

South Branch Root River Watershed Project
Meeting Notes for November 10, 2005

In attendance: Lee Ganske (MPCA), Denton Bruening and Mark Dittrich (MDA), Chuck Amunrud (Fillmore Co. Commissioner), Rick Morrison (Mower SWCD), Jerrold Tesmer (Extension), Bill Sweetser (Bennington Twp Supervisor), Jeff Green (DNR Waters Rochester), Mark White (DNR Forestville/Mystery Cave S.P.), Rich Biske (The Nature Conservancy), Donna Rasmussen (Fillmore SWCD)

Introductions were made.

Nitrogen data for the South Branch Root River: A map showing nitrogen data for 1999 and 2000 was distributed. The watershed is divided into three sections: the upper is the flow from JD #1 both the north and south areas for the monitoring station that was at the Co. Rd. 14 bridge between LeRoy and Grand Meadow; the middle section is everything from JD #1 to the monitoring station at Hafner's bridge north of Etna (just upstream of the confluence with Etna Creek; the lower section includes everything from the Hafner bridge downstream to the Historic Forestville bridge including the flow from Etna, Canfield, and Forestville creeks. Four measurements are included: Flow-weighted mean concentration, which is the concentration if all the water flowing past a particular monitoring site were mixed together in a large container and analyzed (milligrams per liter); Total Load, which is the total amount of a particular chemical, pollutant, or substance in that container (# of pounds); Yield, which is the load divided by the drainage area (pounds per acre); and Normalized Yield, which is the yield divided by the amount of runoff (pounds per acre per inch of runoff). Concentration, yield, and normalized yield are all highest in the upper portion of the watershed. Drainage is a factor in the amount of N lost through tile lines. N management and conservation drainage are key practices in the upper watershed. According to Ray Cerise, he has documented that he uses more N on his tiled acres because it is escaping through the tile lines. Lee reported that the monitoring station at the upper site is planned to be re-established to be able to compare field scale data from the conservation drainage demo site with the watershed scale. The data will be utilized in a model for watershed scale calculations.

The new proposed University of Minnesota nitrogen recommendations: Denton Bruening, MDA, reported on the development of a regional approach that incorporates economics. This is to address concerns about the differing methods across state lines (WI, IA, MN, IL), misconceptions regarding N rate guidelines, and the adequacy of application rates as corn yields have climbed to record levels. Previously in MN, as yield goals increased, N rates increased. In WI, N rate ranges are based on the previous crop and production potential. In IL, rates are calculated at 1.2 lbs of N fertilizer per bushel produced less any N credits. Data used to develop the new regional approach (not necessarily the same recommendations) are based on 620 sites throughout the six-state region (OH and MI also). That approach is to determine the most profitable N rate for corn across the Corn Belt. N rates will still vary from state to state. The Economic Optimum N Rate (EONR) is defined as the rate for getting the most yield for the N applied. In Olmsted County that rate is 140#/acre at a 0.10 ratio based on \$0.20/# N and \$2.00/bushel corn ($0.10 = \$0.20/\2.00). As N costs increase, the amount of N applied would decrease to achieve the EONR. The existing research data show the greatest percentage of EONR falling into the 121-150#/acre range. Natural gas prices have the greatest fluctuations in N costs, which are now at \$0.32/# and are expected to reach \$0.40/# by spring. If corn value stays at \$2.00-2.20/bushel, following this approach, N recommendations would fall to about 124#/acre if N costs \$0.40-0.44/#. Fields of high yield goals of 180 bushel/acre more would reduce N rates from 160#/acre to 140#/acre. The USDA programs EQIP and CSP will continue under the current recommendations. Under the new recommendations, in Mower County, fall application of N would not be allowed with an inhibitor to qualify for EQIP, CSP, or the South Branch programs.

BREAK

MDA conservation drainage demonstration project: Mark Dittrich, MDA, gave an update on the USDA Conservation Innovations Grant project on the Ray Cerise property, section 8, Bennington Township. The demonstration plot compares conventional tile at 4-feet, shallow tile at 3-feet, and 4-foot tile with a control structure which controls the water level in the soil profile. There are two replication of each treatment for a total of 6 test areas. Factors leading to selecting the site include: willing cooperators, adequate outlet with high flow, good access, a signed form 1026 from NRCS giving the ok to tile, and a representative area with an average slope of 1% or less (1% slope equals a 25-foot drop in ½ mile). More structures are needed if the field is steeper. The monitoring will include flow measurements and grab samples to analyze for N. Mower SWCD staff will be collecting the samples. Flows are estimated to decrease 15-20% with the structures and as much as 50% at times. The Waseca demonstration showed an increase of nutrients available for plants and more moisture at the surface. These measurements will also be done in this demonstration.

Rick gave a short update on the JD #1 cleanout. Plans are to measure temperature in the ditch before and after the cleanout project using thermocrons at 3 to 5 sites, possibly Karol Krahn's citizen stream monitoring sites. More thermocrons could be purchased and more sites added. Clean out will take place from now until December 31, 2006. A field tour is planned for next spring, probably in May.

South Branch program updates: Six applications are in for ISTS loans. Payments have gone out for the Hay Set-aside program (CRP bonus on waterway) and Buffer Bonus program (no-till on adjacent field) in Mower County. At least four others have expressed interest in the Hay Set-aside program so far. There is not as much interest in buffer bonus program.

Updates: Friends of Forestville will hold their annual meeting in December. Scheduling did not work to hold a joint meeting, but they will see a presentation about the project in December which may encourage some of them to participate.

New Look at Livestock video project is progressing. A Power Point and script is being developed for use until the video is done. Fillmore Central Techmasters class is considering doing the video. We hope to have something finished by late spring.

DNR contract for dye tracing has been approved by the County Board October 25th. Work can proceed this fall. The first trace will be in the Amoco terminal area to better define the springshed boundary there. It was suggested to approach Amoco about paying for this trace as part of their storm water plan. Donna and Lee will check on this. Dye tracing from Fairview Blind Valley may be added to coincide with installation of a stream gauge on the upper end of Forestville Creek.

John Weiss from the Rochester Post-Bulletin wrote an article about the Root River and the watershed project on October 4. A copy of the article was passed around.

The fall newsletter is drafted with a target mailing date of November 21st. Articles include one on the ISTS loan program featuring the Souhradas, information about CREP and the hay set-aside program, a report on the CSMP event, and an update on the conservation drainage demonstration project.

The next meeting will be Wednesday, January 11 at 6:30 p.m. Meeting place will be announced but will probably be in Ostrander.

The meeting adjourned at 8:50 p.m.