WORKING FOR CLEAN WATER

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2012 IOWA WATERSHED SUCCESSES

COVER
Fishing Lake Hendricks

ARTICLES
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Partridge family photos courtesy of Todd Partridge and Elizabeth Partridge Blessington

Oxbow photos courtesy Eileen Bader, The Nature Conservancy

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WE ALL LIVE IN A WATERSHED

We all live in a watershed, an area of land that drains to a lake or stream. What we do on that land — whether it's a yard, farm, business or factory — affects the health of our lakes, streams and rivers.

It impacts our drinking water, recreation, economic development, fish and wildlife, and our quality of life. Clean water starts with us.

When water runs off the land, it can carry pollutants with it. Rainfall can send loads of exposed soil and nutrients from fields and bare ground into our waterways. Motor oil and other wastes can wash off driveways and lawns and into storm sewers, which dump directly into a lake or stream without treatment. If we don't make changes to the way we manage the land to keep soil, nutrients and other materials where they belong, they'll end up in our water.

We want to keep our rich Iowa topsoil on the land, not just because of its value to farming, but because of how it impacts our water and aquatic life. Excess sediment clouds the water, making it difficult for sight-feeding fish to see. It can smother fish eggs and mussel habitat. Nutrients often attach to sediment or come into our waters through runoff or tile drainage. Too many nutrients in our water lead to algal blooms, which can affect oxygen levels for aquatic life. Excessive nitrogen and phosphorus from Iowa and the Mississippi River basin have created a "dead zone" in the Gulf of Mexico, an area devoid of aquatic life.

However, we have many ways to address these problems on rural and urban lands. Farmers and rural landowners can change how they manage cropland, livestock facilities and other lands to slow and filter runoff or even prevent it. Myriad approaches exist to conserve our soil and slow and filter the runoff entering our lakes and streams.

Urban residents can use rain gardens, native landscaping and more to treat the rain and snow that falls on their yards. Cities and businesses can make changes to how they handle wastewater and stormwater.

While what we do individually makes a difference, coming together as a community can make a large impact. In Iowa, water quality improvement is built on a solid foundation of traditional conservation approaches based on watershed and community research and brought to life through strong partnerships.

With renewed interest in our waters comes many benefits for our communities. Better water often translates into a better quality of life for residents. Kids have cleaner water to swim and play in. Drinking water can improve and the impact of flooding may decrease. Hunters take note of improved wildlife habitat. Economic development picks up as tourists come to town to investigate the improved fishing or to put in the kayak.

Future efforts to protect our lakes, rivers and streams will grow upon today's innovative efforts. By taking a strategic approach — identifying waterbodies most in need of help and developing watershed management plans to solve problems — Iowans can continue to make a difference in their water quality.

Tete Des Morts Creek in Jackson County.

IT'S A PARTNERSHIP EFFORT

PARTNER GROUP INITIALS:

Iowa Department of Natural Resources (DNR)

Iowa Department of Agriculture and Land Stewardship (IDALS) - Division of Soil Conservation (DSC)

County Conservation Board (CCB)

Soil and Water Conservation District (SWCD)

U.S. Fish and Wildlife Service (USFWS)

U.S. Department of Agriculture (USDA)

USDA Farm Services Agency (USDA-FSA)

USDA Natural Resources Conservation Service (USDA-NRCS)

USDA-NRCS Mississippi River Basin Initiative (MRBI)

USDA Resource Conservation and Development (RC&D)

U.S. Environmental Protection Agency (EPA)

Resource Enhancement and Protection (REAP)

Watershed Improvement Review Board (WIRB)

Conservation Reserve Program (CRP)

Iowa State University (ISU)

The most successful water quality efforts are led by groups and communities partnering with organizations like the DNR to put together comprehensive, long-term plans to improve the land and water. A group can pool resources, generate new ideas and raise support and awareness to strengthen how Iowans value our waters and to make actual changes in water quality.

The DNR has approved watershed management plans for 23 watersheds in Iowa, opening up funding opportunities to help those groups put their plans in action. At least another seven plans are under development. Since 2009, the DNR has awarded $344,284 in grant funding to help Iowans gather information and create plans to improve their water quality.

