percent

# *Building on Data*—MRBI & CCPI

*ACWA water monitoring data was instrumental in several Boone and Raccoon River Watersheds being selected for Mississippi River Basin Initiative projects. This has resulted in more than $14 million committed to work in these river basins.*

In 2010 the Boone and Raccoon River Basins were selected as key watersheds targeted by the Mississippi River Basin Initiative (MRBI). Altogether the MRBI brings more than $14 million to work in 25 subwatersheds in these two river basins, thanks in large part to ACWA efforts.

MRBI is focused on reducing, controlling and trapping nutrients. ACWA water monitoring will continue to play a key role by comparing current and future data with crucial baseline data. This will help project sponsors determine the success of nutrient management, bioreactors, cover crops and strip-till and encourage farmer management decisions to promote maximum results.

In addition to ACWA's own successful $800,000 nutrient management enhancement application, four other approved MRBI projects named ACWA as a partner because of the role our data played in obtaining their approval.

Connie Roys, USDA Natural Resources Conservation Services (NRCS) District Conservationist for Wright County, says, "When MRBI came along, it was a perfect fit for the work we had already been doing. We had the water monitoring already done. With that background, it helped our selection for an MRBI designation. We had gathered data and had shown we could work together."

# Bioreactors

*In 2008, ACWA partnered with the Sand County Foundation to initiate a dentrifying bioreactor demonstration project. Documented results have contributed to the NRCS approving an interim standard for bioreactors as an eligible cost share practice.*

One of the NRCS-approved enhancement practices in the MRBI project is the installation of denitrifying bioreactors. The approval of an interim standard for bioreactors as an Environmental Quality Incentives Program (EQIP)-eligible cost share practice is based, in large part, on data from the ACWA Bioreactor Demonstration Project. That project began in 2008 when ACWA partnered with the Sand County Foundation to install and assess the effectiveness of six bioreactors as a means of reducing nitrate from subsurface drainage systems.

Dave Coppess, who was president of ACWA when the demonstration project was initiated, says, "ACWA members heard Dr. Jim Baker, former Iowa State University (ISU) professor in ag biosystems engineering, discuss the concept of a tile line bioreactor that would remove nitrate from tile water before it discharged into the stream. Follow-up discussions with Dr. Jerry Hatfield of USDA Research Service and Dr. Matt Helmers of ISU convinced us we should take the step beyond water sampling and test the theory with several in-field demonstrations. It was our first step into water quality remediation."

A bioreactor is a buried trench filled with wood chips through which tile water is allowed to flow. Using the wood chips as a food source, microorganisms begin breaking down nitrate in the water.

The bioreactor has no adverse effects on crop production and is designed in a way that does not restrict drainage. A control structure determines the amount of tile flow diverted into the bioreactor. During high flow, excess water bypasses the bioreactor and continues to flow through the existing field tile.

The practice is attractive to farmers because it is relatively inexpensive and does not take land out of production.

Water is monitored entering and leaving bioreactors, as well as leaving the tile outlet, since all tile water is not treated during periods of high flow. The results to date demonstrate 50 percent nitrate load reduction from water leaving tile lines with bioreactors.

Wright County District Conservationist Connie Roys reports eight bioreactors have been approved for EQIP cost share to date, with more applications pending.

*A bioreactor is being installed to remove nitrate from tile water.*

# ACWA CCPI Project
## *Adoption of Nutrient Management Technologies in Targeted Iowa Watersheds*

*In addition to being named a partner for other MRBI projects, ACWA successfully applied to NRCS for $800,000 in EQIP cost share to help farmers plan and adopt nutrient management practices.*

In 2011 ACWA joined Natural Resources Conservation Services (NRCS) in a new project titled "Adoption of Nutrient Management Technology Enhancements in Targeted Iowa Watersheds." This four-year Mississippi River Basin Initiative Cooperative Conservation Partnership Initiative (MRBI-CCPI) project will help farmers adopt practices that prevent, control and trap nutrient runoff from agricultural land.

NRCS has set aside $800,000 in Environmental Quality Incentives Program (EQIP) dollars over four years specifically for farmers in the targeted watersheds (see maps on page 18). EQIP is funded by USDA and administered by NRCS, providing financial assistance to farmers to address natural resource concerns.

ACWA members' role will be to communicate, promote and educate farmers about the program and provide technical assistance for implementation.

Bruce Voigts, MRBI coordinator, says, "Since agronomists are front line in working with farmers to determine the amount of nutrients going on the land, we want them to be part of the project. We should be working together. It is a first step in making improvements."

