

Enhancing Citizen *E. Coli* Monitoring in Streams in the Upper Midwest

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Lyn Crighton coordinates Hoosier Riverwatch, Indiana's statewide volunteer stream monitoring program, which is supported by the Indiana Department of Natural Resources and Purdue University. She has been working in water resources management, limnology, and watershed education for the past ten years.

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Abstract

The public increasingly demands monitoring to identify whether public waters are safe from bacteria contamination. However, state and local agency resources may be too limited to adequately monitor surface waters and the cost of frequent lab analyses may be prohibitive. Developing a trained volunteer network able to use test kits to produce accurate and reliable results is a priority for a team of university and agency partners from the Upper Midwest. Through a three-year grant, the project will evaluate test kits, create a comprehensive training program, and develop public outreach materials.

To evaluate the accuracy, reliability, and usability of *E. coli* test kits, trained volunteers will collect grab samples that will be analyzed using both the test kits and a professional laboratory with approved methods. A QA plan will ensure that test kit results and lab analyses can be compared for accuracy and precision. We will assess Coliscan™ Easy Gel (incubated and not), 3M™ Petrifilm, Coliscan™ MF Method, and Colisure™ Method with IDEXX Quanti-Tray/2000™ test kits.

Pilot testing begins in spring 2004 in Iowa and Indiana; from that work the team will identify and recommend the test kit method which best combines accuracy and user-friendliness. Volunteers in Minnesota, Wisconsin, Michigan, and Ohio will use the recommended kit during 2005 and 2006 and collect samples for comparative lab analysis. Volunteers will be trained with consistent methods across the six states; their knowledge and the skills they develop in using the test kits will be tracked over time. Training methods will be assessed and revised as necessary to produce proficient volunteers.

The project will produce test kit recommendations, a training curriculum, and educational materials that will be transferable to other regions. This presentation will describe our experimental design, present the QA plan, and introduce examples of training and educational materials.

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