

CREDIBILITY WITH A CAUSE

2013 ACWA
PROGRESS REPORT



ACWA
Agriculture's Clean Water Alliance

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FROM THE PRESIDENT

IOWA'S FARMERS AND AG INDUSTRY PARTNERS ARE RESILIENT, but they deal continually with unpredictability and challenge. The past two years have taken us to the extremes when we consider weather. What started in the spring with rainfall amounts that broke a 140-year-old record, turned to drought mid growing season. That pattern, coupled with the longer season drought and shorter crop of 2012, set the stage for one of the most significant nitrogen leaching events in history. That, ultimately, led to elevated nitrogen levels in our streams during much of the summer. It was a concerning and costly event for many Iowans. However, it does not deter the dedication of ACWA to find answers and pursue solutions for improved water quality in this great state.

This marks the 14th year of ACWA and it was more eventful than any other previous year that I recall. One of the most important events was the rollout of the Iowa Nutrient Reduction Strategy. It established a comprehensive, science-based plan to address water quality improvement on a statewide basis. ACWA fully endorses the voluntary versus a regulatory approach of the strategy. We remain confident that the voluntary approach will result in a quicker and broader adoption of practices that can impact water quality improvement.

I have remarked in the past about the importance of having a “seat at the table” when water quality topics are addressed and policy issues are being developed. ACWA has earned credibility in these circles due to its dedication to water improvement issues and watershed

work over its history. I am very proud of this recognition for ACWA. A great deal of this is due to Roger Wolf, his passion for improved water quality, and a focused science support staff. Roger, I, or science staff have “been at the table”, one or numerous times, over the past year on issues with local, state, and national implications.

The water quality improvement pursuit from within production agriculture is so fortunate to have “champions” who are not just walking the walk, but freely sharing their results with neighbors and the community at large. Some outstanding examples of this occurred on the Environmental Discovery Tour to north central Iowa last fall. Our tour group had the privilege to be at the farms and demonstration sites of Arlo Van Diest, Tim Smith and A. J. and Kellie Blair. These farmers believe in what they are doing and are proud to champion the cause for the benefit of others.

Serving as president of ACWA over these past three years has been a rewarding experience for me and an evolutionary one for our organization. The support received from members, associates, and partners has been extraordinary. My role at ACWA will change beginning with the new fiscal year, but I will remain very actively involved in the organization and dedicated to its good work. I congratulate Ray Carpenter of FC Cooperative as our new incoming president and know he will be as rewarded by this experience as I have.

— **HARRY AHRENHOLTZ**





CREDIBILITY AND INVESTMENT WITH A CAUSE

Harry Ahrenholtz, 2013 ACWA president, recently said, “I believe the credibility of ACWA has been accepted by the farming community as well as the public and our mission has been elevated because of the launch of the new Iowa Nutrient Reduction Strategy.” His statement reflects the importance of conducting credible and meaningful work that results in more value for our customers we serve and the broader community as a whole.

Our theme for the 2013 ACWA Annual Report is, “Credibility with a Cause.” This report highlights another active year including the following priorities and accomplishments:

- Continuing support and implementation of long-term and targeted water monitoring throughout the Raccoon, Des Moines and Boone River watersheds. While we were coming off a drought the fall of 2012, the spring of 2013 proved to be a very wet year. During 2013, we successfully executed the water quality monitoring program at 59 sites in the Raccoon River watershed and 43 sites in the Des Moines watershed, with the vast majority of these collected in the Boone River Watershed. ACWA support for the real-time nitrate

monitors located at Van Meter and Panora continued to function well simultaneously capturing nitrate and discharge data. These data are proving useful in documenting water quality trends, highlighting locations to focus remedial work and validating the performance of practices like tile denitrification bioreactors.

- Continuing support and coordination of a USDA Natural Resources Conservation Service Cooperative Conservation Partnership Project. The project entitled Adoption of Nutrient Management Technology Enhancements in Targeted Iowa Watersheds is one of the Mississippi River Basin Initiative Cooperative Conservation Partnership Initiative (MRBI-CCPI) projects. The project focuses on nutrient management technology enhancements assisting producers in applying nutrient management practices that help prevent, control and trap nutrient runoff from agricultural land. Through 2013, \$327,689 in financial assistance was provided to farmers to implement enhanced nutrient management practices in targeted watersheds.

