**T-tube Covers**

To help protect the transparency tubes we use in the Volunteer Stream Monitoring Program from being scratched, 4H leader Kathy Larsen led a group of youth from Rhinelander in a sewing project. The students created 16 covers – one of which may be on your transparency tube when you get it back in spring (if you turned it in). We are grateful to the group for their work.

If you or a group you know of is interested in making covers for transparency tubes, we have a pattern posted on our website you can follow: [http://watermonitoring.uwex.edu/pdf/level2/TTubePattern.pdf](http://watermonitoring.uwex.edu/pdf/level2/TTubePattern.pdf)

**Stream Quality Report**

You all were very busy in the field assessing stream quality in 2010! Level 1 monitors monitored 230 sites in a total of 892 site visits. Level 2 monitors were just as active, monitoring 216 sites in 990 visits.

Thanks to your efforts, we can say something about the state of water quality in hundreds of streams across the state. For instance, we know that dissolved oxygen (D.O.) levels are looking great in most locations. 95% of 10,595 samples you have taken since the program began in 1996 are above 6 mg/L. Fourteen sites with D.O. concerns (<3 mg/L) were identified in 2010. Most sites also have safe pH levels for aquatic organisms. 99% of 3867 samples taken since 2006 had pH within state standards (between 6 and 9). In 2010, only three sites had pH scores outside this range. Water clarity also tends to be good. More than three-quarters of 10,520 samples collected indicated turbidity was less than 10 NTU, indicating excellent water clarity for aquatic organisms. Of the 1% of site visits that indicated turbidity was more than 240 NTU (which could be of concern to aquatic organisms) only 22 sites have ever been found to have such high turbidity levels more than once (and only one site had such high levels more than once in 2010). While this could mean monitoring isn’t happening during or soon after rain events, we do know that water clarity returns to good conditions at pretty much every site monitored.

**Fish Migration Monitoring**

Dr. Peter McIntyre and Evan Childress, researchers from the University of Wisconsin-Madison, are working with volunteers to see how climate change is affecting fish migrations in Great Lakes tributaries. Evan said, “Millions of fish move from the Great Lakes into tributaries to breed each year, and most use water temperature to know when to start migrating.” They are focusing their monitoring efforts on suckers, since they are one of the most prevalent types of fish found migrating in Wisconsin streams during spring.

Volunteers will be assessing streams daily over a two to four week time period in March and April. So far, volunteers have stepped forward to assess about 20 tributary streams. Thank you all! We wish you many sightings!

**Register Now for the Volunteer Stream Monitoring Symposium!**

**What it's about:** Assessing Agricultural Impacts in Your Watershed

**When:** March 24 (2-8 PM) and 25 (8 AM – 4:30 PM)

**Where:** Lussier Family Heritage Center, Madison

**Cost:** $30

A few other streams that Dr. McIntyre and Evan would like to have monitored are: the Little Manitowoc River in Manitowoc, the Peshtigo River in Peshtigo, the Red River near Dyckesville, Molash Creek in Two Rivers, the Kewaunee River in Kewaunee, and the Anhapee River in Algoma. If you live near one of these locations and are interested in participating, contact Evan at childress@wisc.edu or call him at 434-962-7380.

**Testing Out a New Biotic Index**

Department of Natural Resources’ biologist, Mike Miller, and scientist Dr. Bobbi Peckarsky, have been studying our biotic index. They found that, compared to the professional index, ours tends to under-rate water quality in streams. To address this, they developed a modified biotic index for the Water Action Volunteers program.

We have asked a few volunteers to test the new biotic index this year by comparing scores between the new and old indices. If all goes well, we plan to have everyone use the new index in coming years. Plus, the volunteers’ pilot test data will allow us to translate results already in the database to the new scores. Stay tuned for more information on this in future newsletters.

**Road Salt Monitoring**

Last fall, US Geological Survey (USGS) researcher, Steve Corsi, requested volunteer assistance in assessing impacts of road salt on urban streams. He and his colleagues had recently found that some urban streams were toxic to fish and other aquatic life due to excessive salt entering them from nearby roads during winter months ([http://wi.water.usgs.gov/index.html](http://wi.water.usgs.gov/index.html)). We worked with Steve to develop a citizen monitoring program to help him collect more data.

In February, 15 Milwaukee Riverkeeper, Madison and Lake Mills area volunteers were trained to participate in this pilot program. They are monitoring specific conductance (the ability of water to carry electrical current, which will increase if additional salt is present) and chloride at 35 sites in these urban areas.

Through March, these volunteers are monitoring every other week, plus on “triggered” days when road salt is being spread or specific conductance levels are known to be high in streams continually monitored by USGS. They will continue their efforts, monitoring monthly, throughout the summer and fall. We will assess their findings and experiences, and if all goes well, we hope to expand the program across the state next year.

**Teaming up with NOAA**

Volunteer stream monitors Bruce Mulder, Anne Miller, Chuck Heidt, Becky Olson and Steve Haak have teamed up with the National Oceanic and Atmospheric Administration’s National Weather Service to monitor the height of the water in Turtle Creek in Beloit and the West Branch of the Sugar River in Montrose. On a daily basis, they will lower a wire to the surface of the water from a point of known elevation on a bridge, allowing them to determine the height of the water at that point in time. Then, they will report their measurements online, helping to build the data set of the Cooperative Observer Program that began in 1890. The information will assist with forecasting, warning and other public service programs of the National Weather Service.

Volunteers are also being sought for this type of monitoring in Howards Grove. If you or someone you know is interested in participating, contact Kris Stepenuck.
Upcoming Events

Pre-registration is required for all listed events. Please contact Kris Stepenuck or Christina Anderson for more information.

