



WORKING FOR
CLEAN WATER

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2014 IOWA WATERSHED SUCCESSES



COVER

Central Park Lake
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COURTESY PHOTOS

North Bear: Iowa Public
Television

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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. There are many ways 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 treatment costs can go down and the impact of flooding may decrease. Hunters notice 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 and implementing watershed management plans to solve problems — Iowans can continue to make a difference in their water quality.





Lake Ahquabi in Warren 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)

Watershed Management Authority (WMA)

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)

U.S. Environmental Protection Agency (EPA)

Resource Enhancement and Protection (REAP)

Watershed Improvement Review Board (WIRB)

Conservation Reserve Program (CRP)

Iowa State University (ISU)

Iowa Department of Transportation (DOT)

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

The DNR has approved watershed management plans for 24 watersheds in Iowa, opening up funding opportunities to help those groups put their plans in action. At least another six plans are under development. Since 2009, the DNR has awarded \$617,904 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, 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."



Local partnerships are critical for improving water quality.





A wetland complex on a local golf course helps protect West Okoboji Lake.

WETLANDS PROJECT SINKS HOLE-IN-ONE

SPIRIT LAKE



PROJECT PARTNERS

Iowa DNR

Iowa Natural Heritage
Foundation

Dickinson County SWCD

Okoboji View Golf Course

Schnell family

USFWS

U.S. EPA Section 319

Dickinson County
Clean Water Alliance

Bernard and Linda Voss

The cackle of pheasants has replaced the roar of tractors along the north and west sides of Okoboji View Golf Course after a major watershed improvement project converted 350 acres from row crops into wetlands and native prairie.

The 1,700 acres of land that flow through the project site were identified as a major contributor of silt to West Okoboji Lake, sending an estimated 480 tons to the lake with each 2-inch rain. "This was a targeted project in a targeted watershed and we knew collectively there were serious issues here," says Chris LaRue, DNR wildlife biologist.

In 2009, the first phase of the project began to reshape the area. Crews would eventually move more than 30,000 yards of dirt and thousands of feet of tile to transform the former row crop land into a series of wetlands and native prairie capable of slowing, catching and holding water from this large watershed.

The wetlands allow manipulation of water levels, enhancing aquatic plant life, which removes nutrients from the runoff before it enters West Okoboji Lake. Capable of holding 100 acres of water during extremely wet periods, these wetlands lessen downstream flooding and sediment and phosphorus delivery to the lake.

Most of the construction was completed in the late summer and fall of 2013, with final pieces finished just in time for some very heavy June rains in 2014. The work performed well, capturing this big rainfall and slowing down the water.

The area became attractive to wildlife almost immediately. Wetlands planted in rye provided food and cover for ducks, and the native prairie is home to pheasants, doves and many nongame species of birds.

This was a very complex project, LaRue says. It involved a series of acquisitions and easements, plus design and construction while



Wetlands at this golf course help protect the Iowa Great Lakes.

working in and around a popular golf course. All of this while coordinating with multiple partners to secure funding.

Curt Schnell owns Okoboji View Golf Course with his brothers Dan and Steve. The Milford natives grew up hunting and fishing in the area and have been playing or working at the golf course since high school. Once they were approached about the project, Curt says the decision to help improve the water quality in West Okoboji Lake was an easy one.

Part of the project included restoring two critical wetlands on the golf course. One of the wetlands eliminated an area on the golf course that was a bit of an eyesore and often too wet. How has Schnell's clientele reacted? "I can't recall any negative comments, other than one or two holes are more difficult," Schnell says. "It's been real positive."



