Stream Team Times

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WOLF CREEK STREAM TEAM

IN THIS ISSUE:

Yes, Virginia, There is Humor In Stream Monitoring

(The following is an excerpt from an email that Steve Krieg sent to me last July. His partner Rich couldn't make it, and he was doing the monitoring by himself.)

...Then it came down to the macroinvertebrate sampling. My original idea was to somehow prop the seine sticks on my thighs and use a garden rake to claw up the stones within reach of the seine. Possible, but not elegant. Then, this morning I thought of the old sawbuck I'd salvaged from a burn pile at the old place as I was moving here. It's light, and I wouldn't have to carry it far. It worked! With two seines I was able to get into the good range (actually just slipped in the first time, only picked up Dragonfly nymphs the second time, but the experiment was fun).

See attachment for exclusive photos of the One Man Stream Team Macroinvertebrate Seine Holder ™. Maybe we can sell it worldwide as a fundraiser for $24.95, with the carbon fiber model (for those volunteers who insist on the very best) at $2,995.00.

While I was down in the stream, I decided to try and photograph those beautiful emerald damselfly adults. Did I ever clean up. I'd been thinking about the damselfly larvae in the seine and those beautiful emerald damselfly adults. Did you ever wonder how they have sex? The adult, I mean. Me neither! Somehow it never came up on my radar, go figure. So when this obviously attached pair flew in front of my face and sat there, what was I to do but try to capture the moment? I'm thinking this is where the Air Force got the concept of in-flight refueling.

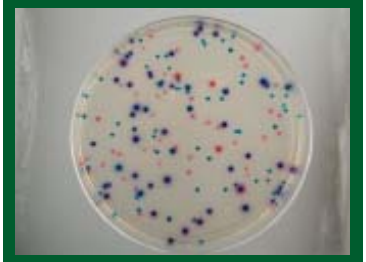
The One Man Stream Team Macroinvertebrate Seine Holder ™

Damselfly Larva

Damselfly Adults

Adults watching for prey

The Many Sides of E. coli, et. al.



The photo above clearly shows distinguishable shades of color, with dark purple being E. coli, and pink being Coliform. The blue-green colonies are not Coliforms.

We started testing for E. coli in the Spring of this year. The apparent industry standard method is a product called Coliscan Easygel from a company named Micrology Labs out of Indiana. It costs about $15 for 10 or more sets. This parameter has replaced our temperature Change parameter on the Water Quality Index Rating calculations.

However, We should probably consider this year's activities with the Coliscan Easygel kit as a trial period during which we're getting some "on the job training". Since the beginning of the year, we've learned that there's a lot of questions to ask about technique as well as the reading and interpretation of results. The more you observe, the more you wonder! Asking questions - the hallmark of good critical thinking skills! - a rare quality in the citizenry these days...so give yourselves a pat on the back :)

Everyone got a handout at the September 7th meeting which gives good basic information about the many forms of Coliform and E. coli bacteria. It might be good to highlight a few items from the handout.

- Product marketers would have us believe that all bacteria are bad, when in fact the majority of them are harmless or symbiotic, such as those living in our gut, which aid digestion.
- There are hundreds of strains of E. coli bacteria (also called fecal coliforms), most of them not harmful to humans
- Rather than test directly for pathogens, researchers use Fecal Coliforms (E. coli) as indicator organisms to assess the possibility of pathogenic fecal contamination. Despite the fact that they cannot be linked directly to contamination by human sewage, Fecal Coliform bacteria counts are often used to regulate surface waters for recreational use, shell fishing, and potability

After reviewing a sampling of relevant literature, it appears that the standard unit of measure is the number of Fecal Coliform or E. coli colonies per 100 ml. And there is a particular conversion formula which depends on how much sample was used. So, it isn't as simple as taking the per milliliter figure and multiplying by 100 (as I mistakenly assumed) Also, the figure of 200 colonies per 100 ml. seems to be the threshold at which there is official concern for 'total body contact'.

Some items the group discussed to improve our methods includes the following: try to establish more consistent incubation conditions, or at least note them (i.e. temperature & time) for each sampling. Sticking with a 2.5 ml sample appears to be giving us total counts in the statistically reliable range, between 20 and 300 colony forming units (CFU). Counts higher than 300 CFU make counting errors more likely, while counts less than 20 CFU are considered less reliable (presumably because of possible contamination from sources other than the stream water)

Finally, after looking at some photos from *Citizens Monitoring Bacteria: A training manual for monitoring E. coli,* (available on request -) I'm convinced we've seen very little if any E. coli, but mostly various shades of pink indicative of Coliforms. This situation leads me to think it might also be worthwhile to get digital photos where possible for each plated sample at the time of the count. I will pass along more information from the manual as needed.