However, most projects need additional funding to reach their goals. It also takes more than funding to make watershed improvement happen. It takes the knowledge, labor, energy and passion of many different individuals, agencies, organizations, businesses and other groups.

As watershed groups move to put their management plans into practice, they're working with Pheasants Forever, Trout Unlimited, Ducks Unlimited, the Iowa Soybean Association and other groups interested in conserving our natural resources. They draw on the expertise of county conservation boards, soil and water conservation districts, the DNR, the Iowa Department of Agriculture and Land Stewardship and the USDA Natural Resources Conservation Service and other agencies. Friends groups and other community organizations spread the word and help raise additional funds.

"Sound planning is the foundation of any successful effort, but it takes the resources and knowledge of many partners to make it happen," says Allen Bonini with the DNR's Watershed Improvement Program. "Plans support long-term efforts and strategies to improve our water and keep it clean. Each year, we're excited to see groups' progress as we help them implement sound watershed management plans. The successes keep coming."

Friends groups can raise additional funds for park improvements.

Dubuque sustainability efforts take a partnership approach.

Dubuque sustainability coordinator Cori Burbach enjoys the new area created around Bee Branch, a creek reborn after being buried for 100 years.

DUBUQUE BUILDS A SUSTAINABLE FUTURE

DUBUQUE

PROJECT PARTNERS

City of Dubuque

Iowa DNR

Iowa Department of Transportation

Iowa State Revolving Fund

U.S. EPA

IDALS

City of Asbury

Dubuque County

Dubuque County Conservation Board

Dubuque SWCD

University of Dubuque

National Mississippi River Museum and Aquarium

Sierra Club

Dubuque has a lot of history under its Mississippi River bluffs and cobblestone streets, but residents weren't expecting to find a stream buried in their backyards.

When hundreds of basements flooded in 1999, the city found its Bee Branch storm sewer vastly undersized — because it was really a creek, buried in the early 1900s in an failed attempt to curb flooding. "People didn't realize there was a creek there. Some basements were just feet away from a buried storm sewer," says Deron Muehring, a Dubuque city engineer.

A study found that detention basins wouldn't help enough, and larger storm sewers didn't fit the city's sustainablity vision. Residents wanted more open space and to reconnect to the river. The mayor and city council created a 40-citizen task force and hired sustainability coordinator Cori Burbach. "When you look at Dubuque, there's a strong connection to the river. Agriculture and religious communities are all groups with a core of sustainability," Burbach says. "They want to build a community for the future."

The city looked upstream to prevent flooding and improve water quality, including returning Bee Branch to its natural state to ease flooding, help water quality and create open space. Citizens helped plan the aesthetics. Partnerships, grants and donations made the project possible. The area features an amphitheater, scenic overlooks, multi-use trails, rain gardens, park space and more. "People have really embraced it. They know we're doing this responsibly in a way to enhance the lives of people that live around the creek," Muehring says.

Nearby, the Washington neighborhood boasts the city's first green alleys with permeable pavers that soak rainwater and snowmelt into the ground. Sand and rock below filter the water, creating cleaner water for aquifers and the river. The pavers' cobblestone look fits with the historic area and keeps water and pollutants out of storm sewers. After a 14-inch rainfall, green alley residents didn't report any flooding. The city works on one green alley yearly, but additional funding will add another 40 in the next three years. "The alleys are picking up those pollutants

Jon Dienst shows how permeable pavers soak up water in an alley.

and preventing them from reaching the storm sewers. Even the stormwater that makes it into the storm sewer is cleaner than it would be otherwise," says city engineer Jon Dienst.

Others made changes in their homes and yards to improve water quality through the Upper Catfish Creek watershed effort. The partnership of local groups, agencies and residents resulted in keeping almost 3,000 tons of sediment out of the stream. Building on that success, a newly formed Catfish Creek Watershed Management Authority hopes to improve streams throughout the basin. "Upper Catfish was really a small project that created successful partnerships, laid ground work in terms of urban conservation, and has increased awareness on water quality and quantity issues many Dubuque communities face," says Eric Schmechel, urban coordinator for Dubuque SWCD.