Viking Lake near Stanton, Iowa

VIKING LAKE WORK HAS LASTING EFFECT

STANTON



PROJECT PARTNERS

Iowa DNR
IDALS-DSC
USDA-NRCS
Montgomery SWCD
Montgomery CCB
Iowa DOT
Iowa Natural Heritage Foundation
U.S. EPA Section 319
USDA Rural Development
Villisca Review
Stanton Viking
Stanton Rural Electric Cooperative
Southwest Regional Water District
Dave Pierson family
Rod Goodemote family
Kit Johnson family
Doug Palmquist
Roy & Claudia Marshall
Dick & Marilyn Paul
David Wedner family
Roger Stewart Construction
Kenny Norris Construction
Gary Mckneese Excavation
Empire Construction
Sickels Construction

Once so thick with algae that the water looked more like green paint than water, southwest Iowa's Viking Lake has been on the up and up since a major watershed improvement there wrapped up in 2009.

Five years of monitoring Viking Lake in southwest Iowa reveals the lake is clean enough to be removed from the list of Iowa impaired waters for algae growth.

Viking Lake's watershed improvement projects included 32 engineered structures that trap sediment and nutrients to keep them from reaching the lake, as well as wetlands, terraces, septic system upgrades and fencing cattle out of streams. These efforts reduced sediment reaching the lake by 90 percent, and nitrogen and phosphorus levels in the lake dropped by 67 percent and 53 percent respectively, reducing algae problems.

Along with a 5.5-mile hiking area that encircles the lake, and a massive in-lake renovation that included adding rip-rap to strengthen the shoreline, fishing jetties and fish habitat, Viking is a whole new lake. And that shows, in people using the centerpiece of Viking Lake State Park, the improved fishing and in the numbers when it comes to water quality data.

"Water quality continues to improve at Viking Lake, thanks to the in-lake and watershed restoration efforts," says Michelle Balmer, DNR Lake Monitoring Coordinator. "Viking Lake was on Iowa's impaired waters list for both algae growth and for *E. coli*. From 2010 to 2014, water clarity improved 22 percent. The median for blue-green algae in the lake between 2010 and 2014 dropped 60 percent."

In 2016, the EPA will review Iowa's 2013-2014 Integrated Report, at which time, the DNR will find out if Viking Lake's listing on the impaired waters list for algae growth can be formally removed. The EPA requires that two consecutive reports with no violations occur before the lake can be de-listed for a particular pollutant.

"The lake has also improved for bacteria," adds Balmer. "Records for 2013 and 2014 look good, which is promising that Viking Lake may be removed from the impaired waters list for *E. coli* in 2018, if 2015 and 2016 continue without bacteria violations."

Viking Lake is again providing good fishing for the angling public. "It is a favorite destination for small bass clubs hosting tournaments," says Bryan Hayes, fisheries biologist for the DNR. "This is because of the high catch rates for bass. And, when you see folks in lawn chairs holding fishing rods at nearly every access point around the lake, you know that the catfishing is good."

Once known for standout crappie fishing, the lake has returned to its former glory. "This last spring was excellent crappie fishing," continues Hayes. "The size of bluegills has steadily increased since the renovation to the point that they will soon become an early summer attraction."



Enjoying the beach at Viking Lake State Park.



Prairie strips weave between rows of crops at the Neal Smith National Wildlife Refuge near Prairie City.

PRAIRIE STRIPS HELP FARMERS, LAND, WATER

STATEWIDE



PROJECT PARTNERS

USFWS

Neal Smith
National Wildlife Refuge

Leopold Center for
Sustainable Agriculture

IDALS

USDA

U.S. Forest Service
Northern Research Station

ISU

National Science Foundation

Trees Forever

The Walton Family
Foundation

The McKnight Foundation

Pheasants Forever

Iowa DNR

“Conservation with a purpose” is how Tim Smith describes his newest farming venture that builds on past work to protect water quality on his Wright County farm.

