

Citizens Monitoring *E. coli* Bacteria

Seeking citizen volunteers interested in participating in a research study about *E. coli* bacteria monitoring in surface water during summer 2006.

Project Background

Six upper-Midwest states were awarded a three-year grant (2003-2006) to assess the accuracy and reliability of *E. coli* bacteria test kits when used by volunteers monitoring surface water. The University of Minnesota Water Resources Center (WRC) is serving as the lead for that research grant from the Cooperative State Research, Education, and Extension Service (CSREES). In addition, the Legislative Commission on Minnesota's Resources (LCMR) has awarded the WRC two years of funding (2005-2007) to enhance surface water monitoring by involving volunteers in monitoring bacteria.

In 2004, volunteers in Indiana and Iowa assessed five different test kits. From that initial research, we identified two kits that received high ratings from volunteers and produced accurate results when compared with certified lab analyses: 3M Petrifilm and Coliscan Easygel. In 2005, volunteers in Michigan, Minnesota, Ohio, and Wisconsin monitored streams using those two test kits and also sent split-samples to a certified laboratory for analysis. In Minnesota in 2005, 12 volunteers were trained and collected 145 samples from 13 sites on 9 different streams. Following the protocols they learned during a half-day training session, volunteers' test results correlated very well with results from the certified lab.

In 2006, up to 10 new watershed groups in Minnesota will be recruited to continue the research study. If you are interested in participating, please contact Barb Liukkonen (liukk001@umn.edu, 612-625-9256). For more information about the project, visit: <http://www.usawaterquality.org/volunteer/EColi/index.html>

Volunteer Qualifications

- § No science background or monitoring experience is needed, training will be provided to those who are interested and able to meet the responsibilities listed below.
- § Interest in the health of a nearby stream or lake. Past monitoring experience or information from that site is valuable but not necessary.
- § Ability to collect samples at your stream or lake site. Access to transport to deliver samples for shipping to certified lab.
- § Must not have color-blindness impairment.

Preference for Watershed Teams

Maintaining a regular monitoring program is easier when there is a team of at least two people to make sure samples are collected every week, even when one is away or ill. On the other hand, for this research project it is important that each individual collects, prepares, and interprets at least 6-8 samples during the summer, so the team should not be too large. In selecting volunteers to be part of this monitoring study, preference will be given to watershed groups or teams:

- § of 2-3 people willing to commit to monitoring the same 1-2 sites for the entire summer monitoring season,
- § who want to monitor a stream or lake identified as impaired because of bacteria, or
- § who want to add bacteria monitoring to an ongoing monitoring program.

Volunteer Responsibilities

To participate in the 2006 monitoring research, volunteers must:

- § Attend a 4-hour training session to be held in March or April. The date, time, and location of the training will be determined in conjunction with the volunteers.
- § Commit to sample a nearby stream or lake site on a Monday or Tuesday each week, or bi-weekly, between mid-May and September 2006. Each trained volunteer should collect at least 8 samples during the summer.
- § Follow sampling and testing protocols exactly as presented to ensure the collected data are useful in your watershed and usable for the research project.
- § Be available for parts of three days in a row each time you sample. On the first day, you may spend 2-3 hours collecting the sample and preparing plates, depending upon how close your sample site is. On each of the next two days, you'll spend about an hour reading and disposing of plates that have incubated for 24 and 48 hours.
- § Deliver samples to a post office or UPS location to ensure the samples arrive at the certified lab in New Ulm within 24 hours. Volunteers will be reimbursed for shipping costs.
- § Store sterile monitoring supplies in your refrigerator and freezer, and other supplies in your home or office. Maintain an inventory and return unused supplies at the end of the season. Have suitable space for preparing samples and setting up an electric incubator that can remain undisturbed for 48 hours.
- § Keep complete and accurate field and lab notes and turn in data sheets to Barb Liukkonen at least once a month. Stamped, addressed envelopes will be provided, or you may fax the forms.
- § Complete a series of surveys about the training workshop and their opinions about the monitoring methods they follow. Accept a photo release so we can use pictures taken during the training or field sampling.

Project responsibilities and coordination

While participating in the monitoring project, volunteers will receive:

- § Training to collect, prepare, and interpret water samples using two *E. coli* bacteria test kits: 3M Petrifilm and Coliscan Easygel.
- § All equipment and supplies needed for sample collection and analysis.
- § Certified lab analysis of split-samples for each weekly sampling event at 1-2 sites per watershed. Shipping containers for sending samples to certified lab. Shipping costs will be reimbursed.
- § All data forms needed for recording field and lab information. Postage will be provided to mail in data forms.
- § Results of the certified lab analysis so volunteers can compare their test results with the lab results.
- § Volunteers will **not** be reimbursed for mileage, ice, or other incidental expenses.

For more information contact:

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