

# Hawk Creek Headlines

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

Fall 2008

## Hawk Creek Watershed Mission Statement

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

***There is too little public recognition of how much we all depend upon farmers as stewards of our soil, water and wildlife resources."***

~John F. Kennedy

## Funding Available for Watershed Residents



The Hawk Creek Watershed Project has money available to help reduce the amount of pollutants entering the watershed through implementation of Best Management Practices (BMPs).

Cost sharing and technical assistance are available. Apply early as funding is distributed for qualified practices on a first come, first serve basis.

Some of the practices that qualify for funding include:

### Buffer Strip Incentive

Ag Waste Systems

Side Inlet Pipes

Field Windbreaks

Alternative Intakes

Wetland Restorations

Livestock Exclusions

Stream Bank Erosion Control

Grassed Waterways

Nutrient Management

Sediment Basins

To see if your land qualifies, or for more information contact:

*Hawk Creek Watershed Project*

320-523-3666

*Chippewa NRCS/SWCD*

320-269-2139 ext. 3

*Kandiyohi NRCS/SWCD*

320-235-3906 ext. 3

*Renville NRCS/SWCD*

320-523-1559



## NEW CRP PRACTICE-SAFE Back Forty Pheasant Practice

### Eligibility Requirements:

- \*\*Ownership of land for at least 12 months
- \*\*Cropping History-four of six crop years from 1996-2001
- \*\*Light/sandy soils are eligible
- \*\*Acres of 10 or less are accepted if there is continuous habitat nearby (river, trees groves, pasture, CRP, RIM, etc.)

### Payment:

- \*\*Based on Soil Rental Rates
- \*\*Signing Bonus \$100 per acre
- \*\*Up to 90% cost share for establishment of practice

### Grass Seeding:

- \*\*Following CP25 Rare and Declining Habitat seed mix
- \*\*Provides use of some introduced grasses and/or trees
- \*\*Food plots are also eligible on enrolled acres

**Contact the USDA Service Center in your County for more details!!**

### Inside this issue:

Funding available for watershed residents	1
New CRP Practice—SAFE	1
Hawk Creek Takes Monitoring to the Lakes	2
Hawk Creek Gets New Lake Volunteers	2
Hawk Creek Receives 2 TMDL Grants	3
TMDL's-What Exactly Are They?	3
Conservation Drainage	4
Backyard Conservation	6
Kid's Corner-Make Your Own Paper	7
Go Green-Green Cleaning Recipes	7