Performance measures on Dubuque's sustainability principles allow the city to gauge its progress, and residents are responding. "There's a stewardship now," says Burbach.

Restored White Fox Creek oxbow in Boone River watershed.

THE REBIRTH OF IOWA'S OXBOWS

BOONE COUNTY

PROJECT PARTNERS

Iowa DNR

Fishers and Farmers

Iowa Soybean Association

The Nature Conservancy

U.S. Fish and Wildlife Service

Boone MRBI

Landowners

You could call oxbows buried Iowa treasures. Long forgotten by rivers and hidden under decades of silt, oxbows are getting a second chance and helping wildlife, fish and water quality in the process.

A backhoe creeps into the remnants of an oxbow on Gerald and Jake Peterson's land, scraping out dirt and brush until it hits rocky soil – the old streambed. The water table bubbles up to refill the oxbow. Future floods will reconnect the oxbow to the stream, giving fish from the river access to the oxbow for spawning.

Once a meandering curve in a river or stream, an oxbow is a small lake created when a flood cuts off the meander from the main stream channel. "Historically, oxbows have provided a lot of benefit, as floodplains act as a buffer to stabilize streams," says Martin Konrad with DNR fisheries. "But as more and more streams were channelized from the 1930s to the 1950s, it cut off oxbows even more from their streams, so the oxbows lost their ability to absorb nutrients and filter sediment."

Working with the Fishers and Farmers partnership, Konrad was looking for a place to improve degrading oxbow habitat. With work already in place to reduce nutrients and improve water quality, the Boone River watershed seemed like a natural fit.

Over time, these oxbows – important habitat for the federally endangered Topeka shiner fish and countless other wildlife – filled with sediment and woody debris. That meant some high-tech sleuthing when it came to restoration. The DNR used historical maps and aerial LiDAR mapping to find potential restoration sites. Fishers and Farmers zeroed in on the stream, while the Iowa Soybean Association and The Nature Conservancy focused on the landscape and worked with landowners. These efforts included work on nutrient-reducing practices in the watershed through the Boone River Mississippi River Basin Initiative project.

The restored oxbow not only creates important fish and wildlife habitat and filters runoff before it enters the river, but it also adds value to farms. That's the main goal of the partnership, says Chris Jones with the Iowa Soybean Association.

"Our objective is to work with farmers to enhance farm value while enhancing fish habitat," he says. Tile lines can feed into oxbows, trapping excess nutrients, and most oxbows sit on unproductive farmland, so land doesn't come out of production.

Other groups are restoring oxbows across the state, and another four restorations are underway in the Boone watershed. Follow-up water monitoring, well testing and fish surveys will measure the Boone oxbows' impact.

"While oxbow restoration is just one of many solutions that need to be implemented concurrently throughout the watershed, it is one that holds potential," says Eileen Bader of The Nature Conservancy. "We would like to quantify that potential and then, if it makes sense, work towards scaling up implementation to have a bigger, system-scale impact."

Martin Konrad and landowner Jake Peterson

Fishing Tete Des Morts Creek in Jackson County.

CLEANER WATER BRINGS BACK TROUT

MITCHELL AND JACKSON COUNTIES

PROJECT PARTNERS

Iowa DNR

IDALS-DSC

USDA-NRCS

Mitchell SWCD

Jackson SWCD

U.S. EPA

Landowners

Local legend has it that when he wasn't working for the railroad, you could find Shifty Sawyer catching really big trout from Burr Oak Creek bridges. Not wanting company, he wouldn't tell anyone of his success.

While it's difficult to authenticate Shifty's fishing exploits, confirming the quality of Iowa trout fishing is easy. Thanks to watershed and habitat work, more streams boast cleaner water that trout need to thrive and reproduce on their own.

The cold water of Burr Oak Creek, which snakes through 3 miles of prime Mitchell County farmland, has shown signs of natural reproduction. The story begins in 2006, when a watershed project focused on reducing soil erosion from 80 farms and 19,800 acres. It took time to build trust and move past a "we've always done it that way" mindset, says Dan Bratrud, who led the project and is now with USDA-NRCS. He showed landowners results of conservation practices and gradually, the mindset and landscape began to change. "It is human nature to want to be part of the solution, not part of the problem," Bratrud says.