Previous success with strip tillage and cover crops led Smith, located in the Boone River watershed, to meet with Seth Watkins, a Clarinda farmer who plants small strips of prairie to protect soil. Smith was immediately interested in STRIPS, or Science-based Trials of Rowcrops Integrated with Prairie Strips. Results from seven years of research on the Neal Smith National Wildlife Refuge in Jasper County make a compelling argument: converting just 10 percent of a crop field to strategically placed prairie reduces runoff by 40 percent, soil loss by 95 percent, phosphorus loss by 90 percent and nitrogen loss by 84 percent. Additional benefits accrue for wildlife, plants and insects as compared to a cropped field.

Smith notes planting deep-rooted prairie grasses will improve water quality above and below ground. “It will keep soil from moving downslope, reducing phosphorus movement, and underneath, the root system intercepts nitrogen,” he says. It’s the other add-on benefits—wildlife, plant diversity and resilience to changing weather, aesthetics—that make prairie strips so attractive to him. Smith’s plan calls for creating a wildlife corridor, using prairie strips to connect a field in permanent cover through the USDA Conservation Reserve Program with his brother’s recent tree plantings, while protecting a stream and filtering runoff from a crop field. Planting a diverse mix of 30 prairie species will make for a more sustainable system, as different plants thrive under different weather conditions. He’s had some experience with the erosive power of severe rains in 2013 and when 13 inches of rain fell in two weeks in 2014. “From early May until the crop forms a canopy in late June or July, the soil is really exposed to rain unless you have practices in place to protect your soil from those intense rains,” he says. “Prairie strips are a very good alternative to terraces. Although you lose a certain amount of land, you gain a tremendous benefit.”

After growing up on a diversified farm near Williamsburg in Iowa County, landowner Lucena Morse has a passion for prairie, like her mother, who added prairie in the 1980s after reading Rachel

Carson’s *Silent Spring*. With her siblings, Morse added to those original plantings with a diverse seeding of grasses and forbs planted on the contour, in a layout to make farming easy for their tenant’s tillage equipment. “I’m so excited about STRIPS because it gave a scientific and economic excuse to do what I knew was the right thing,” she says. Morse expects results as the plants’ interconnected deep roots intercept sediment and nutrients. “I’m very excited about improving the microbial community in the soil and providing habitat for wildlife—mammals, insects and birds,” she says. “I hope the STRIPS project is enormously successful throughout the Midwest, prairie strips will become just as ubiquitous as terraces and waterways. They could be. They are less expensive and they’re more effective.”

The STRIPS concept started in 2004, moving to experimental trials in 2007. Ongoing team research at Iowa State University studies bird activity on two sites, monitors water quality and nutrients, and works with farmers to add new strips. ISU’s Tim Youngquist meets with farmers wanting to improve water quality and reduce erosion, but who don’t have much experience with prairie. Youngquist suggests seed types, seeding methods and times. “For about \$200 per acre, they can plant about 30 species, not trying to duplicate the natural system, but trying to mimic it,” he says. “This is something that helped form the soil. By putting plant species here that were here, they can help soil stay in place, help nutrients stay in place and get greater diversity of species—insects, pollinators and birds.” Cost-share programs can fund portions of the project and may provide some ongoing income. Currently, there are 23 STRIPS projects throughout the state, including 17 on private land.



A bee makes itself at home on STRIP prairie plants at Neal Smith National Wildlife Refuge near Prairie City.



Fishing North Bear Creek. Courtesy of Iowa Outdoors and Iowa Public Television.

COOPERATION BUILDS LASTING RESULTS

HIGHLANDVILLE



PROJECT PARTNERS

Iowa DNR

U.S. EPA Section 319

USDA-NRCS

Winneshiek SWCD

Trout Unlimited

Hawkeye Fly Fishing
Association

Landowners

*When the hit film **A River Runs Through It** was released in 1992, it helped rejuvenate local economies and waterways in northeast Iowa, as the beauty and skill showcased so vividly in the film helped inspire more than half a million trips to trout streams, injecting more than \$14 million into Iowa's economy every year.*

