

South Branch Root River Watershed Project  
Meeting Notes for March 9, 2006

In attendance: Matt Drewitz (MDA), Fred Beier (property owner), Norman Senjem (MPCA), Adam Birr (MDA), Warren Netherton and Mark White (Forestville/Mystery Cave S.P.), Jerrold Tesmer (Extension), Jeff Green (DNR Waters-Rochester), Bill Sweetser (Supervisor Bennington Twp), Keith Vorhees (Supervisor Clayton Twp), Jason Moeckel (DNR Fisheries-Rochester), Mitch Gilbert (Lanesboro), Donna Rasmussen (Fillmore SWCD)

DNR stream temperature analyses, thermal imagery examples, and trout survey data: Jason Moeckel, DNR Fisheries: Thermal images were captured during a flyover of the watershed in the summer of 2005. Along with the imagery, there has also been some analysis of water temperature fluctuations in the South Branch, its major tributaries, and a few large springs near Forestville from data collected using in-stream thermometers at key locations. The results so far are very preliminary, but are a start on understanding stream temperatures in the South Branch. Brown trout grow best at temperatures between 5 (41 F) and 23 (73 F) degrees Celsius. Stress occurs from 23 to 25 degrees (77 F), and over 25 degrees is lethal. Egg development and survival are best below 20 degrees (68 F). Spawning occurs in October and November, and the eggs are in the gravel overwinter. More stable ground water and baseflow temperatures lead to better egg development.

The flights were done July 11 from Lanesboro to the headwaters of the South Branch as well as the main tributaries following at least 3 days of no measurable precipitation and greater than 85 degrees F. About 20 temperature dataloggers were placed throughout the watershed. The imagery has not been rectified, so there is some offset from what's on the ground. The thermal pixel values were graphed against the temperatures measured on the ground to develop a scale for the values on the photos. Upstream from Canfield Creek, river temperatures ranged from 16 to 23 degrees C. There were several days when the river was over 23 degrees, which could stress the fish, but nighttime temperatures did drop below 23 degrees. Canfield Creek is about 12 degrees colder so that downstream from Canfield, the river is 5 to 7 degrees cooler than upstream helping to maintain a temperature range of 15 to 20 degrees, which is more conducive to trout growth. Differences were seen between Canfield Spring and Forestville Spring following a 2-inch rain when Canfield temperature increased slightly while Forestville increased about 10 degrees. At the same time, the South Branch temperature dropped in response to a drop in air temperature.

Trout survey data show populations of age 1+ trout/mile went from about 800 in the 1990s to a high of 4000/mile in 2001 and 2002 back to about 1500/mile at present. The number of fingerlings/mile was high in the early 1990s (~5,000/mile) compared to about 1200/mile in 2001 and 2002. The three stations on Forestville Creek had about 1000 fingerlings/mile last year.

Flow data is limited, although Jeff Green reported that some data exists for Forestville Creek below the springs for the early 1990s, and from Thaddeus Surber's observations in the 1930s, and from observations made in the 1940s and 1950s. However, it is unknown how the measurements were made in these earlier observations. There is a myth that needs to be corrected that springs are a constant 48 degrees F because many resurgent springs are much affected by runoff, e.g. snowmelt can lower temperatures to 37 degrees. Heinz Steffan from the U of M will be at the August BALMM meeting to speak about the effects of climate change on coldwater streams.

Next steps for the thermal imagery project are to rectify the imagery, which takes funding, to do more analysis of the temperature, flow, and fish population data, and to expand the temperature monitoring in 2006.

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Review Targeted Implementation Strategy from the Root River Clean Water Implementation Framework:  
The framework was developed by Norman Senjem from MPCA after the Governor announced his Clean

Water Initiative in 2003. Part IV of the strategy ties directly into Implementation in the South Branch. Along with the new programs that we are offering through the project, we also have a host of other programs that are existing that could be of use to landowners. This strategy outlines an approach that first looks at the needs or gaps in a farming operation, then tries to match assistance to those needs. The River Friendly Farmer program was developed several years ago as a recognition program for farmers who meet a set of criteria necessary for protecting water resources. This checklist is comprehensive and looks at all major aspects of the operation. If there is an area they cannot check "yes" to on the list, then that is the area we would focus on for funding. This idea is being looked at to be piloted in three watersheds: the Cannon, Root, and Zumbro. Extension may be able to develop a package that can be used with groups of farmers who have similar interests or needs. It was suggested to summarize the data from the checklists as a way to identify these interests or needs.

Updates: The February 28<sup>th</sup> meeting for ag professionals was held in Ostrander. Unfortunately, the turnout was rather poor. Only three consultants attended, two from Ostrander Co-op and one from Lime Springs. Even so, the discussion was very good, and I think they left with a good understanding of the new recommendations and the potential difficulties that the new recs could pose for both them and government agencies.

The "Livestock on the Land" Power Point presentation has been shown to five groups in three counties so far. Plans are in the works to show it at a SE MN Ag Alliance meeting and to a non-farm audience in a Luther College environmental class. Fillmore Central students are planning to work on improving the Power Point and making the video. A meeting is scheduled for next week to discuss future activities of the group.

The website has run into a few delays because of staffing changes at the county. Hopefully, things should be up and running in the next month.

MDA has a new staff person assigned to Rochester. The office is located at the DNR's Rochester office. Adam Birr is a nutrient specialist, who comes to MDA from U of M graduate school where he worked on nutrient management issues with farmers in Nicollet County for four years, which was about the amount of time it took to build up a rapport before he had to leave for gainful employment. He is willing to assist with activities with the Watershed Project in whatever way he can.

A spring newsletter is planned for mailing later this month or early April. Ideas for topics to include so far are: water testing program, example of hay set-aside program (including the usefulness of dye tracing information in understanding where the water comes from that feeds springs that feed the trout streams), monitoring data summary, ISTS Pilot Inventory results for Bloomfield and Forestville townships with loan information, and an update on JD#1.

CREP reforestation promotion going on now in the watershed. Landowners with more than five acres of land eligible for CREP next to woodlands were notified about what their CREP payment would be if they enroll. These are people who may also have an interest in doing a woodland stewardship plans.

A slight modification is being made to the Buffer Bonus payment to include aerial seeding of cover crops so that it matches the Fillmore SWCD's new program. The per acre payment for aerial seeding will be raised to \$10/acre, which we feel is justified because the cover crop is seeded earlier (late August) so it gets better established. The SWCD program is just for corn silage acres, but ours would still include soybean acres. The 40 acres can be rotated to match the crop rotation so that the cover crop is always going on the crop that needs it.

Grazing management workshop series is starting April 10 at locations around the region (June 12 at Marlo Mensink farm from 6-9 p.m.). Registration is \$10/person or \$15/family. In the last six months, NRCS has completed 51 grazing plans in four counties. Grazing specialists have been trained in three of the counties.

The next planned meeting date presents a conflict for Donna due to a long planned trip to Norway. It was decided to move the meeting to Thursday, May 4<sup>th</sup>.

The meeting adjourned at 8:30 p.m.