



Why Volunteer Water Quality Monitoring Makes Sense

University of Rhode Island

University of Wisconsin

Engages Citizens in Watershed Protection and Enhancement

Assessments of existing volunteer monitoring efforts within CSREES¹ suggest that volunteer water quality monitoring programs provide a unique opportunity to engage citizens in watershed protection and enhancement efforts. These programs have a unique capacity to:

- Address CSREES themes
- Help communities make informed decisions and improve water quality
- Capture the excitement and attention of local communities and citizens to water quality issues
- Obtain long-term data or new data on water bodies that otherwise may go unmonitored due to budget or staffing constraints
- Improve exposure of and help direct programming of other Cooperative Extension water quality programs



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Addresses CSREES Themes

The Cooperative State Research, Education, and Extension Service (CSREES) Water Quality Program, with help from Cooperative Extension (CE) programs of each state and territory, identified eight topical themes for research, education and extension. These themes are: Animal Waste Management, Drinking Water and Human Health, Environmental Restoration, Nutrient and Pesticide Management, Pollution Assessment and Prevention, Watershed Management, Water Conservation and Agricultural Water Management, and Water Policy and Economics. Volunteer water quality monitoring can effectively address each of these themes. Volunteers learn the background to these water quality issues, gather valuable water quality data, and share information with the local community. In addition, volunteers often become involved in watershed management and their data help guide environmental decisions.

Helps Communities Make Informed Decisions and Improve Water Quality

Through monitoring, volunteers learn how the quality of surface and ground water is affected by our actions on the land and how we can protect our water resources. In turn, monitors help to educate the local community on water quality issues, thereby protecting drinking water quality and human health.

Volunteers share their water quality information with conservation commissions, planning boards, and watershed/lake associations.

"We have cooperation with research scientists who help to focus the ideas and train the "watchers" to tell their stories and information." Ann Reid, Great Bay Watch, NH

Volunteers often become local decision makers, serving on these commissions and boards, and even pursuing elected office.

"We have actually seen volunteers proudly list their monitoring activities as a reason to elect them to public office."

Linda Green, URI Watershed Watch, RI

¹ The value of volunteer water quality monitoring was assessed in two USDA CSREES projects. The first project, *Assessing the Scope of Cooperative Extension Volunteer Water Quality Monitoring Programs*, took place during 1995-96 and encompassed written and/or oral interviews with CE State Water Quality Coordinators and individual CE-sponsored program coordinators. The second project, *National Facilitation of Cooperative State Research Education Extension Service Volunteer Monitoring Efforts* included written inquiries and follow-up email correspondence during 2001-02 to CE State Water Quality Coordinators and individual CE-sponsored program coordinators.

Why Volunteer Water Quality Monitoring Makes Sense

Captures the excitement and attention of local communities and citizens to water quality issues

The heart of the volunteer water quality monitoring program is the volunteer. Volunteers have a personal connection with the water bodies they monitor that can strengthen a water quality monitoring program.

"Volunteers are often as passionate or more passionate about a waterway than those individuals professionally involved in monitoring. Many volunteers are lakeshore owners, recreational users of the water, members of a Native American tribe, or long-term citizens of a community who have a significant interest in preserving the integrity of the valued resource. This passion and care-taking instinct translates to dedication and commitment to an organized monitoring program..." Kay Rezanka, Director, St. Louis River - River Watch, MN



Volunteer water quality monitoring is a great tool for youth environmental education.

"We have a Kids in the Creek program that involves youth getting out into the stream and learning about stream ecology and conservation" Wendy Patoprsty, Watershed Watch, NC

"... each child has the potential to share monitoring experiences with family and friends." Kay Rezanka, MN



Volunteer water quality monitoring increases the awareness of and interest in local water quality issues.

"Volunteer water quality monitoring makes sense because it gets local people out in the stream and thus they become more aware of the assets and problems their watershed possesses." J.P. Lieser, Extension Agent developing a volunteer water quality monitoring program, OH

Citizen-to-citizen interaction is an excellent informal way of disseminating water quality and watershed information.

"They [volunteer water quality monitors] set an example of stewardship for their neighbors and friends." Mitch Fram and Cheryl Cheadle, Blue Thumb Program, OK

Even those skeptical of water quality monitoring can become more open-minded and learn that volunteer monitors are not trying to cast blame for water quality problems.