- Continuing ACWA member conformance with the fall code of practice for nitrogen application. As a condition of membership, all ACWA members affirmed their usage

of the Fall Code of practice. The code provides practicable guidelines for members to use when apply nitrogen in the fall.

- Coordination of a multi-disciplinary science team to assess and evaluate data and programming in the watersheds. A team of scientists looked at historical water monitoring data, conducted surveys of collaborators and partners and completed additional analytical work. Information is useful for the ACWA board and others to consider in refining programming strategies and focus of future work. Scientific papers were submitted to science journals for peer review and publication.

- Communications and outreach of ACWA activities aligning with partner work in support of our mission. An editorial by Harry Ahrenholtz appeared in the *Des Moines Register* speaking about agriculture’s commitment to the Iowa Nutrient Reduction Strategy. Staff and ACWA members conducted an Environmental Discovery Tour in October. This tour included farm and non-farm participants visiting the Boone River watershed, highlighted how water quality work is progressing and emphasized the need for both point and non-point source communities to work together to implement the Iowa Nutrient Reduction Strategy. ACWA participated in several national events including the 4 R Nutrient Summit held in Des Moines and U.S. Water Alliance Mississippi River Nutrient Dialogue.

Our work is grounded in applying science and data to solve important problems. We maintain relationships with our farmer customers and downstream interests to stay relevant. This requires commitment, engagement and confidence that we know where to work. We make investments and decisions that result in performance – with a cause.



ROGER WOLF
EXECUTIVE DIRECTOR
AGRICULTURE’S CLEAN WATER ALLIANCE



“Our work is grounded in applying science and data, helping solve important problems.”

IOWA WATER QUALITY INITIATIVE OPERATION



IOWA NUTRIENT REDUCTION STRATEGY

BILL NORTHEY,
IOWA SECRETARY OF AGRICULTURE

The Iowa Water Quality initiative is focused on engaging Iowa farmers and encouraging them to use voluntary, science-based practices to continue to improve water quality in our state. Our state is fortunate to have tremendous farmers who care deeply about their land and water. What they need is information and tools that allow them to maintain productivity while continuing to do an even better job protecting our air, soil and water.

Agriculture's Clean Water Alliance (ACWA) is a key partner in this effort and has helped lead the way in working with farmers, retailers, agribusinesses and other partners to gather the information and provide farmers with the environmental tools they need.

ACWA's water monitoring efforts have helped establish where water quality issues exist and point to solutions. The data ACWA has collected over several years at a variety of locations has been critical to understanding some of the long-term issues facing water quality in the Des Moines and Raccoon Rivers.

Using this information, ACWA has started to evaluate new technologies that protect water quality and then engage with farmers to demonstrate how these tools can effectively be used on their farm. New technologies, such as bioreactors that ACWA has been a leader in developing and testing, are a key component of the Iowa Water Quality Initiative and will be critical to reaching the water quality goals that we all share.

This report will further highlight the efforts by ACWA to care for the watersheds where they live and work. We look forward to continuing to work with ACWA and its members to implement the Iowa Water Quality Initiative and toward our shared goals of improved water quality.

For more information about the Iowa Water Quality Initiative, go to cleanwateriowa.org.



MCKNIGHT REPORT

CREATING A FOUNDATION FOR IMPROVEMENT

BY DR. CHRIS JONES

The Iowa Soybean Association (ISA) began work in the Boone River Watershed (BRW) in 2004. This work was in collaboration with The Nature Conservancy and local offices of government agencies to begin a management program for the river. Agriculture's Clean Water Alliance (ACWA) supported this project by implementing a water monitoring program in 2007.

Objectives included determination of how agriculture was impacting the watershed and develop and implement science-based solutions. Other organizations joined the partnership to work towards a common goal of maintaining agricultural production while protecting water quality and environmental performance in the BRW.