While casting long, graceful loops of his fly line at North Bear Creek, Kent Kleckner says, "It makes me feel like I'm in the mountains and I'm a long ways from work and everything else. This is one of the prettiest places I fish. And I get here as often as I can." For Kleckner—president of the Driftless Chapter of Trout Unlimited, fishing guide and owner of Bear Creek Anglers in Decorah—this is more than just another day wading the clear, cold waters of North Bear. He knows each trout he catches and releases is there because many people worked together. The trout come from two sources—native populations that reproduce in North Bear and others stocked from the nearby DNR Decorah Fish Hatchery. But preserving and expanding populations of brown, brook and rainbow trout is much more involved than simply stocking fish. Trout thrive in clear, fast moving, oxygen-rich, 50-degree water and need a gravel stream bed to thrive. The spring-fed creeks in northeastern Iowa are the perfect habitat. But since settlement, water quality declined due to soil erosion and chemicals. Prior to retiring from the DNR, Bill Kalishek worked with area farmers for more than 25 years to restore trout streams. He says, "The biggest impediment to trout is silt on the bottom. Trout feed off insects that live on the rocks. And their eggs can get smothered by silt or mud, too. Trout need a rock and gravel bottom so their eggs can fall between—safe from predators."

Most efforts to improve water quality and reduce sedimentation began 15 years ago. Today, the work still holds up. Upgrades made to last targeted actively eroding banks. Small trees growing on vertical banks were grubbed out so banks could be shaved off to proper slope. Portions of those tree trunks were embedded 8 to 10 feet into the bank for support. Root balls left exposed underwater now provide trout havens. Properly sized rock bolsters banks for greater stability. Kalishek says landowners

keep cattle from the creek and don't plow to the edges of banks. Farmers keep cattle off sensitive areas, reducing siltation and animal waste entering the water, where excess nutrients can cause algae blooms and excessive plant growth. But cleaning water extends beyond the stream itself. In the watershed, dry run dams slow runoff during rain events, allowing silt to settle out before entering the creek. Efforts ramped up during the past two decades, as a strong relationship between farmers, the DNR and the USDA Natural Resources Conservation Service was forged.

Since the early 1990s, projects have seeded riparian areas next to the stream to filter water and hold back soil, placed rip-rap along banks to reduce erosion, added bank hides to give trout a place to escape predators, and the installed fences to keep cattle out of the water. Efforts by landowners, volunteers and government agencies have helped clean up the water and keep gravel stream beds clear of silt, allowing trout to lay eggs. Those efforts have helped reestablish naturally reproducing trout in more than 40 of Iowa's 105 trout streams. For Kleckner, just catching the trout tells him things are improving, as soil remains in fields and out of the stream. "Having a pretty stream with nice rocky banks, and all that sort of thing is important and that's nice. However, if the farmers don't take care of the 500 or thousand acres that are in the watershed, pretty streambanks aren't gonna help natural reproduction of brown trout. So, it's all the farmers taking care of the watershed that have allowed us to have natural brown trout reproduction going on here," he adds.

Some portions of this story courtesy of Iowa Public Television.



Retired DNR fisheries biologist Bill Kalishek. Courtesy IPTV



Trout fishing at North Bear Creek in northeast Iowa.

LANDOWNERS PROTECT TROUT STREAMS

HIGHLANDVILLE



PROJECT PARTNERS

Iowa DNR

USDA-NRCS

Winneshiek SWCD

Allamakee SWCD

Langland Family

Jason Howe

“It makes me feel good that someone else can enjoy fishing along a stream that has good access to it,” says Walter Langland, who farms along North Bear Creek.

An example of where cooperation between farmers and government works is clear at Valley View Farm in rural Winneshiek County, where Langland and his son Steve run a diversified grain and livestock operation. In 1993, the elder Langland started the first of several North Bear Creek restoration projects by fencing cattle out of the stream. Streambank restoration, bank hides and a gravel parking lot for anglers followed. Public fishing access is allowed, so anglers can enjoy the cathartic beauty of trout fishing and the clear waters that farmers, DNR and USDA-NRCS staff and volunteers have worked so hard to restore.

