

Clean Water Starts With Us

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WATERSHED IMPROVEMENT IN IOWA

DNR • DSC • NRCS

SPRING 2010

Clear Creek takes big steps toward clean water

The effort to make Clear Creek just that again – clear – began 12 years ago in eastern Iowa. While the

What followed was a county-wide effort to give the residents of the small town of Conroy, one of

issue,” said Chad Coburn with the Poweshiek Water Association, which had connected Conroy to its rural drinking water system a couple of years earlier, resolving hard-water issues for the town’s residents.

The water association, which already had a couple of wastewater projects under its belt, offered its experience securing grants and working with engineers.

The first steps were to form a sewer district, then acquire land and easements for 83 home hook-ups and the treatment lagoons. In 2008, they installed the new system and plugged the old septs.

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Clear Creek headwaters in Iowa County

work of the Clear Creek Watershed Enhancement Project continues, the group is celebrating a major victory at the stream’s headwaters – one that may help take it off the state’s impaired waters list in a year or two.

Toilet paper in the stream greeted IOWATER water monitor Dave Ratliff in 2004. There to collect water samples, he noticed the paper coming from a drainage tile.

Not surprisingly, those samples from the site, just southeast of Conroy, indicated human sewage in the water. With that, the DNR issued a notice of violation to the Iowa County Board of Health.

hundreds of unsewered communities in Iowa, affordable wastewater treatment and a cleaner Clear Creek.

Coming together voluntarily to create a community treatment system made Conroy eligible for grants – otherwise, the village’s almost 300 residents would have to foot the bill on their own to update their homes’ existing septic systems.

The county board of supervisors and citizens organized public meetings, out of which a strong partnership was born.

“Conroy was in need of good quality water and also had a wastewater

Clear Creek project partners:

- Iowa DNR
- IDALS-DSC
- USDA-NRCS
- Iowa SWCD
- Johnson and Iowa County Watershed Coalition
- Iowa County Board of Supervisors
- Poweshiek Water Association
- Clear Creek watershed project
- Iowa County
- East Central Iowa Council of Governments
- Conroy residents
- IOWATER volunteers
- WIRB
- USDA Rural Development

Working for clean water

There are plenty of local groups making progress on improving our state’s water. Read about them at www.iowadnr.gov/water/watershed/success.html.

Dubuque permeable paver project protects water quality

In a ground-breaking effort to reduce residential sediment and chemical runoff, the developers of a new Dubuque subdivision installed nearly 27,000 square feet of innovative permeable pavers.



Photo courtesy Eric Schmechel

The goal of the effort is to show that the newly developed permeable pavers are effective at keeping rainwater on-site rather than washing into nearby streams in the Upper Catfish Creek watershed.

The subdivision developers originally contacted Eric Schmechel, coordinator of the watershed effort, in the early stages of planning to discuss environmentally friendly options

for the project. Permeable pavers seemed like a good option.

Permeable pavers allow rainwater to seep through cracks and back into the groundwater instead of washing off and picking up chemicals and sediment along the way. Underneath, gravel holds the pavers in place. The gravel houses microbes, which capture particles and contaminants from the water before it gets to the groundwater.

"We're excited to see how it performs over time," Schmechel said about the subdivision's pavers, which create the longest – and first – permeable roadway in Iowa.

Worth the Investment

Phase one of development in the subdivision concluded in August, and many organizations, including the DNR and University of Dubuque, collect samples in the area to determine the extent to which the permeable pavers keep water in place. Schmechel said he hopes the permeable pavers reduce rainwater runoff by 90 percent.

While permeable pavers are more expensive than traditional pavement methods, Schmechel said the cost was somewhat offset because the developers did not have to build a retention pool on one of the lots, on which a townhouse can still be built. Schmechel added that permeable

pavers can last up to 30 years before they require maintenance, making them well worth the price in the long run.

While permeable pavers allow water to seep in between the bricks, other pavement options allow water to flow directly through the object, like pervious or porous pavement. Pervious and porous pavement, however, is subject to clogging after too many contaminants pass through it, according to livinggreen.org.

Although permeable pavers are fairly new, there is evidence that they do indeed reduce runoff, Schmechel said. In the future, they will likely grow in popularity, especially among watershed groups looking to improve water quality.