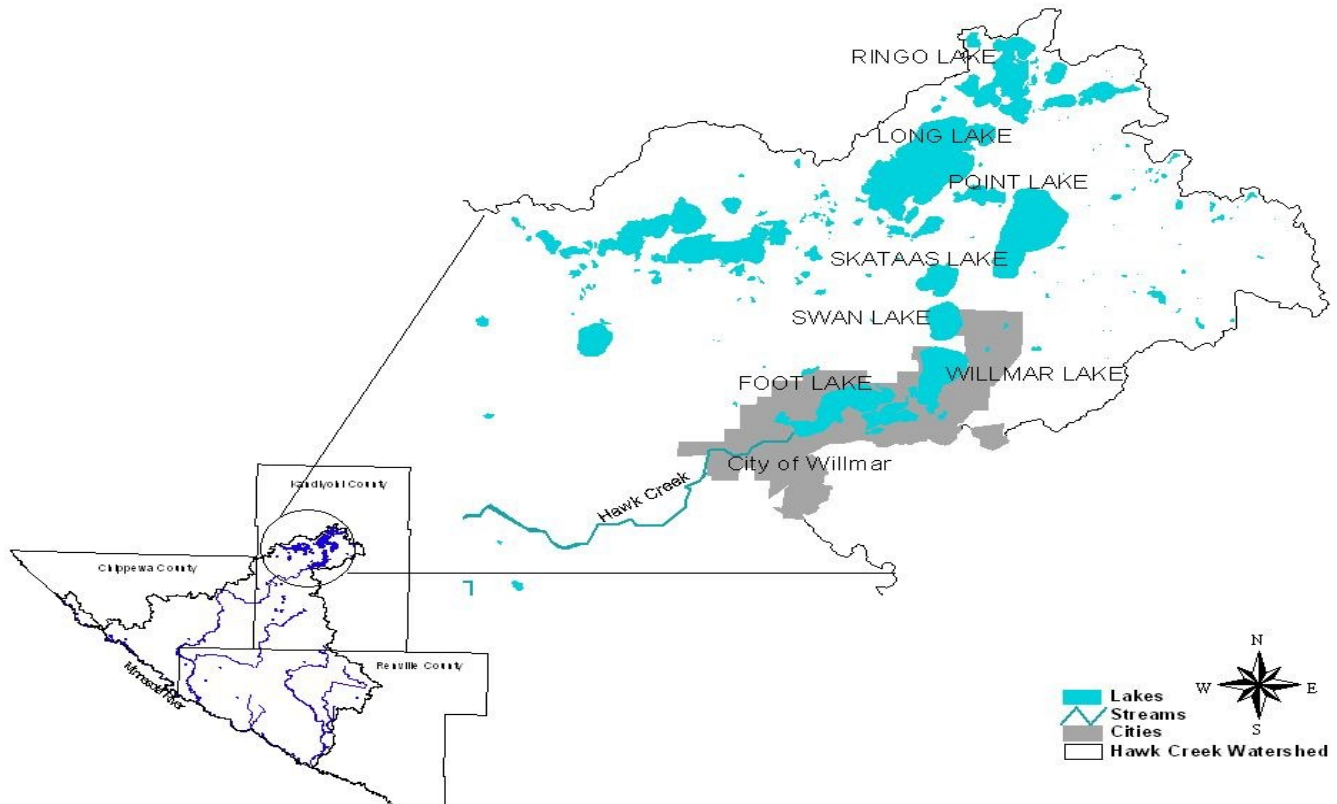


## Hawk Creek Water Quality Monitoring Takes To The Lakes

This summer the Hawk Creek Staff started doing water quality testing on seven lakes near Willmar. The lakes include Foot, Willmar, Swan, Skataas, Point, Long and Ringo. At this time there is little or no water quality information from these lakes. Hawk Creek staff applied for and received a grant that would help assess the quality of the lakes with in the headwaters region. Water quality testing will establish baseline data on the lakes and determine if there is a need for the lakes to be listed on the MPCA TMDL list.

Water sampling took place every 2 weeks from June to September and will continue through summer 2009. Staff will create a TSI (Trophic Statue Index) from the data that was collected and write a report detailing the general health of these lakes.

## Hawk Creek Lake Monitoring Sites

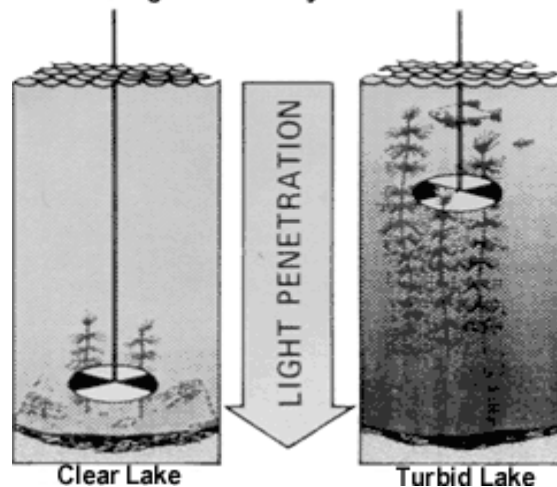


## Hawk Creek Gets Volunteers To Take Secchi Readings

Hawk Creek has some new faces added to their citizen monitoring program. Seven new volunteers have been taking Secchi disk readings on Swan, Skataas, Point, and Ringo in conjunctions with the monitoring that Hawk Creek and others have been doing.

*Congrats and thanks to these folks for getting involved!*

Measuring Water Clarity with a Secchi Disk





## Hawk Creek Receives Two TMDL Study Grants

This summer Hawk Creek staff were notified that they received two TMDL grants to study the turbidity and fecal coliform on Hawk Creek and Beaver Creek and another grant to study the nutrients on Long Lake.

To comply with MPCA requirements, there will be public meetings and stakeholder meetings in the future about the TMDL process and implementation plans for each of the streams and Long Lake.