“Well, this is a century farm. I don’t know who is going to carry on after my wife and I and son are gone. But we need to care for the land for future generations. We can’t just rape it of all its productivity now. So, we planted trees for wildlife and erosion control. We planted a bottom land that was six acres of cropland at one time right next to the stream. That is walnut trees now,” says Langland. With the cooperation of landowner efforts to help protect the watershed, the DNR could double-down their efforts, too. Prior to retiring from the DNR, Bill Kalishek worked with farmers in the region for more than 25 years to help restore trout streams along with oversight of operations at the Decorah trout hatchery. His staff and others stabilized streambanks and helped construct underwater hides for trout—havens from predators—building box-like structures made from green wood from Yellow River State Forest. The bank hides, anchored with boulders, also allow trout refuge during high water and increased velocity during floods that can otherwise wash them downstream.

“My experience with farmers has been that most want to do the right thing, they want to do what is correct for the resource and correct for the stream that flows through their property. Sometimes they aren’t able to do the right thing due to economic or social issues that come into play. And then there is that small percentage that doesn’t care about doing the right thing. And

unfortunately when you’re talking about trout streams that have very small watersheds, just one or two really bad fields of high erosion can have a big impact on that small stream,” says Kalishek.

Not far away, Jason Howe runs Howlin’ Hills Farm in Allamakee County. Howe sought help from the DNR more than a decade ago to restore his land along Patterson Creek near Waukon. “I was kind of tired of seeing all of that good topsoil washed away and so I went to them and asked about it. I think around the same time is when I was wanting to see if I could get the trout reproducing, wondering what that would take and spoke with the DNR about that. Most years I’ll do one or two of the worst banks, kind of keep them from eroding away and it’s been working out pretty good,” Howe says. He spent his childhood summers on the creek and his children continue the tradition of fishing, swimming and playing in the water. For Kalishek, he sees the replication efforts as extended value. “When you find a cooperating landowner or find a section of state property along a stream that needs restorative work, you start to do that work, and other landowners see that and start to realize ‘That’s a good project. I want to see that on my property too.’”

Some portions of this story courtesy of Iowa Public Television.



Landowners Walter and Steve Langland. Courtesy of IPTV



Rice Lake in Worth and Winnebago counties.

RICE LAKE RETURNS

WORTH AND WINNEBAGO COUNTIES



PROJECT PARTNERS

Iowa DNR

Rice Lake Association

The topic was lake restoration, but in 2009, the small group of lake users living near Rice Lake wasn't ready to discuss pulling the plug on the 1,000-acre shallow lake straddling the Worth-Winnebago county line.

Fishing was boom or bust (mostly bust), peaking in 2010 with good crappie, perch and walleye fishing. The lake was full. Residents were satisfied. But an unbiased look at the lake showed little habitat, turbid green water and fewer than a dozen people boating and duck hunting. Then opportunity knocked.

The drought of 2012 took hold, dropping Rice Lake's water level low enough that the citizenry didn't think the fish would survive the approaching winter. Suddenly, renovation discussion was on the front burner. In 2013, DNR fisheries biologist Scott Grummer and DNR wildlife biologist T.J. Herrick met with the public, hearing concerns about how long it would take for Rice Lake to refill and when fishing would return. They presented a vision of Rice Lake with clear water and a quality fishery that was attractive to wildlife. The community was on board.

The fishery had a number of issues, including a significant bullhead population that made establishing aquatic plants difficult. While the lake was dewatered, any remaining water ponds were chemically treated to make sure no fish remained. The combination of drought and dewatering the lake allowed vegetation to take root. While the water was low, local volunteers combed the shoreline to remove trash and debris from the exposed lake bed. When Rice Lake began holding water again, the improvement in water quality was striking. Before renovation, you could see down 8 inches in the water. After renovation, it was 5 feet. Gone were years of poor water quality and trash from the lake bottom.

