

DIVISION OF SOIL CONSERVATION SOIL & WATER QUALITY REVIEW 2007



OCTOBER 2007

Iowa Department of Agriculture & Land Stewardship

Special Points of Interest:

- CREP wetlands remove 40-90% of the nitrate and 90+% of the herbicide in tile drainage water from upper-lying croplands.
- The watershed approach is comprehensive, efficient and effective resource management.
- The Mines & Minerals Bureau, through the AML Program, worked with various watershed groups to secure an additional \$1 million dollars in funding for the construction on AML projects in Marion and Mahaska counties.
- Iowa Learning Farm is Building a Culture of Conservation: Farmer to Farmer—Iowan to Iowan.

IOWA'S CONSERVATION LEGACY

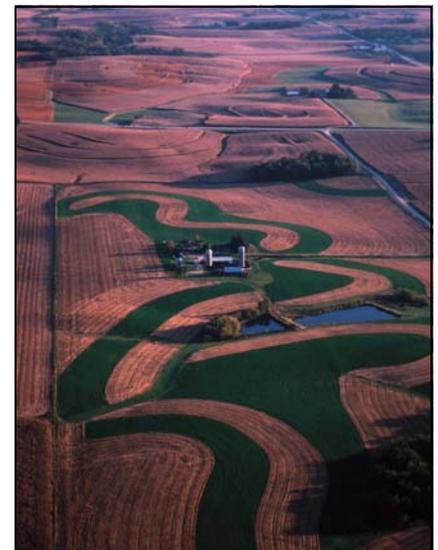
"Iowa's Conservation Legacy: Saving Ground Through Partnership & Ingenuity" premiered January 23, 2007, before the Joint Agriculture and Natural Resources Appropriation Subcommittee. This video highlights nearly 70 years of Iowa's unique conservation partnership: Iowa's 100 Soil and Water Conservation Districts (SWCD's), USDA's Natural Resources Conservation Service (NRCS), and the Iowa Department of Agriculture and Land Stewardship's Division of Soil Conservation (DSC).

This Conservation Partnership works with rural landowners and operators to reduce erosion, enhance production and improve water quality. Voluntary efforts protect the landscape and prevent millions of tons of sediment from reaching Iowa's waterways. Urban conservation programs reduce the impacts from construction and stormwater runoff.

Iowa's partners jointly share the responsibility for providing tools and resources needed to implement conservation programs. The Conser-

vation Partnership is able to effectively and efficiently implement programs working through local SWCD's. Created in Iowa Code Chapter 161A, SWCD's provide the strong, local structure needed to meet the growing challenges and demands on Iowa's soil and water resources.

The video is available through your local SWCD office.



The DSC is responsible for state leadership in the protection and management of soil, water and mineral resources, assisting soil and water conservation districts and private landowners to meet their agricultural and environmental protection needs.

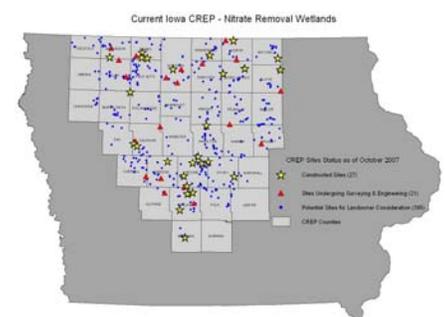
IOWA CONSERVATION RESERVE ENHANCEMENT PROGRAM (CREP)

CREP develops wetlands which are strategically located using advanced computer technology and designed to remove nitrate from tile-drainage water from cropland areas. Water quality monitoring completed by researchers at Iowa State University has confirmed that CREP wetlands re-

move 40-90% of the nitrate and 90+% of the herbicide in tile drainage water from upper-lying croplands.

Removal of nitrate from these waters helps protect drinking water supplies and reduce hypoxia in the Gulf of Mexico.

The program, which is implemented in cooperation with the USDA Farm Service Agency, is available in 37 soil and water conservation districts in the tile-drained region of North Central Iowa.



