Cedar River Monitoring Observations



Tillage Survey

A Tillage transect survey was completed throughout the watershed with an intense focus on Dobbins Creek and Little Cedar. This survey was completed with the help of the MN Dept of Ag. They provided the equipment, software, and training for the survey. Similar surveys have been completed every 2-3 years throughout the counties by SWCDs and Minnesota State Universities. We have not received the results of this survey. Past results have shown an increase in conservation tillage practices. It will be interesting to see if there is an uptick in intensive tillage with the recent crop residue issues.

Water Quality Data

Eighteen sites were sampled during the 2009 monitoring season (11 CWL, 6 TMDL, and 1 CRWD). We took about 17 samples for each site. In addition, the MPCA sampled 11 sites, 10 times this year through their intensive watershed monitoring effort, which will be repeated every 10 years. This data has not been made available yet.

Chloride was sampled at the CWL sites. All sites were well below the MPCA standard of 100 mg/L. Blooming Prairie Tributary had the highest average (38.8 mg/L). The average increased from 20.3mg/L in 2008 to 23.3 mg/L in 2009.

Conductivity was sampled at all sites. Samples showed a slight increase from the 2008 data. The lower flows dilute the nutrients less, so the increase was expected.

Dissolved Oxygen was sampled at all sites. The average 9.3 mg/L was similar to the 2008 average. Sites on the East Fork of the Cedar River and Dobbins Creek at Mower County 19 did have samples below 5mg/L, which is the level at which dissolved oxygen begins to effect aquatic life.

E. Coli was sampled at the CWL sites and the Nature Center staff sampled 3 sites in the Nature Center. Averages did decline from the 2008 data but has shown a steady increase over the past 20 years. All sites had an average that exceeded the estimated MPCA standard of 126 mg/L.

Nitrate-Nitrite was sampled at the CWL and TMDL sites. Over 17 percent of the sites exceeded the 10 mg/L MPCA drinking water standard. The samples showed a slight increase over the 2008 data.

pH was sampled at all sites. The average declined slightly from the 2008 data. The total average was within the eco-region normal range (8-8.2). All sites averages were within .1 of the eco-region norm.

Phosphorous levels were highest below the wastewater treatment plants on Blooming Prairie Tributary and on the Cedar River South of Austin at Mower Co. 28. These elevated levels were even more noticeable with the low flows of 2009. All 30 samples at these sites were above the MPCA standard.

Sulfate was sampled at the CWL sites. Extreme levels can potentially be harmful to humans and animals. Samples average (29.6mg/L) was similar to the 2008 average. Blooming Prairie had the highest average (55.8 mg/L)

Turbidity/TSS/T-tube in general the watershed showed an improvement in these this year. Sites exceeded the estimated standard in 10% of turbidity samples, 5% of TSS samples and in 9% of t-tube samples.

Stream Geomorphology

Geomorphology - is the scientific study of landforms and the processes that shape them
The MN DNR is surveying and will continue to survey stream crossings to better understand the geomorphology of Cedar River and tributaries. Preliminary results show that most of the streams are type F, which means that they are deeply entrenched and detached from the flood plain.

Stream Flow

Flow samples are taken so we can better understand nutrient and sediment loading. Continuous stage data is taken at 14 sites in the watershed. Another 3 sites are monitored by the DNR and USGS. Low flows are taken by the watershed district and the DNR steps in and takes higher flow samples.
Beaver dams changed conditions on at least 3 sites for portions of the 2009 monitoring season: Cedar River at 335th, Rose Creek at 570th, and Dobbins Creek at Co. 19. This most notably affected the dissolved oxygen level on Dobbins Creek at Mower County 19. Cedar River at 335th had a beaver dam last year as well and showed some effects on turbidity. Wolf Creek and the East Fork of the Cedar had little to no flow during a portion of the sample season. Most of the sites had 3 minor hydrological spikes over this monitoring season. Nothing major, like the flooding event in 2008.

Bio Sampling

Bio Sampling occurred at 57 sites in the Cedar River and Turtle Creek Watersheds. The sampling was done by MPCA as a part of the intensive monitoring program. The plan is to repeat this type of monitoring every 10 years. The crews had many landowners and passersby interested in observing the sampling efforts this year. Many were quite surprised to know that there are other species besides white sucker and creek chub in the small streams near their home. They even had a group of school children come over and handle some of the fish. Preliminary results showed that in terms of native fish, the species diversity has looks pretty good at most sites. However, there are a few sites where high sedimentation may be a potential stressor (e.g., Roberts Creek and many headwater Cedar River sites). They found Ozark Minnow (MN Species of special concern) in high numbers at a few of our sites (Otter Creek, Orchard Creek, Rose Creek, mainstream Cedar below Austin) and a number of sites had fair to good species diversity. We also caught some large walleye in Cedar below the Austin WWTP. In Dobbins Creek, there was a high number of fairly decent sized Small Mouth Bass, a few Large Mouth Bass, Rock Bass, and other sunfish species.