One landowner that didn't need much convincing was Clem Johanns, a watershed leader whose conservation ethic goes back 55 years. He installed grassed waterways, enrolled parcels in CRP, created stream buffers, and planted trees and quail buffers, sometimes without project funding. "You got to take care of this land. It's taken care of us and we raised 12 kids," Johanns says.

It's taking care of the trout, too. In 2011, the DNR sampled Burr Oak, finding 507 brown trout per mile, mostly 3-inch fish. Burr Oak was designated an emerging self-sustaining trout stream and as its reputation spread, more anglers showed up with gear in tow.

A few hundred miles away in Jackson County, DNR fisheries biologist Dan Kirby steps into a small, watercress-covered stream on David Reiss' property to survey trout with a backpack shocker. When the probe hits Tete Des Morts Creek, 2- to 3-inch brown trout float up. To Kirby, that shows adults are reproducing on their own. That's thanks to cleaner water, a result of more than 50 landowners working with a watershed project to use conservation practices that reduce sediment and nutrients reaching the stream and improve aquatic habitat. The watershed effort's popularity was in part due to another successful effort. "We had credibility because of the Farmers Creek project and could refer reluctant landowners to their neighbors who had experience with these projects," says Michelle Turner, Jackson SWCD watershed project coordinator.

These practices improved water quality and support a robust trout population, making Tete Des Morts the 64th Iowa stream with reproducing trout. The DNR will check Burr Oak and Tete Des Morts in 2014 for evidence they're sustaining themselves, but the future looks bright. "We were extremely impressed with the stream's quality and the riparian area on this stream segment," Kirby says of Tete Des Morts. "It was obvious to us that the stream has been well-cared for and the trout population has benefited."

Dan Bratrud and Clem Johanns

Michelle Turner, Dan Kirby and David Reiss

Native plantings on the Partridge family's Sac County land.

CONSERVATION IS A FAMILY AFFAIR

BREDA

PROJECT PARTNERS

D.G. and Rosie Partridge and family

Black Hawk Lake Watershed Project

Iowa DNR

U.S. EPA

Sac CCB

Sac SWCD

What started with three acres and a small family has become a large extended family working to protect its 100 acres and the Black Hawk Lake watershed.

D.G. and Rosie Partridge's family has lived on their land for 34 years, buying adjoining land as it became available, and working to protect it and Carnarvon Creek. "We grew up on farms with so much talk about conservation that it was just instilled in us," says Rosie. Through the Black Hawk Lake watershed project, other programs and their own out-of-pocket costs, the family's planted native grasses, filter strips, buffers, windbreaks and riprapped streambanks. "We saw the need and we just enjoy it," says Rosie.

The Sauk Rail Trail, a multi-use trail reaching from Lake View to Breda, runs along 42 acres of prairie that the Partridges placed in a conservation easement. The land stays in the family for their use, but is protected from future development. It also gives trail users a glimpse of how conservation can help the creek and nearby Black Hawk Lake. "We've always been interested in water quality and have seen that creek take some hard hits," says Rosie. "Our kids played down there and caught frogs. It has changed drastically over the years. I think it can be a clean creek again."

Family has always been a part of caring for the land, and Rosie and D.G. see it as a family legacy. They raised three kids there – Liz, Todd and Dave. "I know that they have continued to take on so many projects, like the oxbow and an additional prairie project, in his honor," says Liz Partridge Blessington of Dave, who passed away in a 2007 car accident. "Dave was an avid hunter, fisher and of course very much into conservation. It honestly is a labor of love for them, in more ways than one."

The Partridges' seven grandkids and two great-grandchildren help remove invasive plants, plant and water trees, and hunt and fish on the land. One grandchild is studying environmental science. "We try to get their hands on the land, and it's rewarding to see them appreciate it too," says Rosie.

The family's conservation work also draws wildlife, creating essential habitat for pheasants, owls and more. Liz has taken up birding, watching for bobolinks, sandpipers and more on the family land.

Another 73-acre easement protects the North Raccoon River. Rosie and Liz volunteer with IOWATER as water monitors. The family built their office building in Breda with recycled materials and added native plantings, a rain garden and a wetland so that others could see and learn about the practices.