*CREP Status Map
(for more detail go to the
IDALS-DSC website)*

DRAINAGE AND WATER QUALITY CHALLENGES

Much of Iowa's agricultural land benefits from improved drainage, particularly in the Des Moines Lobe of the north central portion of the state. With subsurface drainage, nutrients may also leach into the groundwater. These nutrients impact water quality in Iowa and are transported downstream to the Gulf of Mexico

Research to develop improved in-field management of fertilizers and herbicides for Iowa's

drained landscape is being conducted by Iowa State University (ISU) under contract with the Division of Soil Conservation. This research effort, while conducted to address the concerns about agricultural drainage, has statewide application in dealing with the water quality concerns about nitrogen and herbicide movement from cropped lands to Iowa's streams and lakes.

- New nitrogen management practices are being developed which

show promise of reducing nitrate movement from cropped lands by 25-50%.

- Monitoring of new-generation herbicides shows no movement of herbicide in tile drainage water which exceeds the drinking water limits.

- Technologies have been developed to utilize wetlands to remove 40-90% of the nitrate and 90+% of the herbicide in tile drainage water from upper-lying croplands.



Nutrient losses from the five-state region, Minnesota, Wisconsin, Illinois, Iowa, and Missouri, as well as other Corn-Belt states, contribute to hypoxia in the northern Gulf of Mexico.

AG DRAINAGE WELL CLOSURE

The Agricultural Drainage Well Closure Assistance Program protects drinking water aquifers by cost-sharing with landowners to close high-priority agricultural drainage wells and develop alternative drainage outlets to surface streams.

A total of 296 ADWs have been registered with the State. Some of these

wells were closed by landowners, closed using other funds, or were deemed to be non-functioning.

To date 102 ADWs have been closed using this program with another 20 ADW closures under construction. Currently, an additional 112 ADWs are operating under continued use permits from DNR.

UPPER MISSISSIPPI RIVER SUB-BASIN

Through a grant from the U.S. Environmental Protection Agency, the Division of Soil Conservation coordinates the activities of the Upper Mississippi River Sub-basin Hypoxia Nutrient Committee (UMRSHNC) to facilitate technical, programmatic, and policy networking within and between the five states, including

agencies, non-governmental organizations and stakeholders, for the purpose of assembling a body of information on existing activities and programs addressing the environmental concerns on nutrient transport from nonpoint sources to the Gulf of Mexico Hypoxia Zone.



Practices target sediment and nutrient runoff.

CONSERVATION LOANS PROVIDE TAX ADVANTAGES

The Local Water Protection Program provides low-cost loans to farmer and livestock producers, landowners, watershed organizations and others to address nonpoint source pollution of Iowa stream and lakes. Since its inception in January 2005, 550 loan projects have been completed.

Since 1983, when the No-Interest Loan Program was established, 930 loans have been approved for eligible landowners for the construction of permanent soil conservation practices. This year, 39 new loans were granted with the funds received from current loan payments.

FISHKILL RESTITUTION

Soil and water conservation districts worked with landowners in 10 projects in FY-07 to restore streams and make watershed improvements in streams where fishkills resulted from pollution releases. Funding is derived from the Department of Natural Resources' penalties assessed against those responsible for the pollution.



Practices prevent erosion and protect productivity.

STATE COST SHARE FOR EROSION CONTROL

The Division of Soil Conservation implements the "first-in-the-nation" Cost Share program in cooperation with Iowa's 100 soil and water conservation districts (SWCDs). SWCD commissioners set local priorities for the use of these funds, and field office staff are available for conservation planning and practice design.

Practices installed are subject to maintenance agreements to assure

their long-term, successful performance.

Funds are matched by landowners, spent locally to hire private construction contractors, and reinvested into the economies of local communities. In addition to soil conservation and water quality protection, local jobs and businesses benefit from these financial incentives.

"Cost Share" is the cornerstone of soil conserva-

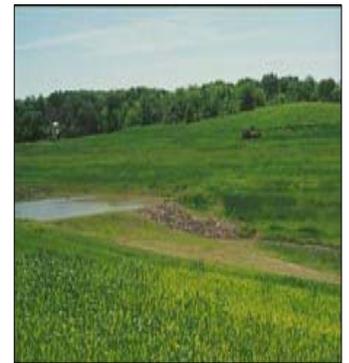
tion and water quality practice application in Iowa. In FY-07, nearly 1,350 landowners installed practices such as terraces, waterways, and water and sediment basins, protecting more than 20,207 acres in Iowa.