What Makes a K_ _ _ A_ _ Volunteer?

If we weren't all on such familiar terms, I would have hesitated to allude to a(n arguably profane but descriptive) reference which expresses my heartfelt feelings about the members of the Wolf Creek Stream Team.

I guess we've all speculated at one time or another about what sorts of qualities our group is looking for in volunteers. Maybe that implies that there's certain qualities we don't want as well. It occurred to me the other day that sometimes it's helpful in some situations to clarify what one's expectations are. Very often it seems we don't know what it is we expect of others (until they don't meet our expectations). Therefore, it seems that to varying degrees, we all have expectations and assumptions without necessarily being aware of them. *But...* I digress.

If I want to figure out what makes a good volunteer, all I have to do is spend some time reflecting about each of your personal qualities as we've interacted over the years in the course of doing the work of the Wolf Creek Stream Team. What is it that you all have in common? You care about your local community enough to choose to faithfully participate in an ongoing activity that seeks to engage the community to solve problems. You have taken the time to educate yourself about water quality problems and challenges facing our community, and look for ways that our group can be effective in contributing to the solutions.

Actually, that's a pretty tall order when you think about it. It requires dedicated people, time, thought and discussion, coordination and good planning to solve or at least address water quality problems in the Wolf Creek watershed. I am confident that the Stream Team has lots of potential to build upon the good foundation of public awareness we have created in the last five years. Actually you all are the "pubic" (and I the government functionary haha), and I know each of you is reaching out to other members of the public when opportunities arise within your network of social and business contacts

So, to summarize, what makes a good volunteer? A sense of community; a keen and perpetual interest in learning; a commitment to solving problems. All of us have and continue to nurture these values and live them out. There is another value at work here that I observe: perseverance. I believe this is a rare quality in people these days. We live in a popular culture that glorifies instant gratification, self-centeredness, and materialistic attitudes. These are the obstacles to solving not only natural resource problems, but any other kind of problem - social, economic, personal.

So, if I were going to publicize the idea of recruiting good volunteers, it might look something like this:

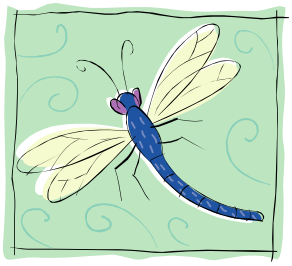
How to Make a Difference

Do you want to know more about your drinking water, or how development is done in your neighborhood? Do you have an interest in understanding how streams are affected by human activities? Do you enjoy observing and learning about natural systems? If you answered yes to any of these questions, then the Wolf Creek Stream Team (WCST) may be a local group worth getting involved in.

The members of WCST invite you to join our ongoing efforts to increase water resources awareness and explore ways to interact with your elected officials as the community voice for improved land use planning that can both protect water resources as well as foster economic viability. We offer learning and involvement opportunities and the good fellowship of environmentally conscientious people.

We seek individuals who value community, learning, and problem-solving. If you seek a good use for your time and talents, visit www.wolfcreekstreamteam.org for more information and then contact Caroline McColloch at Montgomery Soil and Water Conservation District, 854-7645.

(Editor's note: don't hesitate to contact me if you have any suggestions about the wording of this piece. I would like to get it published sometime in October. - C.M.)



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The Wolf Creek Stream Team is ***citizen stewards*** *joined by our common concern for the health of the Wolf Creek watershed. We are committed to providing long term monitoring data and learning opportunities to the communities of the Wolf Creek Watershed.*

We work to ***raise public awareness*** *of and involvement in* ***water resource issues****, in order to protect, restore and enhance our common heritage for public health, recreation, and wildlife habitat.*

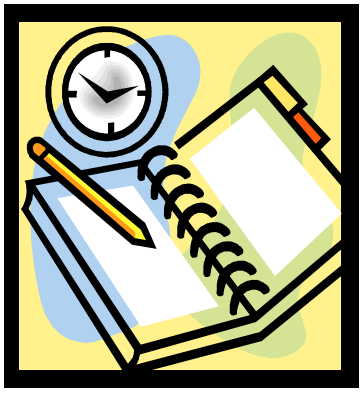
www.wolfcreekstreamteam.org

Next Quarterly Volunteer Meeting Friday Dec. 7th

- Time: 6:30 - 8:00 pm
- Place: Montgomery SWCD Office
  10025 Amity Rd., Perry Township
- Dinner: Potluck
- Topics for Discussion

1. Credible Data Collector Certification and Study Plan Status
2. Review of 2007 Monitoring Data
3. Update of 4 year Data Analysis
4. Wrap up of October Training Session*

*** A stream quality monitoring workshop is scheduled for Saturday, October 13th.**



Mark Your Calendar !