



# Hawk Creek Watershed Project

**Cory Netland**  
COORDINATOR

**Stephanie Klamm**

WATER QUALITY/OUTREACH TECHNICIAN

With the beginning of a new year upon us, it is time to reflect upon the accomplishments and successes of 2009. The end of March brought a few seemingly minor rain events that actually caused flooding in the Hawk Creek watershed. The flooding was relatively short-lived, and the spring field work commenced and was finished on schedule.

Rain events were scattered throughout the summer. Most were largely insignificant, but August brought a few more significant events, and we all remember how wet October was! All in all, it turned out to be one of the busiest monitoring seasons in the history of the Hawk Creek Watershed Project.

Since the inception of the Hawk Creek Watershed Project (HCWP), in 1999, a total of 714 landowners have received financial assistance from the Project for either septic system upgrade loans or best

management practices (BMPs). To date, nearly \$6.5 million grant dollars have been utilized by the Hawk Creek Watershed Project to cost-share with landowners on the establishment of conservation practices. Of these funds, \$2.6 million have been distributed as part of the individual septic treatment system (ISTS) upgrade loan program.

The Project, along with its tri-county watershed partners, continues to promote soil and water stewardship and offer cost-share for installation of BMPs aimed at improving water quality. This past year presented challenging conditions including a very short fall construction season due to wet conditions and unharvested crops. The Hawk Creek Watershed Project worked with area FSA/NRCS/SWCD offices, and County Drainage Authorities to install many projects.

These projects would not have been completed without the help and funding from our partnership with federal, state, and local governmental agencies and the landowners!

In addition to the projects listed above HCWP also provides cost-share:

- Ag-Waste Facility Upgrades
- Livestock Exclusions
- Alternative Intakes (Rock, pattern tile)
- Water & Sediment Control Basins (638s)
- Terraces

#### Other Projects Benefiting Water Quality

If you would like additional information about any of these projects, or if you would like to install any of the above listed practices, please call the HCWP at (320) 523-3666 or visit our website at [www.hawkcreekwatershed.org](http://www.hawkcreekwatershed.org) for more information about the HCWP and our partners. Also, if you are interested in upgrading your septic system, please contact either the HCWP or the environmental office of your respective county.

#### Hawk Creek helps with Bio-filter Reactor



The Hawk Creek Watershed Project, in Cooperation with Kandiyohi County's Ag Inspector Loren Engelby and MN Board of Soil and Water's Drainage Management Engineer Joel Peterson, installed a demonstration project this past summer consisting of a woodchip bioreactor on a county tile system.

Several methods of reducing the amount of nitrate in drainage water are being explored. The primary method

involves good management of nitrogen fertilizer application rates, and the use of improved drainage system designs. However, edge of field treatment of drainage water is a strategy that may be needed to reach goals for decreasing the amount of nitrate in drainage water. The use of a woodchip bioreactor is one such method for removing nitrate from drainage water.

Woodchip Bioreactors remove nitrates from drainage water by the same natural process that is utilized in wastewater treatment ponds and wetlands. Tile water flows through an underground trench filled with woodchips enabling anaerobic soil microbes to feed on the carbon in the woodchips.

A woodchip bioreactor can be made by digging a trench approximately six feet deep and 2 to 3 feet wide. The length of the trench is dependent on the amount of water being treated. It is estimated that about 10 feet of trench is needed per acre of drained land. The trench is filled nearly full of woodchips and then covered with topsoil. Drainage water is directed to the bottom of the trench with plastic drainage pipe. Water is removed from the downstream end of the bioreactor with another section of perforated plastic tile that then directs the water into a drainage main or ditch.

Because of the limited scope of the construction site, our trench was 9'W X 30' L. A total of 28 cubic yards of hardwood chips were used. The system was designed with an observation well at both the intake and discharge ends of the bioreactor and both wells will be monitored and tested to determine the effectiveness of removing nitrogen. The total cost of this bioreactor was \$2,934.00. The life expectancy of the reactor is at least 20 years.

Similar bioreactors in Illinois have cut nitrate flows significantly. During ordinary flow periods, more than 60% of the nitrate is removed from tile drains.