"They're very conservation-minded people and had a lot in place prior to the project even getting started," says T.J. Lynn with the Black Hawk Lake watershed project. "They're very willing to do whatever we've asked to take care of the lake. They don't hesitate. They do things because they want to help the lake and want to do the right thing."

Rosie and D.G. Partridge

Elktoe mussel.

GIVING IOWA STREAMS SOME MUSSEL

STATEWIDE

PROJECT PARTNERS

Iowa DNR

U.S. Fish and Wildlife Service

U.S. EPA

With cloudy water ruling out a mask and snorkel, Jen Kurth sinks her hands into the muddy streambed, hoping to find just one item on her "most wanted" list.

Not many clammers still traverse Iowa's streams, but Kurth isn't seeking pearls or a clam bake. Her goal is finding as many mussel species as she can, and in good numbers, as mussels both indicate good water quality and help clean the water. However, these small creatures that depend on clean water and quality habitat often struggle to find a place to live and grow after decades of decimation. That's a problem as we depend on them for cleaner water and better fishing.

"Mussels and fish are bound to each other ecologically. They both need quality in the water, they both need quality in the habitat they use and ultimately they need each other," says DNR fisheries biologist Scott Gritters. "Freshwater mussels need a fish's gills for its reproductive cycle, fish need mussels at times for spawning areas and the food source."

The pearl and button industries devastated Iowa mussel populations in the early 20th century. Next, dams, dredging and straightening of streams destroyed their habitat. Finally, water pollution, especially sediment washing into streams, continues to threaten them. Despite their importance, Iowa didn't know much about the state of its mussels except for a couple of decades-old population surveys. Those surveys documented major losses from the 55 species once native to Iowa. In 1984, researchers found 34 species and the number dropped to 27 in a 1998 survey. But that still left a 15-year data gap.

So, Kurth and other DNR staff set out in 2011 – with the help of a U.S. EPA grant – to see how mussels were coping and what it meant for the state's water quality. These researchers will sample at least 120 sites on Iowa streams every summer for six years, investigating changes in the condition and location of mussel populations. The DNR and U.S. Fish and Wildlife Service will use the data in mussel restoration efforts and to assess the overall health of Iowa streams. In addition, the DNR will use the data in fisheries, water trail, water permitting and education work.

Jen Kurth sampling mussels

Some stream segments on Iowa's impaired waters list for not supporting mussels could come off the list if the survey finds conditions have improved.

Mussels filter sediment, bacteria, algae, plankton and other particles from water; one mussel can filter a half-gallon to a gallon of water in an hour. "Mother Nature's water filtration system," Kurth says. They help stabilize the streambed and provide habitat for other organisms like insects and crawfish. Likening mussels to the canary in the coal mine, she says mussels are an early warning system for water quality problems. Poor populations can indicate worsening water quality, so researchers look for the number of mussels at a site, a good diversity of species and signs that the mussels are reproducing.

In the survey's first year, the DNR found 35 species, up from 1998, including a good number of threatened and endangered species. And that "most wanted" list? Nothing's been checked off yet, but Kurth remains hopeful she'll find a species once thought extinct.

Enjoying Don Williams Lake.

CELEBRATING DON WILLIAMS LAKE

BOONE COUNTY

PROJECT PARTNERS

Iowa DNR
Boone County SWCD
SWCD Commissioners
Boone CCB
Prairie Rivers of Iowa RC&D
USDA-NRCS
Boone County Supervisors
Boone County Landfill
Keep Boone County Beautiful
Iowa Soybean Association
Landowners and producers
USDA-FSA
U.S. EPA

When Boone County residents voted in the 1960s to build Don Williams Lake, the referendum passed by a large margin. But now, decades later, many residents don't know about the need to improve the lake's water quality or even that the lake exists.

The group leading the charge to protect water quality knew they needed to reclaim the locals' ownership in the lake. That's why they launched Celebrate the Lake in 2011. "First and foremost, we wanted to connect people to the lake more directly than they had been in the past," says Scott Smith, with the Boone County Landfill and part of the larger lake effort.