ACWA submitted a proposal to the McKnight Foundation to help fund formally-designed scientific investigation connected to BRW work. Funds were awarded in 2011. Work was conducted, in collaboration with Iowa Soybean Association (ISA) staff, by science team members Lisa Schulte-Moore, Ph.D. (Iowa State University-ISU), Stephanie Enloe (ISU-student), John Tyndal, Ph.D. (ISU); Michelle Soupir, Ph.D. (ISU), Charles Eikenberry (ISU-student); and Keith Schilling, Ph.D. Work for the ACWA McKnight Foundation-funded BRW project ended in December, 2013.

Dr. Schulte-Moore's group, in collaboration with John Tyndall, assessed implementation and communication strategies with the target populations of watershed stakeholders, farmers and landowners and recommended potential improvements. Lessons learned were summarized in a "how-to" manual to guide watershed-based water quality improvement programs elsewhere in the Upper Mississippi River basin and beyond, using the



principles of adaptive resource management.

Enloe conducted interviews of partners in previous Boone River work, including staff at ISA, Nature Conservancy and Natural Resource Conservation Service. She created several conceptual models informing this work. This framework will help guide future work in other agricultural watersheds.

Eikenberry, along with his graduate advisor Dr. Soupir, modeled hydrology and pothole function in the Boone River watershed, and the sub-basin of Lyons Creek. Their work is important when considering future conservation practices. Identification of nutrient loss pathways and water flow is critically important when targeting conservation. Practices designed to reduce nutrient loss (the primary water quality issue in the BRW) must be situated such that they are most cost effective and beneficial to the environment.

ACWA DATA HINTS AT RACCOON RIVER NITRATE DECLINE

BY DR. CHRIS JONES



After 15 years and nearly 10,000 water quality samples, what statements can we make about the direction Raccoon River nitrate is headed? Determining trends in environmental data is tricky business because so many factors are involved, with the two most important being land use and climate. Separating the signal from the noise is not easy.

We now believe that on the watershed scale, movement of nitrate in any given year is transport-limited. This means that the vehicle of transport, in this case water, determines year-to-year variation in nitrate loads. Changes in nutrient use efficiency, crop rotations, yields, farm management strategies, are relatively small in their effects on river N loading, and thus how exactly they manifest themselves on nitrate transport can be difficult to detect. This doesn't mean farm management isn't

important, quite the opposite. This is merely a reflection of a system that has settled into an equilibrium that oscillates back and forth with weather.

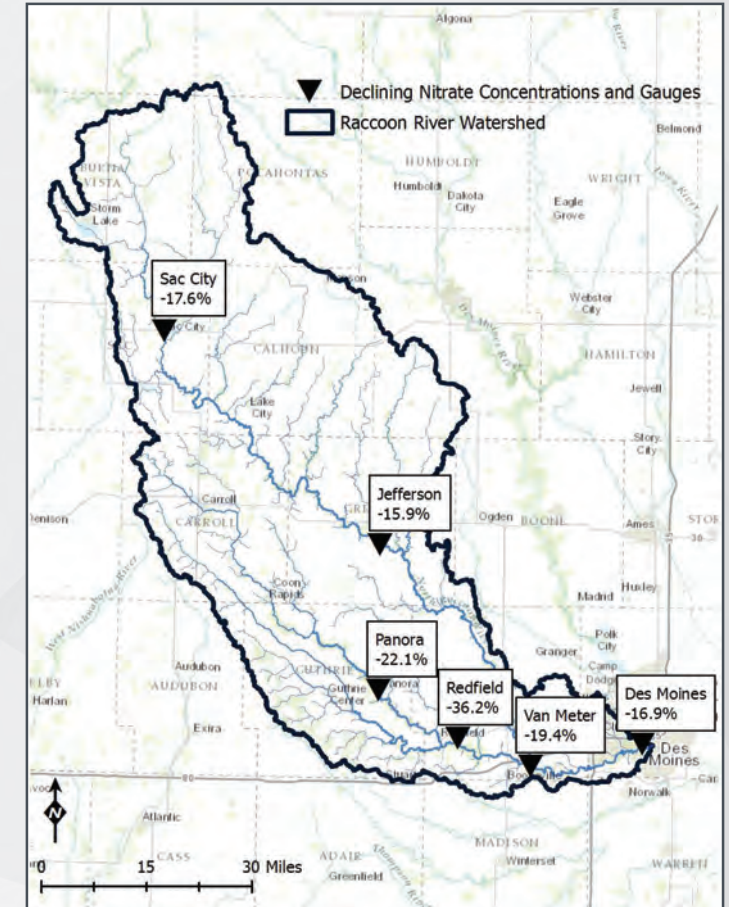
Nonetheless, the enormity of the ACWA database has enabled us to begin trying to discern possible trends. Of the 60 sites that have been monitored since 1999, 40 have been sampled sufficiently to calculate a trend. Of these 40, 38 exhibit a declining concentration trend. In aggregate, this trend averages to -0.28 milligrams per liter year—not a huge drop, but definitely encouraging.