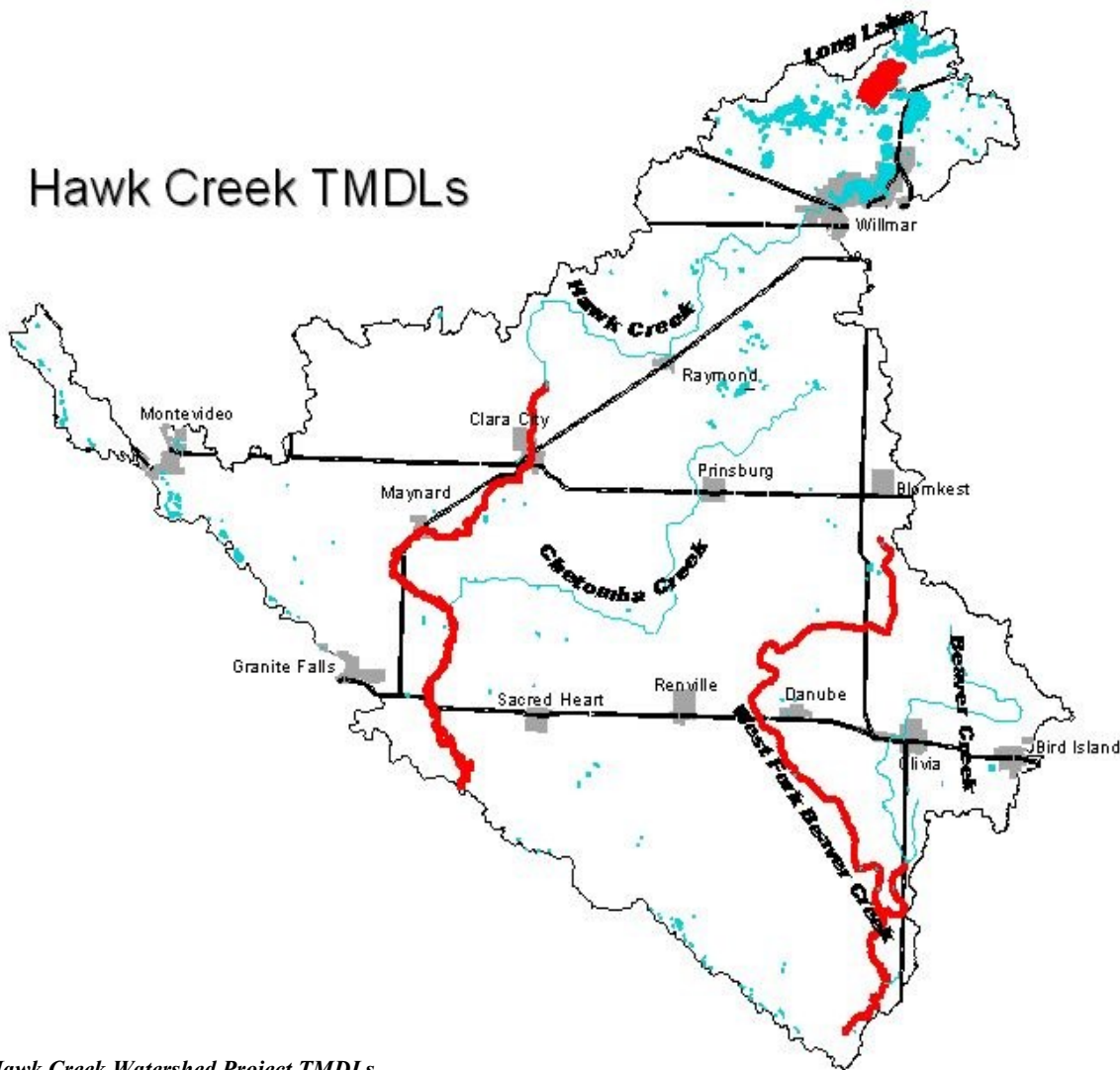
## TMDLs- What exactly are they?

The term *TMDL (Total Maximum Daily Load)* describes both a process and a number. The process involves two to four years of technical studies along with intensive stakeholder and public input. The number is a calculation of the maximum amount of pollutant that a water body can receive and still meet water quality standards.

