

Miller Creek Bulletin

Monroe County SWCD Publication
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Phase III Nutrient Management Project

The past four years the Monroe County SWCD has been working on two projects Phase I & II for Miller Creek's addressing stream impairments by implementing sediment control practices. Both projects were successful at reducing sediment by 6,133.5 tons per year exceeding our goal of 4,404 tons per year. Since The District continued receiving requests for cropland support it would be advantageous of the Board to apply for additional grant funds for a Phase III Project.

With Iowa's push for nutrient reduction strategies the District felt incorporating nutrient reduction methods, "soil health," along with sediment reduction practices would improve the over-all health of the watershed. In July funding was approved by the Watershed Improvement Review Board (WIRB) to focus soil health the next three-years. Phase III will offer incentives for many new practices such as; cover crops soil grid sampling, fall stalk testing and spring nitrate testing. The SWCD

hopes that by teaming up with the Albia FFA Students and Iowa State Extension we will be able to provide assistance to producers by acquiring fall stalk test and spring nitrate tests samples. The FFA students will also provide water monitoring in stream and for practices installed. If you would like more information on practices available in the Miller Creek Watershed please contact Linda Shumate, Project Coordinator, at 641-932-5144 Ext. 112



Soil Health Benefits

- Increase aeration and pore space allowing more infiltration and for your natural aerators— earth worms to thrive.
- Tie nutrients such as nitrates to the soil to be utilized by crops when needed.
- Potential increase in yields.
- Prevent erosion.
- Increased organic matter also helps to decrease soil temperature.
- Reduce soil impaction by planting deep rooted cover crops.
- Maintaining proper levels of soil PH will ensure all nutrients can be easily accessed by plants.

Websites of Interest:

Iowa Department of Agriculture
& Land Stewardship
www.iowaagriculture.gov

FARMS

Financial and reports
Management System

<https://idals.iowa.gov/Farms/>

USDA/NRCS Web Soil Survey
<http://websoilsurvey.nrcs.usda.gov>

Natural Resource
Conservation Service

<http://www.nrcs.usda.gov>





Nutrient Reduction Demonstration Practice

De-Nitrification Bioreactor



Excavation for a bioreactor: (Courtesy of, Iowa Soybean Association Environmental Programs & Services.)

Nutrient run-off has been determined as a contributing factor of the Gulf's Hypoxic (Dead Zone) where the Mississippi River outlets into the Gulf of Mexico. There are many new practices that landowners farmers are able to implement to reduce nutrient loss. One practice is aimed at reducing nitrates from drainage water. De-Nitrification Bioreactors are designed to treat subsurface water by directing underground patterned tile lines into a localized area to filter nitrates thru woodchips. As the woodchips decompose nitrates are converted to a nitrogen gas that is released into the air and not back into a water source. Most project areas are approximately 10 to 20 feet wide and 100 to 120 feet long. Reactors are installed in areas that best fit for the landowner, with little to no land taken out of production. They can be placed in grassy areas, waterways or at the edge of a field in filter strips. Bioreactors can be installed using existing pattern tiling systems if design information is known. The SWCD will be working with private landowners to provide a field day to demonstrate practice implementation and benefits.

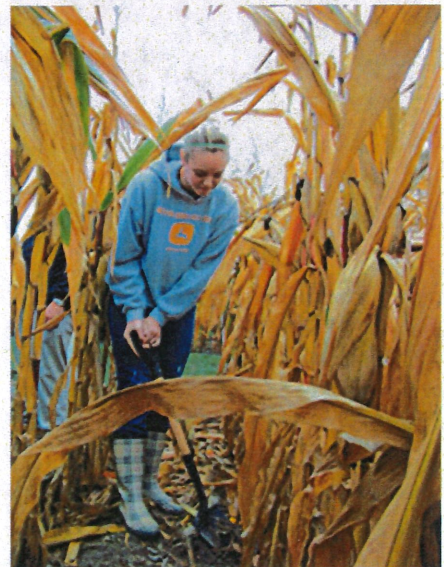
Educational Opportunities for the Community

With the focus of Phase III on the Nutrient Reduction Strategy for Iowa the District will work with Daryl Schofield and local Albia FFA Students to provide assistance to the watershed landowners and producers in collecting samples for fall stalk testing, spring nitrate testing and water monitoring. The information gathered will assist farmers and serve as base line data of before and after practices are installed to help determine their effectiveness and help estimate load reductions. The District hopes that by working with the students will bring more awareness for the watershed and develop tools our next generation farmers can utilize in their farming operations or agricultural professions from years to come. Samples collected will provide the District valuable data that will be used in continuing information/education of Miller Creek and also provide necessary data for the final report of the project.



Water Monitoring will help determine the effectiveness of the over-all Project.