Furthermore, when a statistical technique called Bootstrapping is applied to this data, the trend is statistically significant at the 0.05 level. This means we are 95 percent certain that this declining trend is not random and that there is indeed a downward movement.

There are six locations in the Raccoon Watershed where discharge gauges are located—Sac City, Jefferson, Panora, Redfield, Van Meter, and Des Moines. Here we calculated trends in the flow-weighted average, a measurement that accounts for river flow and by extension, weather. Each one of these sites exhibited a decline ranging from -16 to -36 percent for the 1999-2013 period.

Thus we believe there is reason for hope that the nitrate problem can be solved—ACWA data points to a decline in the state's most important watershed. This also illustrates the importance of monitoring, and the patience and commitment that will be necessary to solve this environmental problem.

Decline in Flow-Weighted Average Nitrate Concentration and Gauged Sites in the Raccoon River Watershed



ENVIRONMENTAL DISCOVERY TOUR HIGHLIGHTS

ENVIRONMENTAL WORK OF FARMERS, ACWA

BY MATTHEW WILDE



The ACWA helped connect farmers' conservation efforts to state and urban lawmakers last fall during an Environmental Discovery Tour held Oct. 24, 2013.

Nearly 50 politicians, reporters, city officials and others visited farms operated by Tim and Lana Smith, Eagle Grove; Arlo and Claudia Van Diest, Webster City and AJ and Kellie Blair, Dayton. A panel discussion and question and answer session on environmental issues was held at Van Diest Supply, an agricultural supply company based near Webster City.

The tour was partly sponsored by Agriculture's Clean Water Alliance, Agri Drain Corp., Agrium, U.S. and the Iowa Soybean Association (ISA).

The goal of the daylong event was to provide influencers the opportunity to learn how farmers and agricultural interests support the Iowa Nutrient Reduction Strategy.

Roger Wolf, ACWA executive director and ISA's director of Environmental Programs & Services (EPS), told participants that rural and urban stakeholders must work together to improve water quality, and failure isn't an option. He's convinced the state is moving in the right direction.

"Now we have a plan, a science assessment and we're doing events like this. Now we're seeing unprecedented alignment among ag groups," Wolf said. "We have much work to do. We intend to improve productivity and profitability in a way that conserves natural resources and water."

Smith, whose farm was the first stop on the tour, pointed out cereal rye just starting to emerge in a recently-harvested soybean field.

Cover crops --- rye, tillage radishes, oats, field peas, etc. --- are seeded at the end of the growing season to extend biological activity between harvest and planting, suppress weeds, conserve nutrients and build organic matter. According to strategy documents, cover crops can reduce nitrate concentrations in water leaving farm fields by 28 to more than 40 percent.

He's also adopted strip tillage, installed a bioreactor, stopped applying nitrogen in the fall and embraces soil, stalk and water testing to apply only the nutrients necessary to optimize yields.

Strip tillage and a bioreactor were featured at the Arlo Van Diest farm. Van Diest said excessive soil erosion in the 1960s "made me sick." It turned him into a staunch conservationist.

Van Diest purchased his first strip tillage implement in 2001 and a second years later. This machine injects fertilizer below seeding depth in a narrow tilled strip leaving most of the residue in place to prevent erosion. Considered a pioneer in this conservation practice, he often hosts field days to encourage other farmers to embrace strip tillage.

"We've always tried to be a steward of the land. It's been good to us," Van Diest said.