A *TMDL* results in development of a pollution reduction and implementation plan. The pollution reduction plan identifies all of the sources of the pollutant in the watershed and allocates needed reductions among them, if needed. The plan includes uncertainties in the calculations, seasonal variability and the potential for future expansions in discharges.

A water body is “impaired” or polluted if it fails to meet one or more water quality standards. Standards exist for sediment, bacteria (fecal coliform), nutrients (phosphorus) and mercury. The MPCA (Minnesota Pollution Control Agency) is required to identify and restore impaired waters through the *TMDL* process. Public input will be sought throughout this process.

## Hawk Creek TMDLs







## Conservation Drainage-*A Best Management Practice*

*~Portions of this article were taken from a publication written by the Agricultural Drainage Management Systems Task Force.*

***Have you ever seen water running out of your tile lines in June and wish that you could save it for July and August when its hot and dry? Try Conservation Drainage!***

**Conservation Drainage** is the use of water control structures to raise or lower water elevations during crucial times of the year.

Drainage water management can **improve water quality and increase crop production**. The purpose of an agricultural drainage water management system (ADMS) is to allow for the adjustment of the water table, minimize drainage during times of the year when drainage requirements are reduced, and provide for adequate drainage when needed most. Management of drainage water can provide environmental benefits by **reducing the quantity of nutrient enriched drainage water leaving fields**, and can provide **production benefits by extending the period of time when soil water is available to plants**. Water management structures are installed in strategic locations on a field drainage system that provide points of management for the operator.

Drainage water management can be applied on drained fields where outflows from the drains can be controlled. Some older systems and many newer systems can be adapted to allow for the management of drainage water. Management of drainage water is most effective on systems with pattern drainage, but some systems with random drains can also achieve benefits. If the existing drainage system needs extensive repair or is otherwise not functioning properly it may be necessary to install a new drainage system. When replacing an older drainage system with a new system, make the older system inoperable or incorporate its operation into the new system to avoid undesirable interactions between the two systems. Even where drainage water management is not a goal for new systems, consider planning for future conversion to a managed system. The controlled drainage system works best when the topography is flat to gently sloping within a management unit or zone. Non-uniform water table depths can lead to non-uniform crop growth that complicates management decisions. Slopes of 1% or less are recommended. Water management structures should be placed every 1' to 1.5' change in elevation along the drainage ditch or tile. As the slope increases, more water management structures are required and economic factors and erosion concerns begin to detract from the benefits of the ADMS. A way to minimize the number of water management structures is to install the tile lines on the contour. Structures should be located on main lines that serve a number of laterals in order to minimize the total number of structures required.

Some agricultural drainage systems are part of a network involving multiple landowners. In such situations, managing a drain on one field can have an adverse impact on operations of adjoining properties. Even without interconnected drainage systems, the impacts of ADMS should be evaluated with respect to adjoining fields.

Drainage water management **can have a significant impact on the transport of nitrogen, phosphorous and sediment to surface waters and on crop production**. Lowering the water table increases the amount of water passing through the soil. Nitrates and soluble phosphorous move with the drainage water and are transported to the drainage outlets. A lower water table also reduces the frequency and magnitude of surface runoff, and thereby reduces the erosion potential, sediment transport, and the transport of sediment-adsorbed phosphorus. The aerobic conditions created in drained soils decrease the occurrence of denitrification.

Raising the water table decreases the amount of water passing through the soil, and proportionally decreases the transport of nitrates and soluble phosphorous from the field. Raising the water table during the non-growing season can result in a 30% reduction in the discharge of nitrates, but reductions of 50% or greater have often been accomplished. Raising the water table can also increase the amount of surface runoff, leading to increased erosion, sediment transport and transport of sediment-adsorbed phosphorous. Erosion and sediment transport can be controlled with residue management, buffers, grassed waterways, and other conservation practices.

Anaerobic conditions created in saturated soils increases the occurrence of denitrification, further reducing nitrate-nitrogen in the drainage water.