Level 2 Local Coordinator Training
March 24, 9:30 AM – 11:30 AM, Lussier Family Heritage Center, Madison
This training will allow attendees to become trained as Level 2 Quality Assurance Representatives.

All Local Coordinator Meeting / Call
March 24, 11:30 AM – 1:30 PM, Lussier Family Heritage Center, Madison
This meeting is for individuals who are current local coordinators for any level of volunteer stream monitoring. We will discuss program updates, resources, and support needed for you to be most effective in your roles.

Volunteer Stream Monitoring Symposium
March 24-25. See cover page for details.

Level 1 Train the Trainer
April 19, 10 AM – 4 PM, Mazomanie Science Outreach Outpost
This training is for people who want to train others in Level 1 stream monitoring methods but who are unfamiliar with the program. You will have hands-on practice and an opportunity to learn about available resources.

Teacher Training
Mid-August. Location TBD.
This hands-on training is for teachers interested in conducting stream monitoring with their classes. You will learn how to implement the stream monitoring curriculum that is linked to WI model academic standards.

Level 1 Stream Monitoring

Introductory Monitoring
Level 1 is where most everyone begins their volunteer stream monitoring participation. Six aspects of stream health are monitored monthly from May to October at a site of your choice. Level 1 trainings are planned for nearly every weekend in April and May somewhere in the state. For a complete listing, visit: http://watermonitoring.uwex.edu/wav/events.html

Level 2 Stream Monitoring

Status and Trends Monitoring
Are you a Level 1 monitor considering moving to Level 2? Not sure? Here is some information to help you decide: Level 2 sites are monitored monthly on pre-determined dates (you set these at the start of the monitoring season). Meters are used to assess pH and dissolved oxygen and must be calibrated on each sampling day. Transparency is monitored with the same methods as Level 1. Volunteers are also provided a continuous temperature monitoring device to install at your site. For a complete description of volunteer duties in Level 2 see: http://watermonitoring.uwex.edu/level2/duties.html.

We are compiling a list of people who are interested in moving up to Level 2 so that Carolyn Lipke can schedule training dates when she returns to WI in late March. (Trainings will occur in April and May.) Contact Christina Anderson if you are interested in being added to the list.

Level 3 Stream Monitoring

Research-based Monitoring
Opportunities for Level 3 monitoring arise regularly. Level 3 includes many of the projects highlighted in this newsletter including the road salt, temperature, and Roche-a-Cri Creek monitoring. Photo by Pat Johnson.
stream level monitoring. If a project arises in your area, we may be in touch with you to see if you are interested and willing to take part in the study.

One monitoring project for which training is available to interested individuals is E. coli bacteria monitoring. A study conducted in Wisconsin and five other upper Midwest states afforded us training materials and a recommended method to use for this type of monitoring. Several volunteers monitor bacteria levels along with their other parameters on an ongoing basis. This type of training is offered upon request and equipment is provided. Contact Kris Stepenuck if you are interested.

Don’t Forget Your Cameras!

While packing up your monitoring equipment this season, why not bring along your camera? We would love photos of the streams you’re monitoring, as well as volunteers in action. If you are a Level 2 monitor and have photos to share, you can now upload them while entering your data! SWIMS just added a new “Upload Photo” button under the “My Projects” tab. Full directions will be added to the SWIMS manual. Contact Christina Anderson with questions about SWIMS or if you are a Level 1 monitor and have photos to share.

Assisting DNR Biologists with Water Sampling

DNR biologists are monitoring 50 reference stream sites across the state this year. The monitoring will allow biologists to better understand water quality at these sites with little human impact in their area. The biologists will monitor fish, macroinvertebrates and water chemistries at each site on one occasion. To help the biologists obtain a clearer picture of water quality, (if all goes well with funding), we will be seeking volunteers who live nearby these sites to monitor there on five occasions in the next year. During each visit, volunteers will collect water samples and ship them to the State Lab of Hygiene to be analyzed for nutrients. The data results will be automatically entered by the lab to the DNR’s online water database so biologists can easily access the data to evaluate the health of the stream. Having volunteer assistance with this monitoring will allow the biologists to do more with their limited time. The monitoring locations are currently being determined. Once a list is developed, we will be contacting volunteers in the vicinity to see if you are willing to assist with this monitoring effort.

Temperature Monitoring Study

Department of Natural Resources Water Quality Standards Section Chief, Bob Masnado, asked for volunteer assistance for a study to consider possible thermal impacts of wastewater treatment facility outfalls on streams. Twenty treatment plants were randomly selected to participate and operators of the facilities agreed to take part in the study. Volunteer stream monitors were contacted to assist and headed to the field in December to help place continuous temperature monitoring devices, called Tidbits. The Tidbits were placed up and down stream from treatment plant outfalls to see if stream water is fully-mixed with outfall water and back to ambient temperatures by three to five stream widths downstream from the outfall. Volunteers are checking the Tidbits on a regular basis to ensure they’re still present and will collect them in spring so the data can be downloaded and analyzed.

Summer Paddling Events

Come out to one (or more) of this summer’s paddling picnics! If budgets allow, we are planning to have four of these fun events between June and August. Do you live near a stream you would like to share with fellow volunteer monitors? We are looking for good places for a short (2-3 hour), friendly paddle trip followed by a picnic. If you know of a spot that would allow volunteer monitors to meet and network, do a bit of water monitoring, and enjoy canoeing or kayaking downstream, please contact Kris or Christina with your ideas. We’ll announce the locations and dates of these events on the website, Facebook and listserv in the spring.

Stream Monitoring Program Contacts

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Newsletter available online at: http://watermonitoring.uwex.edu/wav/monitoring/news.htm