Keegan Kult, an environmental project manager on ISA's EPS team, explained how bioreactors work on the Van Diest and Smith farms. Water from field drainage tiles flow into an underground trench filled with wood chips, a source of carbon which microorganisms in the soil colonize. The microorganisms, or bacteria, using the wood chips as a food source to break down and expel the nitrogen as gas.

Bioreactors are capable of reducing the nitrate load of the water in the tile by 40 percent to 60 percent, according to ISA research, which is reflected in the strategy. Even though that amount of reduction wasn't achieved this year due record precipitation this spring, Kult said other



environmental practices used by farmers worked well.

Despite significant rain, Smith said he didn't notice any soil erosion on his farm this spring. His water monitoring data showed significant nitrate reduction compared to past years and the receiving stream.

Stewardship is paramount on the Blair farm. The young couple explained how precision agriculture and manure management helps the environment.

Holding a portable computerized field monitor from his sprayer, AJ said technology helps them apply only the right amount of nutrients or chemicals where needed. The Blairs also participate in ISA On-Farm Network nitrogen strip trials and manure replicated strip trial studies.

"I think there has been a lot of reduction in nitrogen use and better timing of application by farmers participating in this program," AJ said. "All this technology helps keep us from sending (nutrients) downstream."

Rep. Marti Anderson of House District 36 -- the smallest in Iowa, covering 8.1 square miles in the Des Moines metro area of Beaverdale --- is a retired social worker with no

agricultural background. She represents about 30,000 urban constituents.

"I bet nobody discovered more than me today," Anderson said. "My big take-away was farmers are doing their best and there are a lot of tools in their tool box. And, farmers have learned to change if things aren't working."

IOWA NUTRIENT REDUCTION STRATEGY: A FARMER'S PERSPECTIVE

BY TIM SMITH | WRIGHT COUNTY FARMER



In recent years, I have become acutely aware of the role agriculture plays in the nutrient loading of Iowa's waterways. Throughout my 35 years as an Iowa grain farmer, I had wondered what the source of nitrate was that affects the Gulf of Mexico so adversely. I thought I was doing everything "right" on my land.

I learned that I wasn't after I participated in an Iowa Soybean Association on-farm drainage tile water monitoring program. The project demonstrated to me through monitoring that the tile water that passes through my farm and drains into the stream was considerably higher than the 10 mg/L standard the EPA deems as safe drinking water.

After that, I started following other sources of nitrate monitoring that are available to the general public through online USGS (United States Geological Survey) real time nitrate monitoring stations located in 15 of

Iowa's streams and rivers. Tracking nitrate levels from my own farm and those nitrate levels both upstream and downstream in the Boone River, I have to agree there is strong reason for alarm.

In May of 2013, nitrate levels in the Boone River at Webster City, Iowa, peaked at nearly three times the safe EPA level for drinking water. From April 1 through July 3, 2013, over 157,000 tons of nitrogen entered into nine of Iowa's watersheds according to USGS nitrate data. These nine watersheds represent about half of the land in Iowa.

It was clear that Iowa's agricultural lands were the primary source of nitrogen found in our waterways. What I was doing on the land was a part of the problem. However, sounding the siren does little good without offering farmers viable solutions to help clean Iowa's waterways.

We need look no further than the Iowa Nutrient Reduction Strategy (NRS). The strategy offers multiple solutions for helping farmers like me solve these decades-old problems. This science-based strategy demonstrates how individual farmers can collectively reduce the nitrate load in our waterways, benefiting not only Iowans but also those affected by the Gulf of Mexico hypoxia problem.

Being silent on this issue, or pretending that farmers are doing everything they can, would be a disservice to fellow Iowans who may not have a grasp of the problem. If farmers don't decide to reduce nutrient losses under their own volition, people outside of agriculture will choose not to be silent and push hard for unproven regulations that will affect farming in adverse ways we haven't yet imagined.

While multiple commodity and agricultural groups have come to farmers' defense against regulations, nothing will defend farmers as much as their meaningful widespread participation in adopting the various practices in the Iowa NRS.

Through a Mississippi River Basin Initiative program offered to growers in the Boone River Watershed, I have implemented several of the practices that are outlined in the NRS. Through strip tillage, nutrient management, overwintering cover crops and a woodchip bioreactor, I've seen firsthand that the goal of reducing nitrates by 41 percent in Iowa's waterways is attainable with widespread farmer participation.