Lowering the water table improves field trafficability and timeliness of crop management operations such as field preparation, planting, spraying, and harvesting, and can extend the growing season by allowing earlier access to the field. With a low water table, ponding is less likely to occur or to be sustained when it does occur. A lower water table results in aerobic soil conditions and an increased depth of the root zone. Partially raising the water table after crops are established can conserve soil moisture and may enable a crop to be more productive in the years where there is an extended dry period during the growing season.

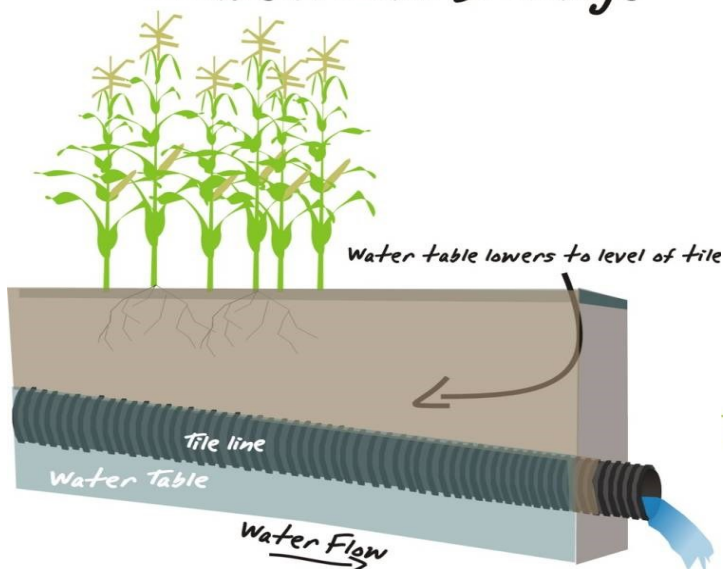
**A drainage system infrastructure that enables the operator to manage the water table provides an opportunity to take advantage of the benefits of both high and low water tables.** Deciding when to raise or lower a water table can be a difficult decision, particularly when rainfall is uncertain. As with many other practices, more intensive and careful management creates a potential for achieving greater advantages from the system.

In absence of a detailed analysis, there are some basic strategies that can be employed to greatly improve the functionality and benefits of the system. A high water table in the winter months will decrease the transport of nitrates and soluble phosphorus to surface waters. The water table should be lowered in the spring early enough for the field to be accessible for seedbed preparation, planting, and other field operations. Lowering the water table two weeks before field operations in the spring is generally sufficient.

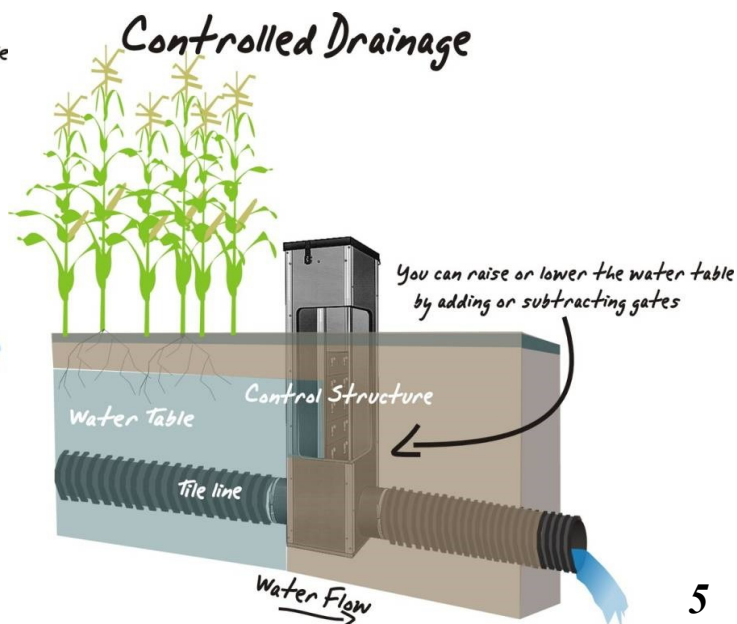
After planting, the water table can be raised to conserve soil moisture for use by the crop during extended dry periods. Once the crop is established, evapo-transpiration will often be sufficient to remove excess water from the root zone. It may be necessary to lower the water table during extended wet periods. Careful attention to drainage water management for water conservation may increase yields, particularly in dry years.