Community awareness and education of Miller Creek Watershed is also important. With greater knowledge we will continue improve the stream's condition. On May 3rd 2014, Lynette Siegely with IOWATER, a division of the Iowa Department of Natural Resources, provided training to the Albia FFA Chapter along with Monroe County Watershed Coordinator and local volunteers participated in IOWATER training on properly collecting water samples in the watershed. By getting the FFA Students involved and local volunteers we can better educate the community on water quality. The data obtained will also help the Monroe County SWCD determine effectiveness the over-all project and benefits of practices installed. If producers are interested and help gathering samples, please contact the SWCD office to make an appointment with the students.

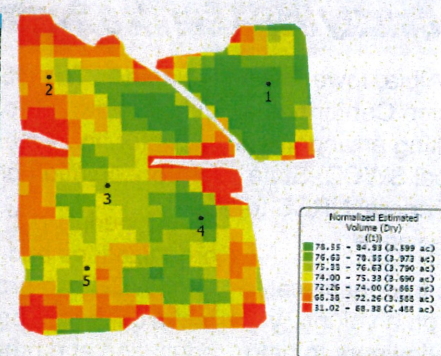
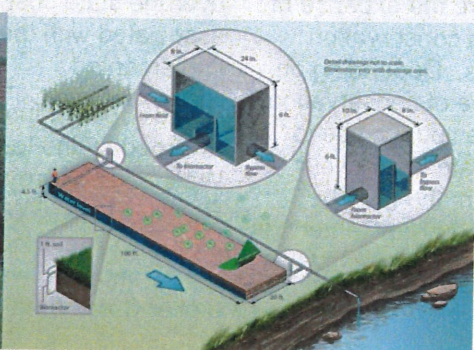


FFA Students assisting producers in the collection of fall stalk nitrate test.





Practices Available



Sediment Reduction Practices

- Grade Stabilization
- Water & Sediment Control Basins
- Terraces
- Filter Strips

Nutrient Reduction Practices

- Bioreactor
- Saturated Buffer Strips
- Wetlands
- Terraces
- Water & Sediment Control Basins

Soil Grid Sampling (Fall Stalk & Spring N)

Soil testing is the foundation of a sound nutrient management plan. Soil testing can determine a producer's baseline. Farmers can better understand fertility, or expected growth potential of the soil which indicates nutrient deficiencies, potential toxicities of their land which help prevent over-application of nitrogen and phosphorous.

Cover Crops

Cover crops are understood to have multiple benefits. Planting cover crops during times when land is idle will stabilize soils preventing additional soil and reducing nitrates and phosphorous encouraging soil health. The SWCD is offering 50 percent cost share of \$25/ac/40 acres/year/per producer, for three years.

Nutrient Management Practices

According to the Fertilizer Institute, the 4R Concept is the implementation of best management practices (BMPs) that optimize the efficiency of fertilizer use. The goal of this is to match nutrient supply with crop requirements and to minimize nutrient losses from fields. Selection of BMPs varies by location, and those chosen for a given farm are dependent on local soil and climatic conditions, crop, management conditions and other site specific factors.

**Monroe County
SWCD/NRCS**1701 South B St., Ste. 100
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**MILLER CREEK
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Margaret Cope	District Conservationist
Stacy Wickman	Resource Conservationist
Mike Gibbs	Soil Conservation Tech
Stephanie Allgood	Civil Engineer

IDALS/DSC Personnel

Ronald Peterson	State Soil Technician
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Funding Options Available

(USDA) offers a variety of financial incentives to producers and landowners. Specific programs offer annual payments, while others offer one-time, up-front payments for long-term easements for conservation use. There are several funding sources that share the expense of installing conservation practices. Depending on what type of conservation measure you choose to incorporate into to your operation, the Monroe County Service Center can help you choose what is best for you.

Popular Programs:

State Cost Share-Pays based on 50% of the average county cost or up to 75% when partnered with another funding source.

EQIP-Financial assistance to eligible producers based on a payment rate of the average state cost associated with the practice implemented.

WIRB- Special funding awarded by the Iowa Watershed Improvement Review Board (WIRB) to address watershed issues on the impaired waters list. (Miller Creek funding)

Low Interest Loans- Are paid with the State Revolving Loan Funds. Loan amounts up to 500,000 with a 3%-fixed interest rate for life of the loan. Terms of the loan are up to a 10 year period. Eligible projects can be 100% funded and be used in conjunction with grants or cost-share.

WQI-State funded program which offers financial initiatives to landowners their first year to install cover crops on cropland and highly erodible areas. Landowners are eligible for \$25/ac up to 160 acres.

Monroe County USDA Service Center

Located in Albia, Iowa, the USDA Service Center has a unique working arrangement allowing local SWCD, State DSC, and Federal NRCS to share office space.

We provide free technical assistance on a voluntary basis to landowners to help them conserve and protect the soil, water, wildlife and other natural resources on

their land. The USDA can help landowners plan for and apply for financial assistance for conservation practices.

By partnering with numerous organizations and agencies, the SWCD can provide other technical help along with education and other financial assistance. Contact the office for more information on our partnerships.

The USDA Service Center is an equal opportunity provider and employer.

All programs and services of these agencies are offered to everyone on a non-discriminatory basis without regard to race, color, national origin, religion, sex, age, marital status or handicap.

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