Dubuque paver project specs:

- Almost 27,000 square feet of permeable pavers
- Streets are 27 feet wide and 872 feet long
- 5,580 tons of gravel below
- Depths of stone vary from 18 inches to more than 7 feet
- Approximately 1,900 feet of 4-inch PVC perforated subdrain wrapped in filter sock
- Pavers laid by hand – as many as 2,500-3,500 square feet per day
- Total area of stone is 30,713 square feet
- Developer: 4-All Development

Clear Creek effort may mean de-listing in coming years

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Recent monitoring shows the Conroy effort greatly reduced local bacteria problems.

"It's made a big improvement in that area of the watershed," said Steve Johnston, USDA-NRCS district conservationist for Iowa County.

This year, DNR staff visited the site and saw only clear water coming from that same tile line that five

years earlier dumped raw sewage into the stream.

"There's a good chance for Clear Creek to come off the impaired waters list in the near future with this issue resolved," said Steve Hopkins with the DNR Watershed Improvement Program. "It's a great example of what we can accomplish at the local level when groups come together."

Watershed Coordinator James Martin has found success in helping landowners use practices like no-till, basins and conservation plantings to protect the creek.

The Clear Creek group continues work to address other water quality problems, mainly sediment and nutrient delivery, in the greater Clear Creek watershed, which stretches across Iowa and Johnson counties.

Farm and Life Poll provides useful info for watershed groups

A recently released poll indicates that many Iowa farmers are interested in conservation and water quality improvements, signaling local watershed groups to reach out and help them achieve such goals.

The Iowa Farm and Rural Life Poll, conducted since 1982, collects and disseminates information about important issues for rural communities across Iowa and the Midwest.

By highlighting important trends in rural communities, the results can help local, state and national leaders make policy decisions. Many of the trends may prove beneficial to watershed groups as well.

funding for these kinds of improvements. Local watershed groups should talk to farmers about the funding opportunities for water quality improvement. According to the poll, farmers are very willing to talk to conservation professionals about their land.

five years — nearly 42 percent. Of those farmers set to retire, only 56 percent have named a successor. As new people take over farmland, it may be an excellent opportunity to make changes and adopt conservation practices.

If you are involved with a local

watershed group, talk to new farmers about water quality improvement options, like terraced fields, grassed waterways or manure management systems.

Learn More About the Study

The farm poll was conducted in 2009 by sending out questionnaires to 2,201 farm operators.



A Targeted Approach

The poll found that many farmers are interested in targeted conservation, using satellite imagery or geographic information systems (GIS) to identify the areas most vulnerable to soil erosion or water quality impairments on their farms. Overall, farmers want to improve their farms' environmental performance, but several think there should be more conservation funding.

The DNR's Watershed Planning and Implementation grants, as well as funding from organizations like IDALS-DSC and WIRB, can provide

Wetlands Hold Potential

Another section of the poll asked farmers about creating wetlands to reduce the amount of agricultural nutrients and chemicals reaching our streams. Largely, farmers were open to the idea of learning about or creating wetlands on their properties. Only 7 percent of participants said they would refuse to consider constructing nutrient removal wetlands.

A Changing Landscape

A topic of major significance on the poll was the prevalence of older farmers expected to retire in the next

That group returned 1,268 usable surveys. On average, the participants were 64 years old and had been farming for 39 years.

Iowa State University Extension, the Iowa Agriculture and Home Economics Experiment Station and the Iowa Department of Agriculture and Land Stewardship all helped with the poll.

Copies of the complete Farm and Rural Life Poll can be found at local county extension offices, the Extension Distribution Center (www.extension.iastate.edu/store) or Extension Sociology (www.soc.iastate.edu/extension/farmpoll.html).

DATES TO REMEMBER

April 1: DNR Planning Grant, DNR Implementation Grant and IDALS-DSC (WPF/WSPF), Publicly Owned Lakes grant applications due

April 9-10: Water Monitoring Conference and IOWATER Open Forum, Ames (www.igsb.uiowa.edu/wqm/index.html)

April 15: Quarterly reports due for project coordinators

April 16: DSC Watershed Development and Planning Assistance Grant applications due

July 18-20: Soil and Water Conservation Society Annual Conference

Rural states likely to see a Baby Boomer migration in future

Baby Boomers, many of whom are reaching retirement age, are expressing an interest in living in rural areas, according to a USDA Economic Service report.

they could bring significant costs and benefits. An article in "Cornhusker Economics" from the University of Nebraska at Lincoln highlights several consequences of this likely

direct effect on water quality, or the potential options for making improvements.

"As some of these former city dwellers move to the country, it provides an excellent opportunity for watershed groups to help them learn to live in a sustainable way in rural areas," said Steve Hopkins of the DNR's Watershed Improvement Program.

