

Volunteer Monitoring Community Continues to Grow



A volunteer lake monitor views a Secchi disk through a view tube to monitor water clarity (or transparency,) an important indicator of water quality. (Photograph by Elizabeth Herron)

Across the country, thousands of people from all walks of life are engaged in volunteer water-quality monitoring. Currently there are about 900 programs in the nation listed in the EPA's on-line National Directory of Environmental Monitoring Programs (<http://www.epa.gov/owow/monitoring/dir.html>). There are a number of other terms used to describe these activities, for example volunteer environmental monitoring, community-based monitoring, citizen monitoring, watershed stewardship and citizen science, to name a few. Volunteer monitoring programs range in size from a few people monitoring a local stream in their community to Texas-sized programs with local and county coordinators (<http://txstreamteam.rivers.txstate.edu/>). The host organization for these programs can be a state environmental agency, a University Extension program, a national environmental program, a community-based organization, or a Tribal group. Most programs fall along a continuum from educational/awareness, to watershed assessment-monitoring for local decision-making, to regulatory/research oriented programs. These programs and their participants are an integral part of the monitoring community, and are playing an increasingly important role each year.

The Council continues to support the volunteer monitoring community through web seminars, meetings, and conferences in which information is exchanged on volunteer efforts at local and national levels. The information exchange helps to better define the role of the volunteer community in state monitoring and assessment programs, and to share benefits and challenges associated with running a volunteer monitoring program. Planning for each national Council conference includes securing travel assistances for volunteer program coordinators; much appreciation is extended to YSI, Inc. for providing travel support to the Council's 7th biennial conference in Denver. To learn more about volunteer monitoring visit <http://www.epa.gov/owow/monitoring/volunteer/> for EPA manuals, the National Directory, and on-line versions of "The Volunteer Monitor", the national newsletter of volunteer watershed monitoring. The U. S. Department of Agriculture Environmental Volunteer Monitoring Network's website at <http://www.usawaterquality.org/volunteer/> has extensive and comprehensive information for getting started and growing a volunteer monitoring program, as well as a wealth of other volunteer monitoring-related information.

Roles of Volunteer Monitors

- *Citizen scientist who is doing the monitoring*
- *Community steward involved in outreach and taking action as a result of his/her findings*
- *Educator who is informally educating their neighbors, community, or more formally involved in the classroom*

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Managing and Sharing Volunteer Data for State and National Assessments



AmeriCorps members are trained in water-quality monitoring of New Jersey's many streams and rivers. (Photo courtesy of the New Jersey Watershed Ambassador Program, AmeriCorps)

One of the many hurdles facing the water monitoring community is managing and sharing data. This task is usually the most challenging and time consuming. Watershed Association members want the data to be turned into an educational tool, much like the "State of the Watershed Report" just published by Stony Brook Millstone Watershed Association (<http://www.thewatershed.org/>). However, these groups also want their water quality data to be utilized by State water quality managers in their water quality assessment process. It is necessary to know the quality of data used for regulatory purposes like the Integrated Water Quality Monitoring and Assessment Report (305b and 303d) (<http://www.state.nj.us/dep/wms/bwqsa/integratedlist2008Report.html>). Each organization has very specific data format needs and each looks at data differently, the task of sharing data is nearly impossible.

With this in mind, how does a volunteer monitoring program do it all? The EPA has supported the use of volunteer collected data since 1988. Volunteer monitoring coordinators at the State level provide assistance to volunteer monitoring groups to help design their sampling network, and providing equipment, training and other resources. One of the most recent national resources now available to the monitoring community is the use of online EPA STORET Data Warehouse. Through EPA

support, many states have been working on their own data exchange networks and EPA has also developed their own water quality exchange system (WOX).

These types of data systems now make it easier for States, Tribes, universities and volunteers to submit and share water quality monitoring data over the internet. These volunteer groups can now submit data directly to the publicly-accessible state sponsored data exchange sites like New Jersey's or the EPA STORET Data Warehouse using the WOX framework. The purpose of these tools is to assist water quality professionals and data managers with knowing the types of data available for their use. Once the volunteer program staff becomes familiar with these tools and begins using these tools, their task of managing and sharing their data becomes easier. These tools will ultimately allow for greater data usage and program recognition at the local, state, and national levels. To learn more about the EPA tool, please visit, <http://www.epa.gov/storet/wqx/index.html>. To learn more about the NJ volunteer data system, please visit <http://www.state.nj.us/dep/wms/bwqsa/vm/>.

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Spotlight on Virginia Water Monitoring

Integration of Citizen Monitoring Data into Virginia's State Assessment Report and On-line Database Tool



A citizen monitor with Virginia prepares to collect water samples. Some volunteer monitoring data were used in Chesapeake Bay studies, which are vital to the Bay's health. *(Photo courtesy of the Alliance for Chesapeake Bay)*

Volunteer monitors play an important role in protecting Virginia's natural resources. Although the Virginia Department of Environmental Quality (VADEQ) has a large network of professional monitoring stations, Virginia is a water rich state with over 50,000 miles of streams and rivers, 2,500 square miles of estuaries, and 100 significant lakes (public water supply and/or > 100 acres).

Virginia has an active community of volunteer monitors. To help expand the monitoring network across the state, VADEQ began implementing a three level approach for volunteer monitoring data submitted to the agency. Volunteer data is helpful in many ways including: community education; indication of unusual conditions; collecting baseline information to prioritize monitoring needs; assisting with special studies and documenting restoration efforts; and providing additional data for statewide water-quality assessment reports. VADEQ does not use volunteer data as direct evidence in enforcement actions.

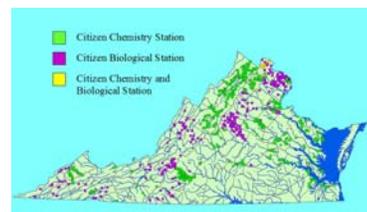
In 2009, VADEQ received volunteer data from over 1,300 stations which helped in characterizing water quality conditions for 3,600 stream miles. This level of contribution is due to the continued commitment of a dedicated monitoring community. In addition, VADEQ has long provided technical support to groups by assisting with training of volunteers and help in evaluating monitoring equipment and methods. Finally, when funding is available, VADEQ provides grants to groups to help enhance monitoring efforts.

More information about volunteer monitoring efforts in Virginia is available at the website <http://www.deq.virginia.gov/cmonitor>. This website provides useful links to volunteer groups as well as providing a methods manual and database portal for downloading and uploading of volunteer data.

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Training session of volunteers in preparation for sampling the Rappahannock River. In Virginia, volunteer data is used for community education, for indicators of environmental conditions, and provides additional data for statewide water-quality assessment studies. *(Photograph courtesy of the Virginia Department of Environmental Quality)*



Volunteer monitoring data collected from over 1,300 stations across the state of Virginia helps the Virginia Department of Environmental Quality in characterizing water-quality conditions for 3,600 stream miles.