That first year in the program, the tile water leaving my farm had higher nitrates than the stream where it drained. This was my baseline measurement to compare future data. There were no practices in place on my farm prior to the first year of nitrate data. After using cereal rye cover crops and delaying my nitrogen application to springtime or sidedress time, my peak nitrate levels were half of the stream's peak nitrate levels when comparing to upstream and downstream sampling points for two successive years. The cereal rye, while adding a living plant in my fields for additional months, also sequesters nitrates that would otherwise leave the fields. The woodchip bioreactor further reduces nitrate leaving the farm.



The benefits of the Iowa NRS go far beyond water quality. The practices I have implemented on my farm will conserve soil, improve soil health, and restore wildlife habitat. An added benefit is that farmers will be recognized as real stewards of the land!

The non-farming population expects us to do our part to protect our precious waterways. They are doing their part by tax dollar-supported funding of conservation practices. We need to do our part: produce food in a positive sustainable manner. We should do that, not just because it is expected, but because it is the right thing to do for the health and long-term viability of Iowa's land.

Additionally, farmers and landowners must not ignore the economic costs of erosion to Iowa's valuable farmland. In a 2012 study, *The Value of Soil Erosion to the Land Owner*, by Dr. Mike Duffy, one can see the accumulated toll of soil erosion is considerable. In that light, I view cover crops as a type of "soil insurance." Farmers protect many areas of production with insurance, crop insurance, liability, fire and wind, etc. Why not use cover crops to protect our most valuable asset—soil—from loss due to erosion?

The same degree of widespread efforts that were made 40 years ago to curb soil erosion by leaving more residue on the surface must now be made in order to keep valuable nutrients from leaving our farm fields. Farmers, landowners, farm managers, agricultural suppliers, agricultural equipment companies, and legislators must all push, and push hard, for our Nutrient Reduction Strategy to succeed.

Right now the choice is in the hands of the farmers. If we do little or next to nothing, it is clear that new regulations will take away our choices. There are many who don't think farmers and the agricultural industry will voluntarily implement the practices we need to reach that 41 percent reduction of nutrients in our waterways. I think we can if everyone does their part. What do you think?

ACWA MEMBER FARMER SPOTLIGHT: SPELLMAN FINDS VALUE IN COVER CROPS



Cover crops can be a daunting undertaking, but Sam Spellman, a producer near Woodward, is leading by example with his fall crops of winter rye, radishes and clover.

Spellman, who also serves a county soil and water commissioner and the West Central board of directors, is part of a pilot-program in Dallas County. “We planted cover crops in a visible place so other farmers could see the process,” he said. With the roll-out of the Iowa Nutrient Reduction Strategy in the media and at meetings, Spellman says there is willingness to see what works and what doesn’t.

“I have been pleasantly surprised by the response from my fellow growers,” he said. “They’re asking good, intelligent questions and that is encouraging to me as a farmer and a commissioner. “

Spellman is an advocate for showcasing voluntary adoption of nutrient management programs. “Trying out these cover crops as an early adopter, I need to be honest and transparent about what works and what doesn’t work as our industry works to promote cover crop management as one piece of an overall voluntary program to avoid additional federal regulations,” he said.

The fall of 2012 was Spellman’s first year for utilizing cover crops in his annual corn/soybean rotation. In his corn-to-bean year, he planted clover and radishes in the fall to carry nitrogen and loosen soil.

His first planting experience, post cover crop, was positive. “The precision planting monitor’s downforce rates showed that the ground was mellower when I planted into it,” explained Spellman. “When I applied spring anhydrous, I was already noticing more earthworms.”

While the short-term returns were evident, Spellman is focused on the long-term goal; reducing erosion and improving soil health. “We are a mile from Beaver Creek and while we already manage through waterways, an intricate tiling system and grid sampling for accurate application rates, there is always more you can try.”

Spellman is passionate about the data and research behind cover crop management citing studies from Ohio and Indiana that have been national leaders in cover crop adoption. As a 12-year member of the On-Farm Network, Spellman recognizes that growers can be overwhelmed by the data available.

