

Hawk Creek Headlines

Hawk Creek Watershed Project • 500 East DePue Avenue • Olivia MN • 56277 • (320) 523-3666

Fall 2007



Improving the water guality/quantity issues in the watershed while also promoting a healthy agricultural, industrial and recreational based economy for the region.



As of August 1st, 2007; CRP enrollment rates have increased on many of the soil types in the Hawk Creek Watershed. Hawk Creek has also increased their buffer incentives from \$80/acre to as much as \$150/acre. This is a one time upfront payment in addition to the CRP payments.

Many of the counties throughout Minnesota have also increased the CRP rental rates. For counties within the Hawk Creek Watershed work area CRP rates are as follows: Chippewa County CRP rates are from *\$118 up to \$175* per acre, Kandiyohi County CRP rates are from *\$125 up to \$190* per acre, and Renville County CRP rates are from *\$141 up to \$212* per acre.

Contact your local NRCS/SWCD offices for more information!

EQIP Sign-Up this Fall 2007



"Water is the most critical resource issue of our lifetime and our children's lifetime. The health of our waters is the principal measure of how we live on the land."

Inside this issue: CRP Rates/Hawk Creek Rates Increase EQIP Sign-Up Conservation Drainage 2 3 Water Quality Analysis 4 Importance of Buffers Rain Gardens 6 7 Kid's Corner 7 Backyard Conservation 8 Contact Information

The Environmental Quality Incentive Program (EQIP) is scheduled to have a sign-up during the Fall 2007. EQIP is a voluntary program that provides 50% cost share to implement conservation practices (i.e. sediment blocks, waterways) as well as wildlife, pasture establishment, shelterbelt renovation, and ag-waste storage problems that might exist in your farming operation. EQIP also provides incentive payments for Nutrient management, Tillage practices such as no-till, strip-till, ridge-till, and mulch-till, and pasture management. Other cost share sources such as Hawk Creek Watershed and State Cost-Share maybe available to increase the cost share up to 75%.

Stop by the USDA Service Center and visit with NRCS or SWCD staff to see what conservation practices may fit your needs.

EQIP sign-up starts October 1st, so contact with your local NRCS, SWCD, or the Hawk Creek Watershed Office for more information.

Contacts -Hawk Creek Watershed Project 320-523-3666 -Chippewa SWCD/NRCS 320-269-2137 -Kandiyohi SWCD/NRCS 320-235-3906 -Renville SWCD/NRCS 320-523-1550 -Prairie County RC&D 320-231-0008 -US Fish and Wildlife Service 320-693-2849





~Information courtesy of Iowa State University

What is Conservation Drainage?

Conservation Drainage is the use of water control structure to raise or lower water elevations during crucial times of the year. The purpose of a conservation drainage system is to manage the water table; to minimize drainage outflows during times of the year when drainage requirements are reduced, and provide for adequate drainage when needed most.

With conservation drainage, landowners can artificially raise the drainage outlet "elevation," using a conservation drainage structure, and thus actively manage the outlets. Water control structures are installed in strategic locations on a field drainage system. Management of these systems during the winter can typically be accomplished without much difficulty or interference with agricultural operations by adjusting the outlet to a constant, shallow depth. Beginning in the spring, periodic adjustment of a deeper drainage outlet control depth may be required for planting and fertilizer applications, and as new crop roots develop; this will vary with local crop, soils, and climatic conditions, and the management practice. In the summer, the water "elevation" will need to be increased to "feed" the growing crops. And in the fall, the water control structure could be set to a lower constant flow to enhance early harvesting of the crops.

Benefits of Conservation Drainage

Conservation drainage has great potential to help improve water quality, and possibly increase crop yields. Management of water can provide environmental benefits by reducing the quantity of nitrogen, sediment, and phosphorus leaving fields, and can provide production benefits by extending the period of time when soil water is available to plants. Imagine what an extra inch or two of water in the crop root zone could do for yields in mid- to late-growing season. Studies have shown that conservation drainage reduces the amount of nitrogen, phosphorus and sediment loss during runoff events by holding the nutrients in the tile systems and allowing for the crops to use the nutrients. Conservation drainage helps by reducing the amount of money spend on fertilizers, time spent in the field applying chemicals and the amount of nitrogen and phosphorus reaching our watercourses!