As the lake began to refill, fathead minnows returned in huge numbers. The minnows were greeted by hungry yellow perch, northern pike, walleye, and largemouth bass stocked in 2014. The perch have shown explosive growth reaching nearly 7 inches in year one and Grummer expects them to hit 10 inches by fall 2015. The response by wildlife has been just as impressive. "We

are seeing incredible use of Rice Lake, even by teal," says Herrick. "Lots of ducks, swans, sandhill cranes, just about anything that uses water is there." In the past, there were only two places on the lake to duck hunt. Now, with better water quality and vegetation, "we could have a spot for every duck hunter in north Iowa," says Rock Bridges of Lake Mills. He expects to see muskrat huts, goose nesting sites and otters return.

The lake has refilled to within 18 inches of crest with impressive results: water changed from green to blue; submergent vegetation knocked down wave action so much that it's near impossible to get a white cap even on the windiest day. Waterfowl using the lake shifted from mergansers and shovelers to mallards and teal. Tiger salamanders and thousands of leopard frogs and dragonflies cover the shoreline, all signs of good water quality. The final piece of the puzzle is to install a new outlet to allow the DNR to manage the lake water level to simulate Mother Nature's cycles to keep the lake in this healthy state.

The 1,000 acre lake and 1,000 acre watershed is set to be a high-quality resource for years to come. "The lake is in its healthiest state right now with all the aquatic plants, invertebrates and the final result has not yet been realized," Grummer says.



DNR Wildlife Biologist T.J. Herrick, local outdoorsman Rock Bridges and DNR Fisheries Biologist Scott Grummer discuss improvements at Rice Lake.



The Monona Fire Department lets loose 2,000 gallons of water to demonstrate how the pervious parking lot will soak up the water rather than letting it run off.

SOAKING UP THE BENEFITS IN MONONA

MONONA



PROJECT PARTNERS

Iowa DNR

State Revolving Fund

City of Monona

Iowa Finance Authority

IDALS-DSC

Clayton County SWCD

Turkey River WMA

Fehr Graham Engineering
and Environmental

Imagine the flooding and runoff—and the destruction it could cause—from dumping 2,000 gallons of water on a parking lot in only one minute.

But in Monona, it's just a drop in the bucket—the city showed off its new permeable parking lot by bringing out a fire engine to pour out that massive amount of water. The water just soaked into the lot. No ponding, no flooding, no puddles.

Before building the parking lot, Monona residents visiting the new aquatic center parked in a gravel lot. When it rained, water would wash dirt, gravel and more into the creek at the bottom of the hill. That stream flows into the impaired Silver Creek, the focus of a watershed project, and then the Turkey River.

Now, water falling on the parking lot and sidewalks is infiltrated, treated, and slowed down to avoid pollution washing into the creek. The city used the new Water Resource Restoration (Sponsored Projects) program to obtain \$245,000 of the total \$260,000 cost of the permeable paver system.

“Residents are pleased to have a functional parking lot now,” says Monona city administrator Dan Canton. “The city would not have been able to afford the project without the SRF Clean Water Resource Restoration Program.”

Managed through the Clean Water State Revolving Fund (SRF), the Sponsored Projects program allows cities and wastewater utilities to defer a portion of the interest on a sewer project loan and put it instead toward a watershed protection project.

“Monona’s \$2.6 million SRF loan for wastewater upgrades was the vehicle for financing the permeable paving as well,” says Patti Cale-Finnegan with the SRF program. “Participants like Monona are able to do two water quality efforts for the cost of one.”

Another 30 cities, utilities and a state park are currently working on sponsored projects that include rain gardens, bioswales, floodplain restoration, stream corridor stabilization, wetlands and more.