The 100-plus that attended the first event took boat tours of the lake, launched biodegradable balloons to help seed prairie, took part in a free fishing clinic, learned about the lake's history and more. "We wanted to get awareness of the watershed. A lot were first-time people to the park. Just from hearing people talk, they didn't know the park was here," says Boone County Conservation Director Andy Hockenson.

Many at the event learned for the first time about the basics of watersheds and improving them. "That was a big thing – understanding what a watershed is – they just think it's the lake," says Lois Powers with the Boone County Landfill.

The event was such a success that the group plans to make it a regular event, holding it every two years. "We never miss an opportunity to connect water quality to personal responsibility. That's what will help us overcome our obstacles," Smith says.

But the event was just one piece of a larger effort to involve the community in improving Don Williams Lake. The watershed group, using DNR Planning Grant funding, hired the Iowa Soybean Association to create a watershed management plan that would address water quality issues and involve residents, farmers and lake users.

"The plan gives a strategy for moving forward. Without the plan, there's no connection and the message may be lost," says Todd Sutphin with the Iowa Soybean Association.

Boone County boasts a history of conservation, and the Don Williams project is one of many water quality projects currently underway. Because Boone farmers and landowners have already done so much work, this project allowed them to focus on key areas and community involvement.

"We saw communication with landowners really improve. They're working with the soil and water conservation district and NRCS to do things right," Smith says. "These different players are back to a level where there's a lot more trust. Reopening lines of communication is not just good for the watershed, but good for our community. There are societal benefits that will pay off beyond this project."

Lisa Anderson, Todd Sutphin, Kevin Griggs, Andy Hockenson, Lois Powers, Scott Smith and Emily Klein help with Celebrate the Lake.

Fishing Lake Hendricks.

PLANNING GIVES LAKE NEW LIFE

RICEVILLE

PROJECT PARTNERS

Iowa DNR

Howard SWCD

Howard CCB

IDALS-DSC

USDA-NRCS

USDA-FSA

State Hygienic Laboratory at the University of Iowa

Iowa State University

Wisconsin Public Service

Riceville Community Club

Lake Hendricks Advisory Committee

U.S. EPA

A rare lake nestled away in Iowa trout country, Lake Hendricks may be a hidden gem, but Harold Chapman doesn't want it to be a well-kept secret.

Boasting like a proud papa, Chapman sings the praises of his recently rejuvenated lake. Leading tours through Lake Hendricks Park north of Riceville, the director of Howard County Conservation points out new practices that protect the lake's water quality. "Everybody has been extremely impressed," Chapman says. "When we were planning this project, we knew we had to show results. In five, 10, 20 years, you're going to see wonderful results from what we've done."

Already, people are taking notice. Chapman says park use is up and he sees more anglers at the lake, catching more of the lake's famed panfish than before. This year, he saw the first 8-pound bass since a winter fish kill wiped out the lake in 1995. "Put a fishing jetty in and fishermen migrate toward it," he laughs. Those walking the park's trails meander past signs that point out the new projects and how they're helping improve water quality.

But those practices wouldn't be there if not for extensive planning, which formed the backbone of the lake's watershed project. The effort aimed to resolve the lake's problems with algae, phosphorus and cloudy water by reducing nutrients and sediment reaching the lake, and increasing the local sense of ownership in the lake. When water monitoring started in 2007, tests showed high levels of nitrate and phosphorus from tile outlets. "With all the water monitoring done previously, we had an idea for the nitrate reduction goal and how to address it," says Chad Gilles with the Howard SWCD, who coordinated the project. "If you want results, you need to have a plan ahead of time."

The watershed effort began in 2009 with a unique opportunity: most of the work needed to address problems in the watershed could be done within the park. That work includes a wetland, streambank stabilization, structures to stabilize deep gullies (some 6 feet deep), ponds and more. Work to remove invasive trees from the timber allows understory vegetation to grow,

Lake Hendricks Park Ranger Ryan Sindelar checks a bioreactor.

reducing erosion. Two bioreactors intercept and treat water from tile lines to reduce nitrates. Landowners also pitched in, using nutrient management practices, terraces, no-till, cover crops and more to cut the amount of nutrients reaching tile lines in the first place. One landowner added native plantings around the park through the Conservation Reserve Program. "A lot of stuff got done in three years. You don't always see that in a project," says Gilles.

