

South Branch Root River Watershed Project  
Meeting notes for April 14, 2005

In attendance: Lee Ganske (MPCA), Sue Schrage, Denton Bruening, Matt Drewitz, Paul Wotzka (MDA), Warren Netherton & Mark White (Forestville/Mystery Cave SP), Cleon Heusinkveld (Spring Valley), Bob Hanson (Elkton), Keith Voorhees (Elkton), Jerrold Tesmer (UofM Extension), Stafford Hansen and Chuck Amunrud (Fillmore County Commissioners), Bob & Eloda Wood (Stream monitors, Wykoff), Bill Sweetser (Supervisor Bennington Twp), Bob Hellickson (Preston), Donna Rasmussen (Fillmore SWCD)

Introductions were made.

Atrazine and nitrate in SE MN streams: Paul Wotzka, MN Department of Ag (MDA), has been monitoring streams in SE MN for several years for pesticides and nitrate. In 2002, an agreement was signed between MDA and Fillmore County Water Planning to cooperatively sample three sites on the Root River for pesticides and nitrate: South Fork at Choice, North Branch near Eagle Bluff ELC, and the South Branch at Forestville. The North Branch site now has a permanent monitoring station established cooperatively with Eagle Bluff. Samples are collected during two time periods: spring runoff events up to July 15 and winter base flow. The MDA monitoring program has been expanded to include six springs at three fish hatcheries, four of which are in Fillmore County.

MDA pesticide monitoring was begun in 1989 to find the impacts of pesticides on ground and surface water. Of the 29 compounds monitored, only a few are of concern: the triazines and chloroacetamides. These account for 95% of the what is detected in frequency of detection and magnitude of the concentrations. Pesticides vary seasonally with very low concentrations in winter to April up to a 100x increase in spring/early summer runoff.

Monitoring on the Middle Branch of the Whitewater began in 1993. A significant increase has been seen in atrazine since 2000. In 1996, CRP acres started coming out of the program. After a time lag of 2-4 years when the organic matter in those soils began to break down, water is now shed from those acres. From 2000 to 2004, there were 45 samples from the Middle Branch that exceeded the stream water quality standard of 3.4 micrograms per liter (ug/L). The South Branch Root River site has seen exceedances of the stream standard every year since 2002 when monitoring began. Biological degradation is the best method for breaking down atrazine, but once it moves through the soil profile, there is very little breakdown. Atrazine has a 20-year persistence and is mobile; it does not bind to soil and moves with water. In 2004, there were 90 compounds on the market with atrazine in them. Southeast MN has a higher percentage of corn receiving atrazine (60-80%) than the statewide average. The average application rate is 0.75#/acre. It is applied at the most vulnerable time of the year for soil erosion (April-June) and applied to corn after soybeans, which leave little residue. Atrazine is detected almost 100% of the samples from runoff events (highest 30 ug/L) and base flow (avg 0.4 ug/L).

Nitrate levels are diluted in runoff events. Highest concentrations are seen in base flow often exceeding 10 ppm and averaging 9 ppm. Nitrate also has a 100% detection rate.

Monitoring of springs has shown almost 100% detection of atrazine. Alachlor ESA, a metabolite, is found in 5 of the 6 springs. This compound has not been used in the last decade. It breaks down very slowly. Metolachlor is also found in 5 of the 6 springs. Concentrations are

less than 1 ug/L for all compounds. Concentrations increased during the 2003 drought. The Peterson Hatchery springs, monitored since 1994, have had steady increase in concentrations.

Two main factors have an effect on runoff: 1) climate and 2) land use management. A graph comparing runoff from different land covers showed the highest peak flow and discharge rates from fall plowed acres and the lowest from CRP and woods. When comparing nitrogen loss, alfalfa loses 1.6#/acre while continuous corn loses 30#/acre. In Fillmore County, soybean acres, which have virtually no residue after the crop is harvested, have increased 2-3 times since 1981, while hay and small grains have dropped by that much. Since 2000, almost half of the annual rainfall has fallen in April, May, and June, which is the most vulnerable time for erosion.

A lengthy discussion about the effects of atrazine on amphibian development and potential human health effects followed.

Atrazine and bacteria testing program for watershed project: Funding available to reduce the cost of testing private wells to \$10 for atrazine and \$5 for bacteria. Normally the atrazine test is \$43 and the bacteria test is \$22. Nitrate testing is being offered free of charge at local clinics, the first of which were held on March 29<sup>th</sup> and 30<sup>th</sup> in Wykoff, Spring Valley, and Ostrander. The clinics were done cooperatively.

Results from March 29 & 30 nitrate clinics: 54 samples were analyzed; 17 (31%) were over 10 ppm; 12 (22%) were in the 5 – 10 ppm category; range = 0-46 ppm; median = 5.6 ppm. Some were samples from the same well before and after water treatment. Results may be skewed slightly since people suspecting a problem with their wells may be more likely to attend a clinic. Results were marked on a map of watershed.

Conflict on June 9<sup>th</sup>: There is no conflict, so we can go ahead with the tour on that date.

Updates:

The FANMAP report is completed. Denton has contacted all the farmers to go over the results of the survey and to provide information about watershed, federal (CSP), and MDA programs. Some of the concerns from the farmers included criticism of using the U of M recommendations for nutrients to qualify for CSP. Many were interested in waterways and rotational grazing and no-till and raised concerns about erosion and the need for promoting hay.

CWP Loan Application is close to completion. General Obligation Notes have been signed by both counties. Final procedures are underway at Dorsey & Whitney. The 319 grant agreement has not been received yet.

The New Look at Livestock Initiative video ideas have been finalized. FFA advisors will be contacted with the information to see if any students might take it on as a project. The best video will receive recognition and a monetary prize either to an individual or FFA chapter. An October 1 deadline is set.

A manure application field day is being planned by Extension. A site is needed. Funding from a statewide grant is available for promotion, food, travel for speakers, and farmer compensation.

The next meeting is Wednesday, May 11 at 2 p.m. at the Bloomfield Town Hall. Denton will review his final report in more detail. The meeting adjourned at 8:15 p.m.