"For example, they may be accustomed to the suburban turf grass lawn and may not know what to do with an acreage, or how their land affects their local waters," he added.

According to Hopkins, these new rural residents could use phosphorus-free lawn fertilizer to reduce phosphorus runoff, plant riparian buffers to protect stream corridors or contact their local SWCD or other resource professionals for technical assistance, for example.

The "Cornhusker" does, however, mention some potential negative consequences of higher populations in rural areas. A large influx of Baby Boomers could increase the need for infrastructure improvements and health care services.

The push to create new infrastructure, particularly involving drinking water, wastewater and sanitation systems, could provide an opportunity for watershed groups to influence the types of improvements made.



It's no surprise that this generation, born in the post-war era, is drawn to rural areas. They are interested in leisure and recreational opportunities available in rural areas, as well as a lower cost of living and slower pace of life. While a number of Boomers already live in rural areas, it's likely urban Boomers will be making the choice to move outside the city in greater numbers.

If more of them choose to move to rural areas, including parts of Iowa,

migration.

An influx of Baby Boomers, ranging in age from about 45 to 63, could have a very positive effect on the economies of rural areas, contributing to higher income and employment. They could also be potential partners for local watershed groups working to improve local waters.

As many Boomers have lived in urban areas most of their lives, they may not be aware of how their land management choices can have a

Remsen project garners national water works award

The American Water Works Association (AWWA) announced it will present its 2010 Exemplary Source Water Protection Award for small-sized systems to the city of Remsen.

The award recognizes the city's work on a project that protects drinking water and provides wildlife habitat and an outdoor classroom.

AWWA gives the award to North American public water supplies that

develop and put in place exemplary source water protection programs.

"The source water protection plan offers so many benefits to this community," said Becky Ohrtman, who coordinates the DNR's Source Water Protection Program.

"It all goes back to the groundwater site investigation, careful planning and many long-term partnerships," she added.

The effort started with a groundwater assessment, which a community planning team used to develop a comprehensive plan. The plan, now being put into action, calls for converting cropland around the wells to native grasses, which use nitrates in the soil before they can seep into groundwater.

The city and DNR are monitoring dropping nitrate levels in the wells.

Iowa practices save more than 37,000 tons of soil in 2009

More than 37,000 tons of soil are staying put on the land and out of Iowa streams and lakes, thanks to conservation practices installed by DNR-funded watershed efforts in fiscal year 2009. Put that amount of soil in dump trucks, and you'd have a line of trucks almost 12 miles long.

Each year, the DNR helps fund a number of local watershed projects that help Iowans improve their water, often in partnership with IDALS-DSC and NRCS.

Of those projects, 43 reported constructing a total of 577 conservation practices during federal fiscal year

2009. From Oct. 1, 2008 to Sept. 30, 2009, those conservation practices:

- Reduced sediment delivery by at least 37,249 tons per year.
- Reduced phosphorus delivery by at least 48,421 pounds per year.
- Reduced nitrogen delivery by at least 71,065 pounds per year.

At Staff and Beaver creeks in Howard County, practices installed since 2006 are collectively reducing sediment delivery by 7,114 tons per year – enough to fill one and a half Olympic-sized swimming pools – and phosphorous loading by 11,763 pounds per year.

These conservation practices will continue to reduce pollutants at the same rate if properly maintained. The new numbers apply only to practices installed in 2009 through DNR-funded watershed projects and do not reflect the total effects of all conservation practices in the state.

The DNR has tracked annual sediment and phosphorus load reductions since 2004. Since then, practices installed through DNR watershed efforts collectively reduce sediment reaching Iowa's waters by 130,947 tons per year and phosphorus loading by 202,312 pounds per year.

Iowa watersheds to be part of national water quality initiative

Mississippi River Basin Healthy Watersheds Initiative will provide financial assistance

The USDA-NRCS is soliciting project proposals from watershed efforts within five Iowa basins that were selected to take part in a new initiative to improve the water quality and overall health of the Mississippi River Basin.

The Mississippi River Basin Healthy Watersheds Initiative (MRBI), announced in September 2009, includes 41 basins spanning 42 million acres across 12 states. They were selected as focus areas in the program, which is managed by USDA-NRCS.

The Iowa basins – including Boone, Lower Grand, Maquoketa, North Racoon and Upper Cedar – will receive a portion of the approximately \$320 million of USDA financial assistance available for the initiative over four years.

Now smaller watershed efforts within the basins can request MRBI funding through a competitive process under NRCS' Cooperative Conservation Partnership Initiative. Only groups, not individuals, are eligible.