**For more directive information, contact the Hawk Creek Watershed Office.**

### *Conventional Drainage*



### *Controlled Drainage*





# Backyard Conservation—Everyone Has A Backyard



~Information taken from the *Backyard Conservation* book printed by NRCS et. al.

There is a lot of talk lately about water conservation, going green and what can I do! I came across a neat book a few years back on backyard conservation. Backyard conservation are practices that the agricultural sector have been implementing for years. I thought that this would be a good topic for this newsletter. Below are some practices that everyone can do in their own backyard.

**Remember everyone has a backyard whether it's big or small, we can all implement one or more of the following practices for conservation.**



**Tree Planting**—Trees in your backyard can be home to many different types of wildlife. Trees also can reduce your heating and cooling costs, help clean the air, add beauty and color, and provide shelter from the wind, sun and add value to your home. Choose trees that are appropriate for your area, native to the areas and provide flowers and fruit at different times of the year.



**Wildlife Habitat**—Trees, shrubs and other plants can provide homes/shelter and food for wildlife. Plant shrubs and flowers that are beneficial for birds, butterflies, and insects, such as Red-osier dogwood, crabapples, American bit-tersweet, coneflowers, or bee balm. Consider plants that are native, and flower and bear fruit at different times of the year. You can also consider additional food and shelter by purchasing feeds and houses, but remember to keep the feeders and houses out of the reach of predators. Also don't forget the water, clean fresh water is important to birds, bats and other wildlife. Water in a saucer, bird bath or backyard pond gives wildlife the water they need.



**Backyard Wetland**—Wetlands filter excess nutrients, chemicals and sediment, and provide habitat for wildlife. Many yards can support a small wetland. Letting runoff from your rooftop, driveways and parking lots filter into a mini-wetland helps prevent pollution of our lakes and streams, and may help prevent street flooding. Any depression that collects rainwater or runoff from your yard can serve as a wetland. Backyard wetlands are low maintenance, planted with native plants that like dry or wet conditions and don't need fertilizers. A good example of a backyard wetland would be a rain garden.



**Nutrient Management**—Nutrients are essential for good plant growth but over applying is not good for plants or the environment. One way to reduce the amount of chemicals/fertilizers that are used are to consider native plants or others with low fertilizer needs. Remember to test your soil to see if you are applying too much, too little or the wrong nutrients to your plants or yard. When fertilizing lawns, use slow-release nitrogen fertilizers, be careful not to spread fertilizers on sidewalks and driveways. When fertilizing gardens, use compost to enhance or replace fertilizers, place fertilizers close to plants rather than broadcasting it over a garden, add organic matter to the soil.



**Water Conservation**—When relying on water to make your lawn or garden grown, consider alternative ways to get water. Rain barrels are gaining popularity in urban environments. This is a simple effective way to capture rain and reuse it to water plants. Drip irrigation can also provide water directly to plants and you can control the amount of flow to the plants. Consider watering plants and gardens in the evening or at night, you lose less water to evaporation than if you water in the middle of the day, and the plants are less stressed and can take up water easier, saving you and the plant energy! Some other things to consider when conserving water is to use native plants, they use less water than other varieties and also remember to use mulch or fiber cloth to preserve soil moisture.



**Composting**—Composting turns household wasters into valuable fertilizers. All organic matter eventually decomposes. Composting speeds up the process by providing bacteria and other decomposing organisms. The final product, humus or compost, looks and feels like fertile garden soil. Look at this as a cheap alternative to fertilizer or buying compost from a retail store. There are two type of compost-cold or hot. For more information on composting talk to your local waste management offices.



**Mulching**—Mulching involves placing a layer of organic material around plants. This provides nutrients for the plants and is an ideal environment for earthworms and other organisms that help enrich soil. Mulching can recycle yard wastes and protect the soil from erosion, prevents weed growth, conserves soil moisture and helps keep fruit and vegetable clean that might touch the ground. Wood chips and bark work well around trees and shrubs.



Making your own paper from old paper is similar to what happens in a paper recycling mill. At the mill, the pulp is put into a machine with a long moving screen. The water drips through the screen, then the screen moves through part of a machine that presses and dries the pulp...now you have paper. The paper you will make will be thicker and rougher than what a mill does.