### Breakdown of the 2009 projects:

Project	Acres	Hawk Creek Funds
25 Buffer Incentive payments	202.8	\$ 23,248.00
1 Bank Stabilization		\$ 15,034.80
29 Side Inlets		\$ 13,585.50
2 Wetland Restorations	542.0	\$ 10,939.00
1 Grade Stabilization		\$ 5,750.00
14 Alternative Intakes		\$ 5,468.75
2 Rain Gardens		\$ 4,000.00
1 Bio-filter Reactor		\$ 1,467.00
1 Sediment Basin		\$ 804.63
1 Grassed Waterway		\$ 582.61
30 Septic System Loans (installed)		\$ 285,496.63
<b>Total</b>		<b>\$ 366,376.92</b>



# Chippewa River Watershed Project

**Kylene Olson**  
EXECUTIVE DIRECTOR

**Paul Wymar**  
WATERSHED SCIENTIST

**Jennifer Hoffman**  
WATERSHED SPECIALIST

In 2009, the Chippewa River Watershed Project (CRWP) continued its efforts in water quality monitoring, citizen outreach and best management practice implementation. It was a busy year that offered new challenges and rewards. Madeline Dalton left the Shakopee Creek Headwaters Project (SCHP) for a new position in May and funding reductions did not allow for the filling of the Coordinator position but all activities and programs offered by the SCHP are still intact and facilitated by the CRWP staff.

Paul oversaw the busiest and most extensive monitoring activities to date across the Chippewa River and its tributaries. In addition to the long-term, sub-basin outlet monitoring stations, the CRWP had several new monitoring initiatives to address as a result of special funding. Three interns were hired to assist Paul with the rigorous monitoring schedule. One of the new initiatives was a systematic survey of ditch and stream bank erosion at sites scattered across the Chippewa River's entire drainage basin. Transect surveys were conducted three times a month on 250 sites up and down the main river and tributaries looking at transparency, temperature, dissolved oxygen and pH. In support of a biological survey conducted by the Minnesota Pollution Control Agency, the CRWP doubled the number of full scale, standard pollution monitoring sites. Many miles of road and stream were traveled and massive amounts of data were collected. The monitoring program of the CRWP provides current and accurate water quality data for local and statewide planning and assessment and aids in the targeting

and tracking of best management practice implementation.

The CRWP Local Work Group connected and collaborated with landowners across the basin for a wide variety of water quality projects. The Local Work Group, comprised of technical staff representatives from throughout the watershed, looks at proposals from each sub-basin and awards cost-share and incentives. Two of the major sub-basins, the East Branch and the Little Chippewa, saw funding expire in 2009. The remaining areas of the watershed still have dollars available.

The CRWP hosted a Conservation Practices Bus Tour in June that highlighted practices in Swift and Chippewa Counties and featured the work of the local Natural Resources Conservation Service and Soil and Water Conservation Districts. Congratulations to the "Best in Show" winner, Faith Anderson, and all the winning submissions in the 3rd Annual Calendar Photo Contest. Calendars are still available if you haven't picked up your free copy. Over thirty-five people took to the river in June during a CRWP sponsored canoe/kayak trip down the Chippewa River and a twenty plus people found their way to the river in September to participate in a Mussel Hike with DNR



specialist Bernard Seitman. These well received activities are being planned again for this coming year. Be sure to check out our website [www.chippewariver.com](http://www.chippewariver.com) for details on current events.

We would like to thank all of our cooperators, program participants, partners, and the CRWP Executive Committee for continuing to make the Chippewa River Watershed and all its waters a priority. There are many exciting things happening in the watershed. We look forward to the new year and making advances in improving water quality to maintain this viable region.

### Chippewa River Watershed Project 2009 BMP Project

Project	CRWP Funds
32 Buffer Incentives (442.4 acres)	\$38,795.00
5 Alternative Tile Intakes	\$1,875.00
3 Terraces	\$12,703.92
1 Feedlot Improvement	\$14,276.09
2 Ag Waste Pit Closure	\$5,688.75
2 Livestock Use Exclusion	\$5,967.51
2 Shoreline Restoration	\$4,618.43
3 Streambank/Shoreline Stabilization	\$34,098.00
3 Rain Garden	\$1,827.31
1 Water Control Structure	\$700.00
1 Wetland Restoration	\$4,150.00
1 Stormwater Retention	\$42,110.53
6 Water and Sediment Control Basins	\$9,334.68
<b>Total</b>	<b>\$176,145.22</b>