The program is a joint effort between the DNR, Iowa Finance Authority and IDALS. Project partners around the state include soil and water conservation districts, watershed management authorities, watershed groups, county conservation boards and others.

The total amount invested in the first two years is projected to be \$25 million. Sponsored project applications are taken in March and September.



Pervious pavers allow water to soak through the parking lot. Colored pavers mean no future line painting is needed either.



Dock waiting for anglers at Central Park Lake.

CENTRAL PARK LAKE POISED FOR RETURN

CENTER JUNCTION



PROJECT PARTNERS

Jones CCB

IDALS-DSC

Jones SWCD

USDA-NRCS

Iowa DNR

WIRB

Central Park Lake
Advisory Committee

Pheasants Forever

REAP

Cargill Company
of Cedar Rapids

Iowa's Infrastructure
Investment Initiative (I-Jobs)

George and Rose Pearson

Central Park Lake encompasses only 25 acres, but the 297-acre park is a popular recreation destination in Jones County, despite the lake's listing as "impaired" due to excess algae, bacteria and pH.

Disturbed by the lake's inclusion on the Iowa list of impaired waters, local and state groups cooperated to create a comprehensive watershed assessment and management plan for the Central Park Lake Watershed. The plan focuses on five restoration categories. First, control runoff from the road system, parking and turf. Next, update wastewater systems to reduce nutrients and bacteria. Third, construct two ponds and two wetlands upstream from the lake to reduce runoff from adjacent lands. Plus, dredge 150,000 cubic yards of silt from the lake, and finally, restore fish habitat with fish reefs, spawning beds, fishing jetties and shoreline improvements.

Finding funds to carry out Central Park Lake's watershed projects has been a major hurdle, but the first project — the second restoration category — started with a Water Improvement Review Board (WIRB) grant and funding from the Jones County Supervisors and Jones County Conservation Board. The park's outdated wastewater system, which served the camping area, dump station and park residence, was restructured with three new septic lines. The old wastewater lagoon was reconstructed into a wetland and a new one-third acre wetland was created to catch sediment and recycle nutrients. So far, these wetlands have stopped 10 tons of sediment from entering the lake. Water monitoring for two years will gauge water quality improvement.

The lake's watershed management plan received a boost when George and Rose Pearson of rural Center Junction sold 80 acres of land adjacent to the northwest boundary of Central Park to help protect the lake. Funds to acquire this land came from many contributing organizations, including several chapters of Pheasants Forever, Cargill Inc. and its Cedar Rapids employees, and the DNR Lake Restoration Program. Two large ponds and a wetland will be under construction on the former Pearson property in summer 2015. These will protect the lake from sediment and nutrient-rich

runoff. Funding will come from the Fish Habitat Program that anglers support through purchase of fishing licenses, as well as funds from Twin Rivers Pheasants Forever and REAP funds acquired by Jones County Conservation. The 80-acre property will also provide storage for dredged silt from the lake, a project that will begin this winter with sediment coring throughout the lake to determine where and how much sediment should be removed. "Many plans are still on the drawing board as funding opportunities are sought," says Conservation Center Director Brad Mormann. "Some projects, such as rain gardens and grass buffers, are more labor intensive than costly. When these are completed, more runoff will be contained from reaching the lake."

Meanwhile, the Jones County Nature Center in Central Park has added an interactive classroom and lab area, technological updates and more. Out in Central Park, new walkways and sidewalks were installed, and the Bowstring Arch Bridge was repaired. With this good start, Central Park and its star attractions are poised to provide visitors even better experiences in the coming years.



Wood ducks enjoy a new retention pond, which also catches and filters runoff.



Standup paddleboarding at Nine Eagles Lake in Decatur County.