“For guys looking to try cover crops for the first time, the very first thing I recommend to them is a stop in their county NRCS office,” Spellman advised. NRCS offers cost-share opportunities for cover crop seed and planting. “We’re all trying to manage input costs as we’ve seen a shift in grain prices, and getting some help from the NRCS program can make a huge difference,” Spellman said.

Spellman’s second piece of advice: start relatively small. “Try it on 40 or 80 acres. There is a different style of management. You have to decide in fall the how and when to plant cover crops,” said Spellman who no-till drilled the cover crops after the 2012 harvest and seeded by aerial application in late August 2013 for his second crop.

Spellman is already thinking about his plan for cover crop management for next year. “I know what worked and what didn’t work, and now I’m interested in getting some data on soil health and erosion reduction to prove that what I’ve been doing really is working.”

Spellman received a 2013 Iowa Farm and Environmental Leader award from the NRCS/IDALS.



“Trying out these cover crops as an early adopter, I need to be honest and transparent about what works and what doesn’t work as our industry works promote cover crop management as one piece of an overall voluntary program to avoid additional federal regulations,”

ACWA MEMBER FARMER SPOTLIGHT: BIOREACTOR INSTALLATION PROVES SUCCESSFUL FOR BRAVARD

"The issues are complex, and those of us on the farm and in the city are all in this together. The solutions will come from a combined effort among all those with a vested interest."



Producers like FC member, Mike Bravard who farms near Jefferson, are working hard to take care of the land and water that sustain their way of life.

"Farmers in general take the issues concerning the land and water around them very seriously," said Bravard. "The issues are complex, and those of us on the farm and in the city are all in this together. The solutions will come from a combined effort among all those with a vested interest."

When approached about installing a bioreactor on his land several years ago, Bravard was more than willing. "The bioreactor installation resulted in a significant reduction in the nitrate levels in that watershed. Results from efforts like this, when combined, make a significant difference," notes Bravard.

"I believe that farmers are doing their part and are willing to do more. Concerted efforts will make a difference. Farming today is about finding new and better ways of producing more with less of a footprint. It's about taking care of the resources that make it possible to provide food and fuel for our growing world," says Bravard.

FC, as a founding member of the ACWA, partners with members in their environmental stewardship; supporting and encouraging a more sustainable model.

Bioreactors, such as the one on Bravard's land, are examples of cost-effective and voluntary solutions for improving water quality while maintaining farm profitability. Monitoring of bioreactors like this one has documented a 40-60 percent reduction in nitrates from tile drainage before it hits the stream.

ACWA MEMBERS WORK TOGETHER TO SUPPORT FARMERS, WATER QUALITY

For the past 12 years, ACWA has been engaged in water monitoring and sampling in the Raccoon and Des Moines River watersheds to determine relative nitrogen levels and trends. In recent years, ACWA has elevated its activity to spearhead remedial projects like bioreactors to find new ways to reduce nitrogen levels in the watershed streams. Part of this effort is supporting the Iowa Nutrient Reduction Strategy and the Water Quality Initiative.

"The goal is to find ways we can contribute to a positive impact on nitrogen management and it will take a multifaceted, long-term approach to get there," said Roger Wolf, ACWA executive director.

"Protecting and improving our land and water resources for future generations is something we in agriculture have been working on for decades. The issue is complex and will require integrated efforts and implementation of science- and technology-based measures on our farms and in our cities across the state and nation," said Jim Chism, FC CEO.

For ACWA members, it starts with working with farmer customers.

"We take a systems approach with when working with our customers, which happens on a field-to-field basis," said Greg Schmitz with Crop Production Services. "This includes three principles: reducing crop risk, solving production problems and lowering cost by increasing efficiency. All three principles contribute to the goal of protecting soil health and water quality."

Dow AgroSciences markets and supports two nitrogen stabilizers, which work to decrease nitrate leaching and maximize opportunities to increase yields. "We strive to

be a leader in providing growers new technologies like these to improve water quality and economic benefits," said Cole Hansen with Dow AgroSciences. "We believe that farmers should implement a variety of water quality improvements on their farms and feel our products are just one of the many solutions recommended in the Iowa Nutrient Reduction Strategy. Education at both the retailer and grower levels is critical."