Most importantly, the project eliminated all actively eroding gullies close to the lake and treats the water from all 11 tile lines entering the lake. "We will see results fairly soon because our watershed's small and we gave attention to every source of water into the lake," Chapman says. The Lake Hendricks Advisory Committee meets annually to discuss the lake's progress, and the community has a real interest in what's going on at the park. "The lake is a big part of the community, so when we can do projects like this, they really appreciate it," Chapman adds.

Lake Binder.

LAKE BINDER CONTINUES TO SHINE

CORNING

PROJECT PARTNERS

Adams SWCD

City of Corning

IDALS-DSC

Iowa DNR

U.S. EPA

USDA-NRCS

Adams County Board of Supervisors

Adams County Pheasants Forever

Adams County Ducks Unlimited

Adams CCB

Adams Economic Development Corp.

Adams County Extension Service

Adams Tourism and Historic Preservation

Corning Chamber of Commerce

Corning Community Schools

Corning Municipal Utilities

Lake Icaria Marina

Southern Iowa Forage and Livestock

Southern Iowa Rural Water Association

Fishing pole in hand, Dale Carmichael looked at Lake Binder and thought, "it's a shame to let this go to waste like this."

The Adams County lake, the source of Corning's drinking water for more than 70 years, was hurting. Silt washing into the lake from decades of eroding fields clouded the water, making things tough for fish and anglers. Sight-feeding fish couldn't see their next meal, and the lack of aquatic plants left little food for smaller fish. Mud covered spawning areas and habitat. That silt filled in parts of the 76-acre lake, reducing its storage capacity for drinking water. And then there were algal blooms, too.

Knowing something had to be done, Carmichael went to his fellow city council members. The city began to look at ways to help the lake, the Adams Soil and Water Conservation District sponsored a watershed project and a lake restoration followed. However, things moved slowly at first.

"The system had slowly degraded and landowners seemed to be a little disconnected with how their actions could affect the lake and residents seemed to, for the most part, take the lake for granted," says Bob Waters, who led the watershed project and is now a basin coordinator for the DNR and IDALS-DSC. "After spending a significant amount of time educating the community as to the importance of the lake for economics, recreation and as a public water supply, landowners became more receptive to participating in the project."

Now, eight years after those projects wrapped up, Adams County residents still enjoy a rejuvenated lake that came off the state's impaired waters list.

"The water quality is better than pre-renovation," says DNR fisheries biologist Gary Sobotka. "Now, clarity is very good and the panfish and largemouth bass fishing has improved because of it. Rooted vegetation has flourished, and Corning Waterworks has commented that they like vegetation because they don't get algae anymore."

Those aquatic plants take up extra nutrients in the water, reducing algae blooms. You can usually see 4 feet down in the water, sometimes up to 7 feet.

Those improvements wouldn't have happened without work in the lake – like rip-rapping 1,500 feet of shoreline to fight erosion – and without the efforts of landowners like Carmichael. He was one of many to build a pond, which prevents gully erosion, traps runoff, provides water for livestock and offers outdoor recreation. So many in the watershed installed ponds that almost all water running over the land is filtered by a pond before entering the lake. Some built terraces to slow and trap runoff water.

"These efforts have held up because land use in the watershed has traditionally been very wisely managed by landowners and the right protections are in place in key locations throughout the watershed," says Waters. "It is also important to understand that watershed work is never done."

Nancy and Dale Carmichael

Enjoying Green Valley Lake near Creston.

TAKE THE NEXT STEP

We're with you every step of the way. When Iowans come together in their communities with the common goal of improving their lake, stream or river, the DNR and our partners can help you take action.

With DNR Watershed Planning Grants, local groups can receive funding, technical assistance and guidance to create a Watershed Management Plan. The plan assesses the watershed for problems, develops solutions and involves your community in the effort. The plan, much like a road map, moves you toward success and helps you get back on track if detours pop up along the way.