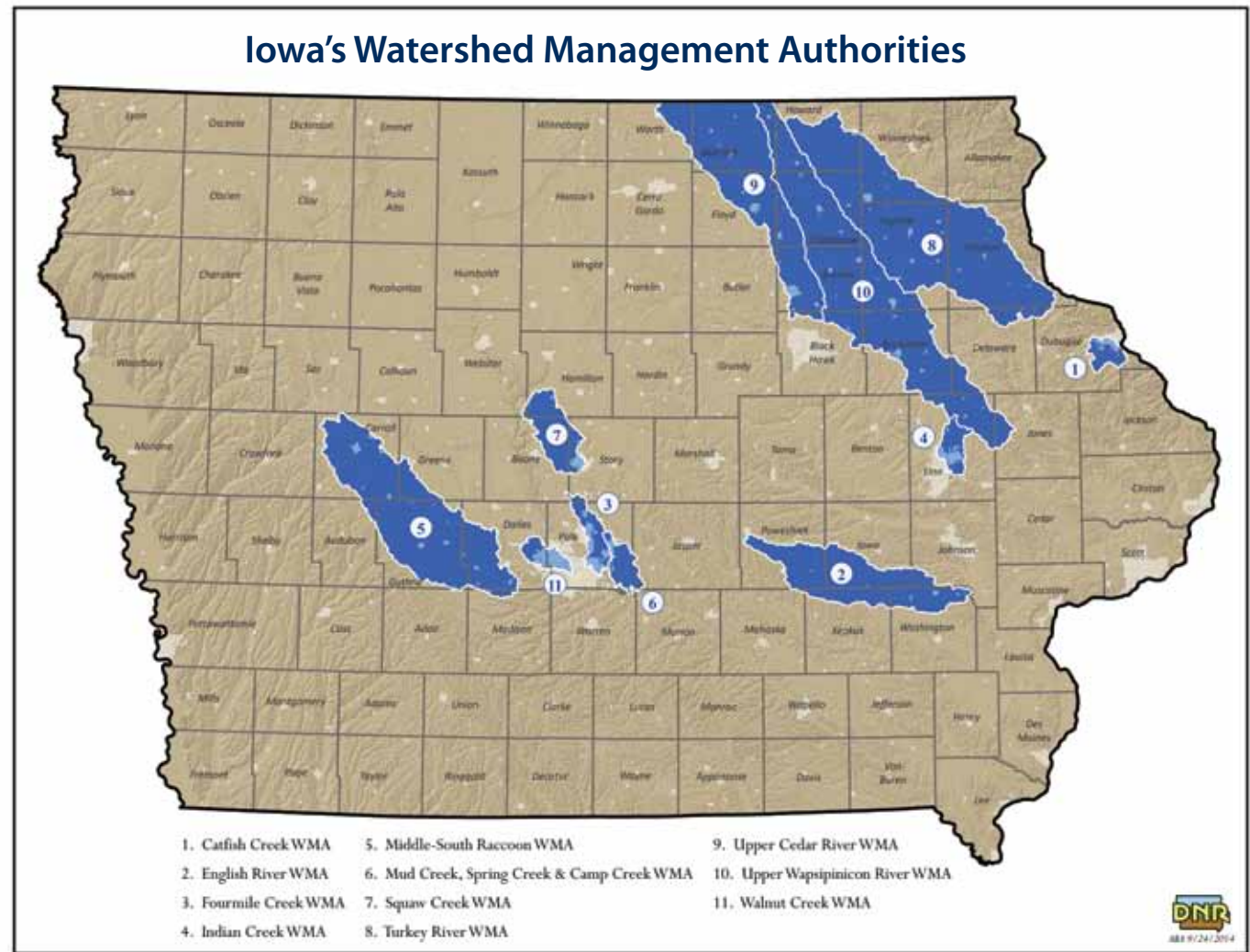
TAKE THE NEXT STEP

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, 515-725-8390 or Stephen.Hopkins@dnr.iowa.gov watershed.iowadnr.gov



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