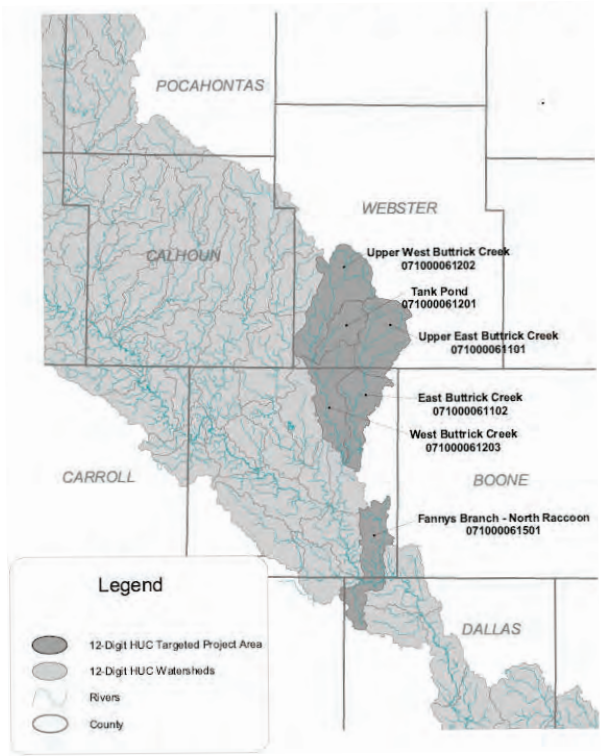
ACWA President Harry Ahrenholtz agrees. "It's a link that's been missing. We have a lot to learn from and teach each other. There is much to be gained by partnering. This agreement gives us new opportunities to join with government agencies to implement and measure conservation strategies with producers. The goal is to find ways we can contribute to a positive impact on nitrogen management."

Several aspects of this project make it a unique opportunity. First, it is only available to farmers in the designated watersheds in Dallas, Greene, Webster, Hamilton and Wright counties. It is an opportunity for farmers to familiarize themselves with NRCS programming while receiving support from their local agronomist and other technical assistance provided by ACWA. In addition, this is the only EQIP nutrient management option at higher payment levels that allows fall application of nitrogen.

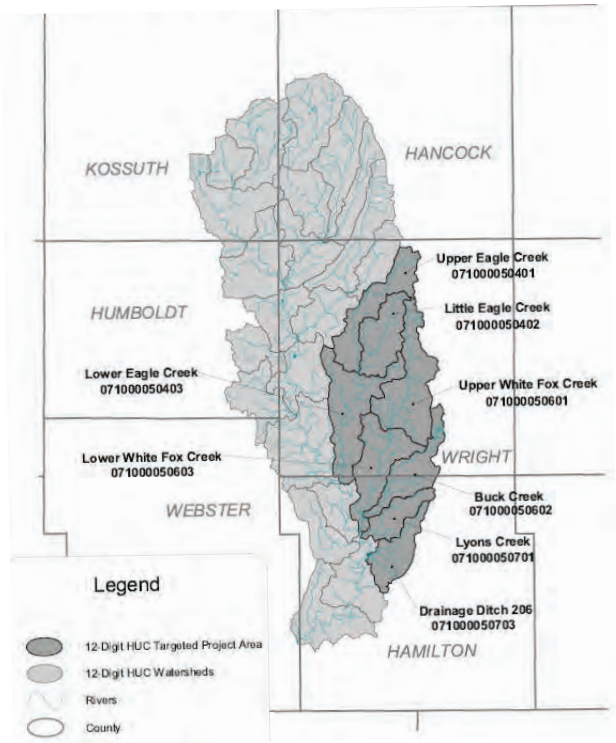
More information is available at www.acwa-rrws.org/initiatives/ccpi

# MRBI — CCPI Watersheds

## North Raccoon River Watersheds




## Boone River Watersheds




# ACWA Fall Code of Practice

All ACWA members follow a Code of Practice, a formal agreement to which we recommit each year, signifying that we will delay fall anhydrous applications without a nitrification inhibitor until soil temperatures are 50° F and trending lower. This is a Best Management Practice designed to reduce nitrogen loss to streams from row crop agriculture. It also reflects coordinated efforts as the ag industry works with the USDA in voluntary and incentive-based nutrient management.

Find more about the ACWA Code of practice at www.acwa-rrws.org/initiatives

# ACWA Members

*Ag organizations working for better water quality*

Ag Partners LLC
Albert City, Iowa
**www.agpartners.com**

Dedham Cooperative Association
Dedham, Iowa

Farmers Cooperative Company
Ames, Iowa
**www.fccoop.com**

First Cooperative Association
Cherokee, Iowa
**www.first.coop**

Gold-Eagle Cooperative
Goldfield, Iowa
**www.goldeaglecoop.com**

Heartland Co-op
West Des Moines, Iowa
**www.heartlandcoop.com**

Key Cooperative
Roland, Iowa
**www.keycoop.com**

Helena Chemical Company-Midwest Division
West Des Moines, Iowa
**www.helenachemical.com**

NEW Cooperative, Inc.
Fort Dodge, Iowa
**www.newcoop.com**

Pro Cooperative
Pocahontas, Iowa
**www.procooperative.com**

Crop Production Services
Wall Lake, Iowa
**www.uap.com**

Van Diest Supply
Webster City, Iowa
**www.vdsc.com**

West Central
Ralston, Iowa
**www.westcentral.coop**

# Associate Members

Dow AgroScience
Indianapolis, IN
**www.dowagro.com**

Koch Fertilizer, LLC
Wichita, KS
**www.kochfertilizer.com**

# Partners

*Our partners make this work possible. Thanks to:*

National Laboratory for Agriculture and the Environment
**www.ars.usda.gov**

Des Moines Water Works
**www.dmww.com**

Lake Panorama Association
**www.lakepanorama.org**

Racoon River Watershed Association
**www.northraccoon.org**

U.S. Geological Survey
**www.usgs.gov**

Iowa Soybean Association
**www.iasoybeans.com**

Sand County Foundation
**www.sandcounty.net**

The Nature Conservancy
**www.nature.org**

USDA Natural Resources Conservation Service
**www.nrcs.usda.gov**

# ACWA Thanks

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**www.mcknight.org**

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ACWA
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