Below (Fig. 1) are pictures of how the conservation drainage structure works throughout the year. The structure can be worked with to ensure proper water consumption and release depending on the cropping type. (Figure courtesy of Agri-Drain, Iowa)



Lower water levels for early planting



Water "elevation" lowered for harvest

Figure 1



Water "elevation" raised for crop growth



Water "elevation" raised at end of season

Water Quality Analysis 1999 vs. 2004-2006 (3 year average)

Hawk Creek Watershed Total Phosphorus concentrations 1999 vs. '04-'06 average



Hawk Creek Watershed Total Suspended Solids concentrations 1999 vs. '04-'06 average



Hawk Creek Watershed Nitrogen concentrations 1999 vs. '04-'06 average



PHOSPHORUS

Elevated levels of *phosphorus* stimulate algal growth in lakes and streams and often lead to undesirable conditions. High levels of algae can lower oxygen levels in lakes/streams and cause a loss of aquatic life, high levels can also cause toxins to form in water resulting in death to animals that ingest the contaminated water.

Phosphorus levels in the Hawk Creek Watershed have seen dramatic reductions since the implementation of Best Management Practices (BMPs).

The main stem of Hawk Creek still needs some work on reducing phosphorus levels. The Chetomba Creek and West Fork Beaver Creek subwatersheds are close to the target level of set by the Pollution Control Agency.

The main contributors of Phosphorus are point sources (municipal and industrial discharges) and non-point sources (runoff from agricultural land and urban areas).

TOTAL SUSPENDED SOLIDS

Total Suspended Solids (TSS) refers to the amount of sediment/ soil present in the water column. This is also called *Turbidity*. The greater the amount of TSS in the water, the murkier it appears. This reduces the amount of light and can harm aquatic species and favors algae growth. TSS can also inhibit recreation potential for swimming, boating and other activities. Hawk Creek has seen a substantial decrease in the amount of TSS in the streams. The average concentration standard set by the Minnesota Pollution Control Agency is *58* mg/L for the Hawk Creek eco-region.

As of 1999 the TSS average for the whole watershed was 204 mg/L. This is 3 times higher then the standard. Due to the efforts and cooperation of landowners in the watershed from 2004 through 2006 the 3 year average was 66 mg/L.

NITROGEN

The most common form of nitrogen is *nitrate*. Excessive levels of nitrogen can stimulate algal growth in lakes and streams. In addition to algae growth, nitrogen can cause *methemoglobinemia*, or blue-baby syndrome. Nitrogen is also thought to be the main cause of the hypoxia zone in the Gulf of Mexico. Nitrogen concentrations vary across Hawk Creek; in 1999 the concentrations were fairly stable except the Chetomba Creek subwatershed where the concentrations were **10** mg/L. Since 1999 the concentrations have increased.

The subwatersheds shown in yellow and orange have exceeded the 10 mg/L standard for drinking water, and the red subwatershed is exceeding 15 mg/L.

Buffers-Conservation that works Economically and Environmentally

Buffers are small areas or strips of land in perennial vegetation, designed to intercept pollutants. Buffers can include filter strips, grassed waterways, shelterbelts, windbreaks, living snow fences, and contour grass strips. Properly placed buffers on the landscape can effectively minimize movement of soil, nutrients and chemicals from farm fields, they can also enhance wildlife habitat.

Benefits of Buffers

Conservation buffers slow water runoff, trap sediment, and enhance infiltration within the buffer. Buffers also trap pesticides, pathogens, and fertilizers. In addition they protect livestock, and wildlife from harsh weather, and are a source of cover, food and shelter for many wildlife species. They also help stabilize a stream or ditch, and help reduce water temperatures.