Once you have a plan, you need to put it in action, and DNR Watershed Implementation Grants can help. Use these grants to launch your plan, making changes on the land to improve the water. Implementation Grants offer more than funding — DNR staff provide technical and outreach assistance, and guidance. Our partners, IDALS-DSC and NRCS, also offer additional grant funding and technical assistance.

For more information about DNR Watershed Improvement:
Steve Hopkins, 515-281-6402
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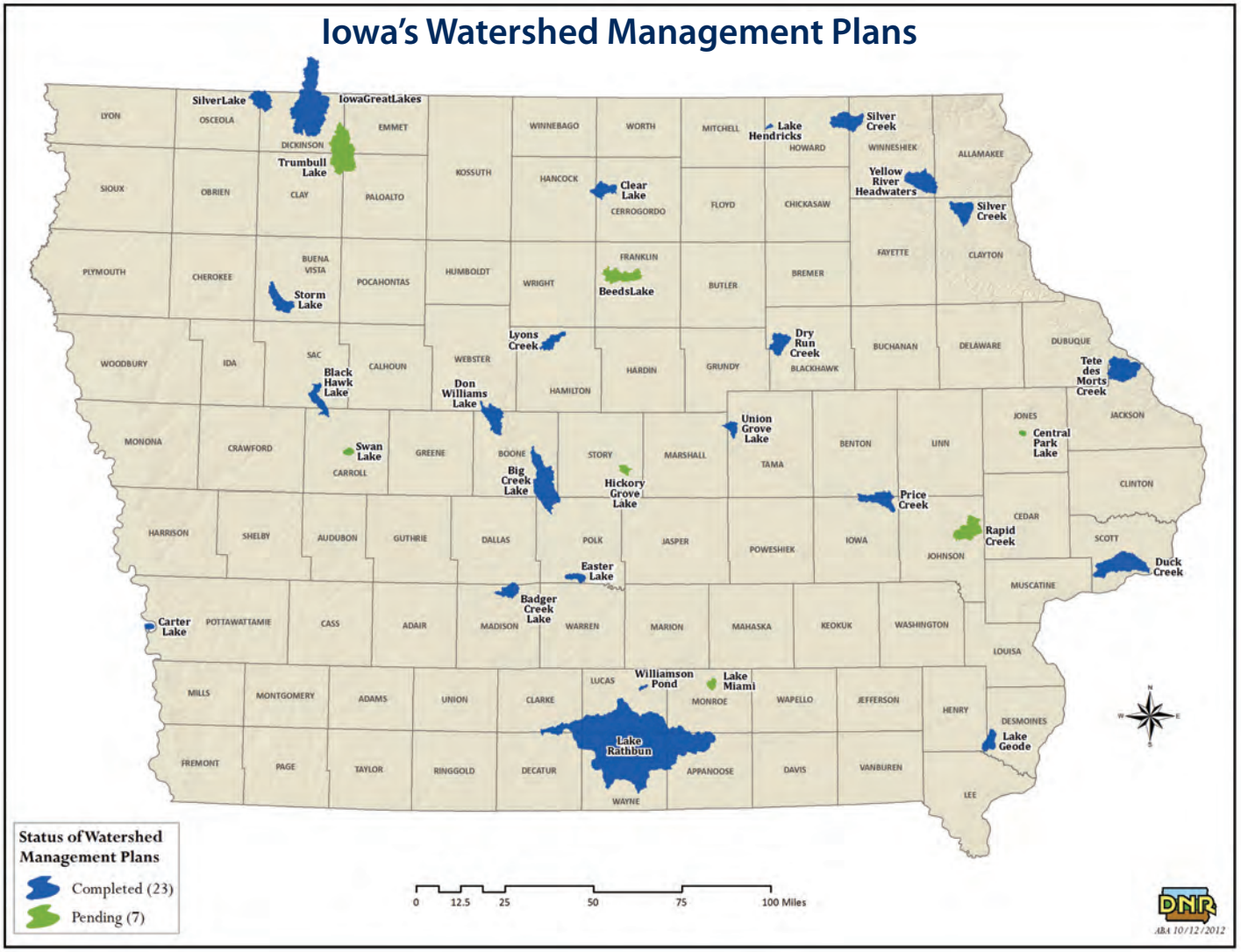
watershed.iowadnr.gov



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