ABANDONED MINE LAND RECLAMATION

DSC staff develop potential projects by preparing a site inventory, an environmental assessment, and a reclamation design prior to seeking grant funds for construction. Construction solutions eliminate dangerous highwalls, acid mine drainage, clogged streams, and hazardous water bodies. Ridges of acid-forming shale are also graded and vegetated. Priority is given to

eliminating health and safety hazards, restoring impacted land and water resources, and eliminating off-site environmental impacts. Completed projects provide improved water and air quality and reduce sediment deposition and clogging of streams off-site. The AML program works with landowners in the design and development of a reclamation plan that will provide a

suitable land use following completion of the project. While the sites remain fragile, landowners see their property returned to a manageable condition that allows an economic return or some productive or beneficial use. Potential liability from attractive nuisances and unwanted trespass is also reduced or eliminated.



Reclaimed sites function as pasture, hayland, recreational areas, wildlife habitat, and wetlands.



Projects improve water quality and provide flood protection.

WATERSHED PROTECTION

The watershed approach is comprehensive, efficient and effective resource management. Iowa Code authorizes soil and water conservation districts to carry out erosion control, watershed protection and flood prevention projects. The Iowa Watershed Protection Program projects are set up to reduce soil erosion, protect water quality,

provide flood control and protect natural resources. The Program has provided financial assistance for the development of local watershed initiatives since 1999.

In FY-07, 53 watershed projects saved an estimated 25,578 tons of sediment from being delivered to water bodies in the state.

Currently, 30 watersheds are being assessed for projects in the future. These projects will accelerate protection efforts with cooperation from the Conservation Partnership. State funds are leveraged against over \$2,646,035 of federal and local money.

IOWA LEARNING FARM

The Iowa Learning Farm vision is to “Build a Culture of Conservation” where Iowa farmers and other stakeholders learn and exchange ideas within the community and statewide among scientists, agribusinesses, agencies and the general public.

This initiative takes a grassroots approach by working with farmer cooperators in five geographic regions based on unique soil formations. It promotes efficient agriculture production systems that result in agronomic, economic, and environmental improvements through increased awareness and adoption of conservation systems and ethics.

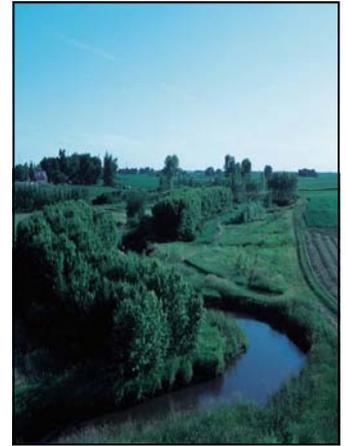


Iowa Learning Farm is funded by the Iowa Department of Agriculture and Land Stewardship through the Integrated Farm and Livestock Management (IFLM) Demonstration Program in partnership with the Iowa Department of Natural Resources and the USDA Natural Resources Conservation Service in cooperation with Conservation Districts of Iowa and the Iowa Farm Bureau Federation.

DISTRICT INITIATIVES

The conservation of natural resources and the protection of soil and water on private lands are advanced by the Soil and Water Conservation District Initiatives Program. Locally-led initiatives prioritize and target sensitive areas by providing funds and resources where they do the most good, leveraging federal or other local funds in the process.

Districts work one-on-one with landowners and operators to deliver conservation programs, increasing Iowa’s participation in both state and federal programs. Identifying critical practices and ways to enhance program alternatives will do more to solve resource problems.



The Buffer Initiative to accelerate the implementation of the Continuous Sign-up Conservation Reserve Program is an example of the success of this program. Over 500,000 acres of buffers were established in five years.

REAP SOIL & WATER ENHANCEMENT

Resource Enhancement and Protection (REAP) funds improve water quality through soil conservation measures. Since 1990, the Division of Soil Conservation has received funding for the Soil and Water Enhancement Account through Iowa’s REAP Program. Each year 20 percent of the REAP funds are deposited in the Division’s account and divided equally between Water Quality Protection Practices and Projects.

“Practice” funds are provided directly to soil and water conservation districts. Twenty-five percent

of these funds support establishment of trees and native vegetation. The remaining 75 percent is used for permanent vegetative cover, livestock waste management, and traditional erosion control to protect high priority public water resources.

Locally-led “Projects” commonly use the watershed approach to address water quality problems. Projects enjoy a high level of community support and include strong public information and education programs. In FY-07, 44 projects were underway, 6 of which were being completed.

REAP funds are used to address water quality problems.



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