There are many programs that will help pay for the cost of installing buffer strips. The Conservation Reserve Program (CRP), Environmental Quality Incentives Program (EQIP), Wildlife Habitat Incentives Program (WHIP), and Wetlands Reserve Program (WRP) are just a few of the cost-sharing programs available. CRP rental rates vary by County and soil type. The rate range throughout the Hawk Creek Watershed Project area ranges from \$118 to \$212 per acre. There is also a Hawk Creek Watershed Project incentive payment of up to \$150 per acre. This is a one time up front payment for a 15 year contract. Contract length can vary from 10 to 15 year, depending on your needs.

Stop in at your County's USDA Service Center and have the Soil and Water Conservation Districts or Natural Resource Conservation Service give you a quote on your specific location and soil type.

Costly Clean Outs and Repairs Minnesota has an estimated 20,000 miles of public ditches.

These ditches carry water from farm fields, making land more tillable. They also carry eroded soil, phosphorus and other nutrients off the fields and most of this ends up in our rivers. The State of Minnesota does have a buffer requirement. Any ditch built or enlarged since 1977 is suppose to have a 16.5 foot grass strip on each side. Unfortunately most of the ditches that are used today were created in the early 1900's and the rule does not apply. Imagine how the water quality would be if the rule was enforced for all ditch systems.

Below are pictures of soil and corn stalks in ditches, the picture on the far right is a of a ditch being cleaned out.



Each landowner on a ditch system pays a specific percentage of benefits based on their acreage on the ditch system, for example if the total benefit acres is 100 and a landowner has 10 acres of benefited land, he would have to pay 10% of the cost on the ditch clean out. Everyone on the system pays their share of the clean out regardless of where the clean out was done. A ditch system clean out can cost as little as a hundred dollars to as much at \$50,000 or more. An average ditch clean out = 6,000 per mile. The cost to enroll a few feet or more of a field adjacent to a ditch system is a far better deal then spending hard earned money on a clean out.

Ditch bank Safety

Many landowners enjoy riding ATVs along their field and ditch bank to check on their crops. This can pose a safety issue if the ditch bank is not strong enough to support an ATV or worse yet, already has slumped and could have hidden holes along the bank. Properly installed buffers can help alleviate the ditch bank sloughing, and create a safer place to ride for landowners and their families.







Other Ways to Reduce Ditch Erosion

<u>Side Inlets</u>

A side inlet is a drop pipe and riser typically located in a low spot near a ditch bank to reduce the potential of or repair gully washouts. Repairing ditch washouts with side inlet pipes can reduce erosion and the need for costly ditch cleanouts.

<u>Alternative Intakes</u>

Alternative intakes that remove open tile intakes are another way to reduce sediment loss from your fields. Alternative intakes include rock intakes, pattern tile, and hickenbottom intakes.

Hawk Creek can cost share up to 75% for repairing your ditch washouts, and open tile intakes. *Give us a call at (320) 523-3666 we can assist you with your needs.*



What Is a Rain Garden?

A rain garden resembles a regular perennial garden in many ways. It is designed with deep-rooted plants that come back year after year; it is pretty to look at; it often has lovely flowers, grasses, trees and shrubs. So what makes it different from any other perennial garden? Rain Gardens have a ponding area, but they are not ponds. They often are planted with wetland plants, but they are not wetlands (although you can design a rain garden that mimics a wetland). The garden absorbs and filters rain that would otherwise run off your property and down the storm drain. This storm water runoff usually comes from an impervious surface (such as roofs, driveways and sidewalks). Many of the plants in the garden are native to the region, and have extensive deep roots that help the garden absorb rain. The native plants do not need special attention once they are established. There is a bowl-shaped dip in the garden, which holds the rain while it soaks into the soil.

How do you create a Rain Garden?

The garden bed is prepared or sometimes replaced to a depth of two feet in order to de-compact the soils and make the garden able to absorb water. A native plant garden that does not have rain directed into it from a hard surface will still be valuable, and will help absorb rain much better then traditional landscape. But unless storm water is directed into the garden, it is not a rain garden.

