**Water Quality Results Featured at River Watch Forum**

By Wayne Goeken, RRWMB Monitoring Coordinator

Over 300 students, teachers, resource managers, and interested citizens from Manitoba, Minnesota, and North Dakota gathered at the Alerus Center in Grand Forks in mid-March to share their latest findings across the Red River Watershed. Finishing from a few of the schools presented below provide a glimpse of the extensive and impressive water quality monitoring being accomplished by River Watch teams as they contribute to a better understanding of water quality throughout the Red River Basin.

- **Win-E-Mac High School**, monitoring sites on the Sand Hill River since 1995, found that 35% of sites had very low dissolved oxygen, possibly due to the presence of beaver dams near two sites. In a few cases from previous years, dissolved oxygen levels were likely lower also due to sediment being able to settle out in the pools created by the beaver dams.

- **River Watch team from Climax High School** illustrated the ongoing turbidity problems for the lower portions of the Sand Hill River, proposing several reasons for this situation. They also hypothesized that the conservation measures in the New Farm Bill could have a major positive impact on water clarity and look forward to testing this hypothesis in the future.

- **Stevie Camp of Bagley High School** carried out an individual project to determine the connection between land use and the presence of fecal coliform bacteria—hypothesizing those sites with less vegetative buffers and easy access to animals would have the highest fecal coliform levels. Using LaMotte's ColQuant EZ Kit, it was found that the only site that consistently exceeded the EPA guidelines for fecal coliform had a cattle pasture upstream from the sampling site.

- **Ulen-Hitterdal High School River Watch** team found good water quality conditions overall for the sites they monitor on the Wild Rice River South Branch. Their Felton Creek site though had very low dissolved oxygen levels. This is likely due to natural conditions as the site is just downstream of a wetland complex with decomposing vegetation consuming oxygen combined with flat topography resulting in little physical mixing of the water and resultant low dissolved oxygen.

- **Stephen-Angel River Watch** found variations at some sites from previous years due to the presence of beaver dams near two sites. It is believed that dissolved oxygen levels may have been lower at these sites due to the lack of water movement. Turbidity levels were likely lower also due to sediment being able to settle out in the pools created by the beaver dams.

- **Barnesville River Watch** combined monitoring with biological measurements to assess conditions upstream and downstream of the Whiskey Creek Flood Damage Reduction project in the Buffalo-Red watershed. They found turbidity levels significantly higher at the downstream site—well beyond the threshold to be classified as being impaired. Biological monitoring of macroinvertebrates also indicated the downstream site to be of poorer water quality than upstream.

Each school at the Forum prepared a table-top display of their findings with a written summary of results and conclusions. Awards were provided to schools that did the best job in communicating their research and presenting their results in a scientific framework with a hypothesis, results, conclusions, and need for further study. The Gold awards went to Barnesville and Bagley; Silver awards to Climax and Ulen-Hitterdal; and Bronze to Fertile Home School and Walhalla, ND.

In addition to the school presentations, training was paired at concurrent sessions attended by all. Some of the sessions were conducted by students involved with a National Science Foundation project demonstrating use of modern technology to communicate results and information about our river resources. Session topics included using iopd technology for communications, making videos and books to highlight program features or issues, use of a new online data base, and tips on how River Watch can be used for future college and career options.

Voyageur Awards were also given to Ulen-Hitterdal and Barnesville River Watch teams in recognition of efforts that went above and beyond the normal monthly monitoring duties of a River Watch school, demonstrating the greater potential and contribution that River Watch can provide to a school, a community, and a watershed.

Ulen-Hitterdal River Watch, under the leadership of Vocational Agriculture Instructor Randy Zimmerman took the initiative to secure funding via grants and partnership with the Wild Rice Watershed District to purchase their own complete set of monitoring equipment to be able to monitor the upper portions of the South Branch of the Wild Rice River and its tributaries. Sites were selected in conjunction with schools within the Wild Rice Watershed District and Clay County.
SWCD based on projects and monitoring needs of each partner. Sites were adjusted from the first to second year of monitoring that reflected a better understanding of local conditions and ongoing monitoring needs. The River Watch team presents their findings to resource managers from many agencies at the Wild Rice Watershed District Project Team meetings.

Barnesville River Watch, under the energetic leadership of Science Instructor Sherri Carlson, continues to build on a solid foundation laid in their initial years of River Watch. From the start they selected an ambitious network of sites covering many tributaries to the South Branch of the Buffalo River. Continually questioning what interconnections exist between these many tributaries, they are now up to 17 sites being monitored monthly. In their five years of monitoring, they are the only River Watch school in Red Lake Watershed District for their ongoing monitoring of macroinvertebrates and in 2006 volunteered to participate in a pilot project to evaluate different methods for citizen monitoring of E-coli bacteria. Students also have the option of taking River Watch for high school credit.

The next scheduled meeting of the RRWMB will be held at the Wild Rice Watershed District, Ada, MN, on May 15th, starting at 9:30 a.m.

IMPROVEMENTS TO THE RED RIVER BASIN

Bids were opened on Phase IIIA on March 27, 2007. The low bid was awarded to Riley Brothers Construction of Morris, MN with a bid of $1,656,319.30. The engineer’s estimate was $1,997,962.11. Contracts have been signed and Phase IIIB construction will begin as soon as conditions warrant.

Approximately $400,000 of work remains on Phase II with Midwest Construction of Marshall, MN. There is some grading work left on some of the contract along with the permanent seeding.

It is possible that Phase IIIB could be bid yet this year depending on whether state funding is appropriated.

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