**Here is what you will need:**

Blender or egg beater  
Mixing bowl  
Round jar or rolling pin  
Flat dish or pan (9"x 13" or a little larger than the screen)  
Piece of non-rusting screen (about 12"x 8")



**Making Your Own Paper!**

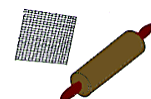
What happens to used paper? Most paper is thrown away in landfills or is burned. If we recycle paper we save landfill space and use these available wood fibers again. Don't throw away that old newspaper, office paper or unwanted wrapping paper, turn it into a piece of art by making new paper with it!



Newsprint, scrap paper or wrapping paper  
10 pieces of newspaper for blotting  
4 pieces of cloth or felt to use as blotting paper (same size as screen)  
2 cups of hot water  
2 teaspoons of instant starch (optional)

**What to Do:**

1. Tear the newspaper, scrap paper or wrapping paper into very small bits. Add 2 cups of hot water to 1/2 cup of shredded paper.
2. Beat the paper and water in the blender, or with egg beater, to make pulp. Mix in the starch (optional). Completed pulp should be the consistency of split pea soup.
3. Pour the pulp into a flat pan.
4. Slide the screen into the bottom of the pan and move it around until it is evenly covered with pulp.
5. Lift the screen out of the pan carefully. Hold it level and let it drain for 1 minute.
6. Put the screen, pulp-side up, on the blotter that is placed on top of newspaper. Put another blotter over the pulp, and more newspaper over that.
7. Roll a jar or rolling pin over the "sandwich" of blotter paper to squeeze out the rest of the water.
8. Take off the top newspaper. Flip the blotter and screen carefully. Do not move the pulp, it will take at least 1 to 2 days to dry depending on how thick and wet the paper is.



**Do Not Pour The Leftover Pulp Down The Drain-it could clog up the sink, put it in the trash or compost it!**

Try this again and use some decorative elements such as colored thread, glitter, dried flower and leaves. Now you can make cards or note paper out of your newly created paper.



**GO GREEN-Green Cleaning Recipes**



With the push to **Go Green**-people are looking for alternatives to using chemicals and cleaners. Below are a few recipes that anyone can make with products that they already have in their cupboards.

**All-Purpose Cleaner**

1/4 cup white vinegar  
2 tsp. borax  
3 1/2 cups hot water  
20 drops lemon or lavender essential oil (if desired)  
1/4 cup liquid dish soap (add last)  
In a 32 oz. spray bottle, mix vinegar, borax, and water thoroughly. Add essential oil if desired. Add dish soap last.

**Soft Scrub**

1/2 cup baking soda  
Enough liquid soap or detergent to make into frosting, like consistency  
5 to 10 drops antibacterial essential oils (such as lavender) (optional)  
Put baking soda in a bowl; slowly pour liquid soap, stirring continually. Add essential oil.  
Scoop onto a sponge, wash surface. Rinse.

**Floor Cleaner**

1/8 cup liquid soap  
1/4-1/2 cup white vinegar or lemon juice  
1/2 cup peppermint herb tea  
(peppermint has antimicrobial qualities)  
Combine ingredients in a pail with 3 gallons of warm water. Swirl until sudsy. Rinse with 1 cup of vinegar in 3 gallons of cool water.

**Window Cleaner**

1/4 cup white vinegar  
1/2 tsp. liquid soap or detergent  
2 cups of water  
Combine in a spray bottle and shake to blend.

For additional recipes, visit [www.happyslob.com/cleaningrecipes.html](http://www.happyslob.com/cleaningrecipes.html) or [www.ecocycle.org/hazwaste/recipes.cfm](http://www.ecocycle.org/hazwaste/recipes.cfm)

~ Information taken from Minnesota Environment (MCPA)





**PRAIRIE COUNTY RC&D  
HAWK CREEKWATERSHED PROJECT**

1005 High Ave. NE  
Willmar, MN 56201

NONPROFIT ORG.  
U.S. POSTAGE  
**PAID**  
WILLMAR, MN  
PERMIT NO 680



Funded in part by MPCA

**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

**Check it out!**

***We're on the web!***

**[www.hawkcreekwatershed.org](http://www.hawkcreekwatershed.org)**