Benefits of Rain Gardens

- * Rain gardens are lovely landscaping features.
- * The plants create wildlife habitat and attract butterflies, birds, and other wildlife.
- * Rain gardens can save you money. They don't need to be fertilized or sprayed, only weeded and mulched. They reduce the amount of lawn you have to maintain. This makes your yard a healthier place for children and pets.
- * A rain garden on your property makes you part of a solution to storm water pollution. They can potentially absorb hundreds of gallons of rain that would otherwise wash pollution down the street and into the nearest river or lake.
- * A rain garden can be part of a storm water reduction plan to help solve problems of combined sewer overflows. Rain gardens can actually remove many of the common pollutants in storm water.
- * They are low maintenance. Once established, they require no fertilizer, watering, or mowing. A once a year cleanup, addition of shredded hardwood mulch to the surface and removal of weeds are all that are required.
- * They can contribute to groundwater recharge, a natural process that is interrupted by soil compaction and hard surfaces created during development and building.





Limited number of funds are available and cost-sharing of 75% up to \$500 for a rain garden. First come, first serve! The garden must be design approved and native plants must be planted.

For more information contact our office at 320-523-3666.



Water is important to everyone throughout the world, even more importantly; clean water. Try this puzzle and find your way though the watershed to the cabin on the other side. Look out for polluters on your way.



Many of the things that we do everyday can cause pollution. Whether it would be factories, city waste or storm water, or agricultural practices. These practices can cause unnecessary pollutants in our rivers and lakes.

There are many ways to control the amount of pollution that enters rivers or lakes. Look at the maze and see if you can find the pollution and the good practices to control the pollution.

Conservation in your backyard and back pocket

In Your House

Buy less toxic or nontoxic cleaning materials.

Properly dispose of all hazardous household materials, from cleansers to fluorescent tubes to paints.

Recycle your recyclables! From pop cans to newspapers.

Compost your kitchen scraps.

Don't waste water and or energy. Turn off lights when they're not in use. Turn your thermostat down when you're not at home.

In Your Yard

Compost your leaves and grass clippings. Follow the directions for use on all lawn and garden chemicals. Properly dispose of all lawn and garden chemicals and their containers. Use nontoxic fertilizers and weed control products.

In Your Garage and Vehicle

Keep your motorized garden equipment well tuned and in good operating condition.

Don't pour any used oil or antifreeze down your sewer drain! One pint of used motor oil can contaminate thousands of gallons of water, making it unfit to drink.

Purchase and use the most fuel efficient vehicle that meets your needs.

Keep your car tuned up and in good working condition.

Don't drive more than you need to. Carpool, take the bus, ride your bike and walk whenever you can.

At Your Cabin

Keep your septic system well maintained and regularly cleaned Be careful when you fill your boat engine with gas -- don't spill any into the lake. Properly dispose of waste. Avoid using lawn chemicals near lakes. Don't spray for mosquitoes. Use citronella candles and other nontoxic repellants. Build a screened-in porch. Don't disturb nesting wildlife -- they need a quiet place to raise their young. Learn how to landscape your lakeshore to protect the environment.





HAWK CREEK WATERSHED PROJECT PRAIRIE COUNTY RC&D

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Contributing Partners:

Chippewa County Chippewa Water Plan Chippewa NRCS/SWCD City of Willmar Eagle Lake Association Kandiyohi County Kandiyohi Water Plan Kandiyohi NRCS/SWCD MN Department of Natural Resources Minnesota Pollution Control Agency Pheasants Forever Prairie Country RC&D **Renville** County Renville Water Plan Renville NRCS/SWCD US Fish and Wildlife Service

We would love to hear from you!

If you are interested in becoming involved or have any information or projects, return this form to: *Hawk Creek Watershed Project Lower Level, Renville County Courthouse 500 E. DePue Ave. Olivia, MN 56277*

What do you see as the most important issues within the watershed

What are your biggest concerns in the watershed?

 Name

 Address

Phone (optional)