ACWA partners see their customers implementing many of the strategy's suggestions, ranging from installing buffers and bioreactors to monitoring efforts.

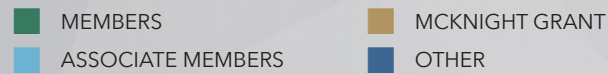
"Some of our growers have taken interest in using several methods to provide the preservation of water quality, ranging from strip till to cover crops to buffer strips," said Mark Braunschweig, First Cooperative Association agronomy manager. "Some farmers are using one, two or three of these practices on their farms."

ACWA members support the state's voluntary approach to protecting water quality as it allows farmers to implement techniques that best fit their landscapes and needs, while allowing them to focus on growing their crops.

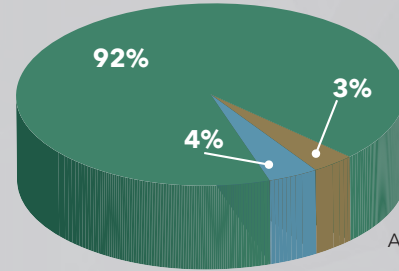
"I know that we exist to serve Iowa farmers who depend upon quality land and water resources to produce food and fuel for a growing world," said Chism. "Success can be achieved using the tools known to work, in conjunction with research, development and demonstration of new approaches. We and all ACWA members encourage our partners to take an active role in conservation, working with them to implement practices that collectively impact water quality."

ACWA TOTAL REVENUE

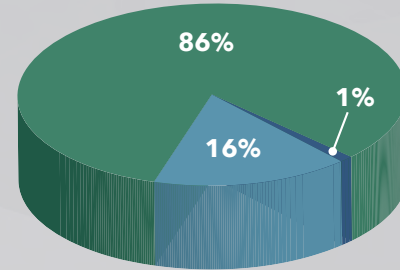
TYPE	2001-2013	2014
MEMBERS	\$2,216,414	\$276,639
ASSOCIATE MEMBERS	\$100,000	\$55,000
GRANTS	\$80,000	\$-
OTHER	\$-	\$3,600
TOTAL REVENUE	\$2,396,414	\$335,239



ACWA TOTAL REVENUE 2001-2013
\$2,396,414



ACWA TOTAL REVENUE 2014
\$335,239

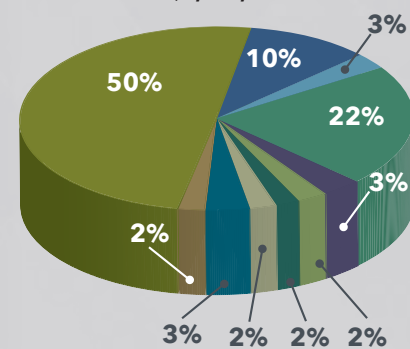


ACWA TOTAL EXPENSES

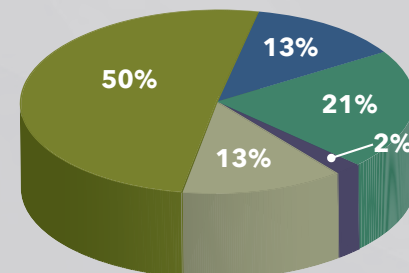
TYPE	2001-2013	2014
MANAGEMENT/ADMIN	\$504,267	\$55,500
CONTRACTED SERVICES	\$61,363	\$-
COMMUNICATIONS	\$244,952	\$33,700
WATER MONITORING	\$1,162,418	\$132,000
WAGES	\$51,376	\$-
MCKNIGHT SCIENCE TEAM	\$80,000	\$-
CCPI PROJECT COORDINATION	\$52,500	\$35,000
AMORITIZATION/DEPRECIATION	\$49,599	\$-
BIOREACTOR	\$54,441	\$-
OPERATIONS	\$76,632	\$5,636
TOTAL EXPENSES	\$2,337,548	\$261,836



ACWA TOTAL EXPENSES 2001-2013
\$2,337,548



ACWA TOTAL EXPENSES 2014
\$261,836



ACWA MEMBERS

Ag organizations working for better water quality

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

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
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