"Good communication with landowners, and sharing monitoring data with them after the monitoring visit go a long way toward disarming any suspicions that the monitoring is being done to "catch them" doing something bad." Kevin Proescholdt, Volunteer Stream Monitoring Partnership, MN



Why Volunteer Water Quality Monitoring Makes Sense



Obtains long-term data or new data on water bodies that otherwise may go unmonitored

Water quality data collection by volunteers is time and cost efficient. Professionals and regulators generally do not have the time or money to conduct widespread or long-term water quality monitoring. Without volunteers, many water bodies would be under-monitored or completely unmonitored.

Volunteer water quality monitoring is often the advent of long-term water quality data collection on particular water bodies. These data can be useful for environmental restoration efforts. For example, an environmental engineering company requested data from St. Louis River - River Watch to model temperature fluctuations in St. Louis River sediments

"These models will help advance clean-up efforts at a Superfund site in the St. Louis River estuary. We were the only group in the area who had several years' worth of spring and fall temperature data for the St. Louis River."
Kay Rezanka, MN

Data credibility need not be a stumbling block to volunteer water quality monitoring. Its suitability depends on the objectives of the program. Programs with the primary goal of educating the public require less rigorous quality assurance/quality control (QA/QC) plans than regulatory programs. Programs in Maine, New Hampshire, Rhode Island, and New York have demonstrated statistically that with proper QA/QC procedures, data derived from volunteers' samples are as reliable as data from professionally collected samples.

"Research that we have undertaken at Cornell University directly contradicts this assumption [that volunteer water quality monitoring data are not credible]. ...Our data show that citizens can collect samples of stream macroinvertebrates as well as determine physical/chemical characteristics of the stream on a level comparable to aquatic ecologists."
Linda Wagenet, NY

Volunteer water quality monitoring can provide pollution assessment and can identify problem areas that need further investigation. Solutions can be implemented and pollution prevented.

In one instance, "Snapshot Day" 2001 data of the Lake Tahoe Environmental Coalition led state officials "to focus on "hotspots" [for fecal coliform contamination]In one case, new control measures implemented by an operator resulted in improved water quality ." Heather Segale, Lake Tahoe Environmental Education Coalition, Universities of NV and CA CE sponsored)

State agencies may be able to use volunteer water quality monitoring for regulatory purposes and water quality reporting. States are under pressure from the US Environmental Protection Agency (EPA) to increase the number of water bodies they assess in their biennial 305(b) reports to EPA and Congress and may greatly value the efforts of volunteer water quality monitoring programs.

"If the quality of the [volunteer water quality] monitoring is assured, it can become a useful tool for state regulatory agencies, which are typically severely understaffed in terms of monitoring."
Linda Wagenet, Cornell University, NY



Why Volunteer Water Quality Monitoring Makes Sense

Improves exposure of and helps to direct programming of other Cooperative Extension water quality programs

CE links to new groups and organizations through volunteer water quality monitoring.

*"URI Home*A*Syst, a CE residential pollution prevention program that focuses on water quality protection, has worked closely with the URI Watershed Watch volunteer monitoring program. We inform volunteers about upcoming programs, make new educational materials available to the volunteers, and utilize volunteer data when working in specific watersheds. One particular example comes to mind. As a result of URI Watershed Watch monitoring efforts along with the town of Tiverton, RI and the Stonebridge Fire District on Stafford Pond, a public education campaign began and Home*A*Syst worked with a local group to assist. Even URI CE's Nonpoint Education for Municipal Officials (NEMO) and the On-site Wastewater Training Center became involved in the water quality issues of the Stafford Pond watershed." Alyson McCann, URI Home*A*Syst, RI*



Volunteer water quality monitoring in CE programs increases awareness of and draws diverse audiences to other CE water quality programs.

"It can provide Extension with an opportunity to tackle other local natural resource issues once a relationship [between citizens and CE] has been established." J.P. Lieser, OH Extension

Through volunteer water quality monitoring programs, CE associates are able to identify what local citizens are interested in learning more about, be it water conservation or pesticide management. CE can then tailor new programming in this direction.



Summary

Cooperative Extension volunteer water quality monitoring programs are effective mechanisms for helping to reduce the nation's risk of water quality degradation. They speak to diverse audiences and raise awareness of the water resources and watersheds within communities across America.

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This material is based upon work supported in part by the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture, National Integrated Water Quality Program, under Agreement No. 00-51130-9717. The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer. Contribution # 3960 of the RI Agricultural Experiment Station.