This will expand the money available, as some NRCS funds will be matched by contributions from local partners.

"We encourage existing watershed groups in these targeted areas to apply for additional funding," said Bill Ehm, DNR water policy coordinator.

Proposals for projects are due May 3. Interested parties can download the application at www.nrcs.usda.gov/programs/mrbi/mrbi.html.

The focus of MRBI is to help people use conservation and management practices that reduce the amount of nitrogen and phosphorus reaching waters while still maintaining agricultural productivity and helping wildlife.

The large watersheds in the 12 Mississippi River basin states – Arkansas, Kentucky, Illinois, Indiana, Iowa, Louisiana, Minnesota, Mississippi, Missouri, Ohio, Tennessee and Wisconsin – were selected by NRCS state conservationists with the help of state technical committees and state water quality agencies.

DNR Watershed Improvement and IDALS-DSC grants are also available to add to NRCS funding.

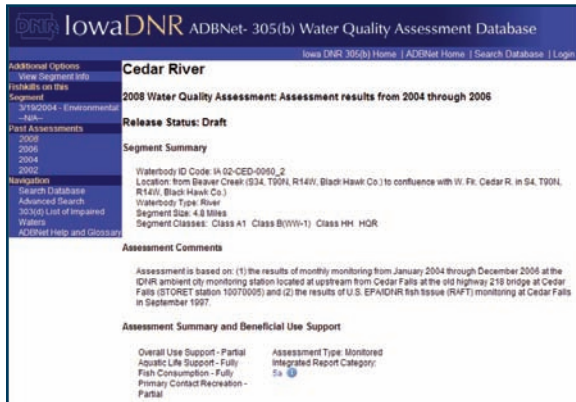
For more information about MRBI, visit www.nrcs.usda.gov/programs/mrbi/mrbi_overview.

<http://www.iowadnr.gov/water/watershed/grants.html>. For more information about DNR watershed improvement grants, visit www.iowadnr.gov/water/watershed/grants.html or contact Steve Hopkins at (515) 281-6402 or stephen.hopkins@dnr.iowa.gov.



Check the status of Iowa's waterbodies with ADBNet

The DNR's ADBNet database is the best and most readily available source for information on the water quality status of Iowa's lakes, rivers and streams.



The database is designed to make accessing water quality assessment information as easy as possible for all users, including planners, citizens and other partners in basin planning and watershed management.

All of Iowa's impaired waters information (through the 2008 listing cycle) is currently entered into ADBNet on the DNR website at <http://programs.iowadnr.gov/adbnnet/index.aspx>.

The database contains current and historical assessments. If fish kills have occurred in a segment, a link is provided to DNR's fish kills database.

It also offers the following information on waterbodies:

- Segment summary (location, type, size)
- Assessment comments
- Assessment summary and beneficial use support
- Basis for assessment
- Causes of and sources of impairment(s)
- Monitoring and methods used

The ADBNet database contains a total of 1,688 river/stream segments, 311 lakes, 152 wetlands and nine flood control reservoir segments.

You can search for waterbodies hydrologically by river basin or alphabetically. An advanced search option shows all waterbodies in a particular county with the associated assessment/impairment information.

A "help and glossary" option has information on printing assessments, definitions of Integrated Reporting categories, and a glossary of acronyms used throughout the database.

Questions? Contact John Olson of the Iowa DNR's Watershed Monitoring and Assessment Section at (515) 281-8905 or via e-mail at john.olson@dnr.iowa.gov.

Consider WIRB grants for your watershed effort

Looking for a new or additional grant option for your watershed effort? Consider applying for a grant from the Watershed Improvement Review Board, better known as WIRB.

WIRB awards grants through the Watershed Improvement Fund to address a wide variety of water quality improvement and flood prevention projects.

The independent, self-governing board administers the \$5 million-a-year fund, created by the Iowa Legislature in 2005.

Applicants eligible to apply for Watershed Improvement Funds include soil and water conservation districts, cities, counties, county conservation boards, public water supply utilities and local watershed improvement committees.

There are currently 64 active and 20 completed WIRB-funded projects throughout Iowa. Information on each of these projects and grant funds can be found at www.iowaagriculture.gov/IWIRB.asp.

For further information on Watershed Improvement Funds or WIRB, contact Jerry Neppel at (515) 281-3599 or via e-mail at jerry.neppel@iowaagriculture.gov.

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WATERSHED IMPROVEMENT IN IOWA

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