University of Rhode Island **University of Wisconsin**

As part of the Volunteer Water Quality Monitoring National Facilitation Project, we sent an inquiry in February 2002 to coordinators of existing Cooperative Extension (CE) sponsored/co-sponsored volunteer water quality monitoring programs that were identified through an inquiry in the fall of 2001. The program-level inquiry was designed to help us learn the ins and outs of existing volunteer water quality monitoring programs so that we could compile and share that information with existing and newly formed programs through our website (www.usawaterquality.org/volunteer), list server, guidance materials, trainings, and general networking. There were 6 main sections of the inquiry that correspond with sections of the guidance documents we are preparing. The sections are: types of activities available, effective training techniques, quality assurance issues, volunteer management and support tools, outreach tools, and funding issues.   This summary discusses outreach tools used by the CE programs and their availability for use by others. We also highlight programs' successes and discuss some failures related to outreach activities. These results were critical for the development of the *Guide for Growing CSREES Volunteer Monitoring Programs*.

As the "outreach" arm of the CSREES Water Quality Program, Extension programs, including volunteer monitoring programs, expend a considerable amount of time and resources in educating the public on water quality issues and the change of attitudes and adoption of behavioral patterns needed to protect water quality. While we all use the same basic tools (e.g. fact sheets, newsletters, press releases), we like to hear about remarkably successful or innovative ideas to "get the word out". Incorporating effective strategies help strengthen all of our programs.   We asked the 26 identified program coordinators of 27 CSREES-associated volunteer monitoring programs several questions in relation to the types of monitoring and outreach tools their programs have available to their volunteers and to others. We also asked some open-ended questions designed to help us learn about outreach tools used by Extension monitoring programs. Results of the directed and open-ended questions follow. Nineteen program coordinators responded to this section of the inquiry. For ease of formatting we have included all 19 programs in the following response summary tables. If you have updates or

corrections to the information reported in the following summary, please contact one of the project staff members so that we can make the appropriate updates.

Methods

Of responding programs, 17 indicated they have written sampling protocols/methodology developed. Eleven programs have these materials available for free to others, while six programs have their materials available for purchase by others (Table 1).

Table 1: Written sampling protocols/methodology availability.

State	Program	Methods developed	Available for purchase	Available for free	Available on website*
AL	Alabama Water Watch	✓	✓	✓	✓
CO	North Fork Volunteer Monitoring Project	✓		✓	
IN	Hoosier Riverwatch	✓	✓	✓	✓
IA	IOWATER	✓		✓	
KS	Private well monitoring				
ME	Maine Shore Stewards	✓	✓	✓	
MI	Lake Superior Lake Watch	✓		✓	
MN	Volunteer Stream Monitoring Partnership	✓		✓	
MN	St. Louis River- River Watch				
NV, CA	Tahoe-Truckee Snapshot				
NH	NH Lake Lay Monitoring Program	✓		✓	
NH	Great Bay Coast Watch	✓	✓		
NY	Community Fly Fisher	✓		✓	
NC	Watershed Watch				
OK	Illinois Basin/Spring Creek Blue Thumb	✓		✓	
RI	URI Watershed Watch	✓	✓	✓	✓
WA	WSU Beach Watchers	✓		✓	
WA, ID, OR	Pacific Northwest Water Quality Monitoring Program	✓		✓	
WI	Adopt-a-Lake	✓	✓	✓	
WI	Water Action Volunteers	✓	✓**	✓	✓
VT	Watershed Alliance	✓		✓	

*See Appendix A for web address   **Large, out-of-state orders

Training Materials

Thirteen programs have developed training materials. Five programs have these available for purchase, while six programs have them available for free (Table 2).

Table 2: Training material availability.

State	Program	Training materials developed	Available for purchase	Available for free	Available on website*
AL	Alabama Water Watch	✓	✓	✓	✓**
CO	North Fork Volunteer Monitoring Project	✓		✓	
IN	Hoosier Riverwatch	✓	✓***	✓	✓
IA	IOWATER	✓			
KS	Private well monitoring				
ME	Maine Shore Stewards	✓	✓		
MI	Lake Superior Lake Watch				
MN	Volunteer Stream Monitoring Partnership	✓		✓	
MN	St. Louis River- River Watch				
NV, CA	Tahoe-Truckee Snapshot				
NH	NH Lake Lay Monitoring Program	✓		✓	
NH	Great Bay Coast Watch		✓		
NY	Community Fly Fisher	✓	✓		
NC	Watershed Watch			✓	
OK	Illinois Basin/Spring Creek Blue Thumb	✓			
RI	URI Watershed Watch	✓			✓
WA	WSU Beach Watchers	✓			
WA, ID, OR	Pacific Northwest Water Quality Monitoring Program	✓			
WI	Wisconsin Lakes Partnership/Adopt-a-Lake				
WI	Water Action Volunteers				
VT	Watershed Alliance	✓			

*See Appendix A for web address **Registration forms only ***Out-of-state orders

<u>Displays</u>

Twelve programs have displays developed, with two programs offering the displays to others for free (Table 3). No programs have displays available for purchase.

Table 3: Display availability.

State	Program	Display(s) developed	Free display(s)
AL	Alabama Water Watch	✓	
CO	North Fork Volunteer Monitoring Project		
IN	Hoosier Riverwatch	✓	
IA	IOWATER	✓	
KS	Private well monitoring		
ME	Maine Shore Stewards		
MI	Lake Superior Lake Watch		
MN	Volunteer Stream Monitoring Partnership		
MN	St. Louis River- River Watch	✓	
NV, CA	Tahoe-Truckee Snapshot		
NH	NH Lake Lay Monitoring Program	✓	
NH	Great Bay Coast Watch	✓	
NY	Community Fly Fisher		
NC	Watershed Watch	✓	✓
OK	Illinois Basin/Spring Creek Blue Thumb	✓	
RI	URI Watershed Watch	✓	
WA	WSU Beach Watchers	✓	
WA, ID, OR	Pacific Northwest Water Quality Monitoring Program		
WI	Wisconsin Lakes Partnership/Adopt-a-Lake	✓	✓
WI	Water Action Volunteers	✓	
VT	Watershed Alliance	✓	

<u>Slide Shows</u>

Nine programs have slide shows as part of their outreach materials (Table 4). The New Hampshire Lakes Lay Monitoring Program offers their slide show for purchase, while the Illinois Basin/Spring Creek Blue Thumb Program has their slide show available for free.

Table 4: Slide Show availability.

State	Program	Slide show(s) developed
AL	Alabama Water Watch	✓
CO	North Fork Volunteer Monitoring Project	
IN	Hoosier Riverwatch	
IA	IOWATER	✓
KS	Private well monitoring	
ME	Maine Shore Stewards	✓
MI	Lake Superior Lake Watch	
MN	Volunteer Stream Monitoring Partnership	✓
MN	St. Louis River- River Watch	✓
NV, CA	Tahoe-Truckee Snapshot	
NH	NH Lake Lay Monitoring Program	✓
NH	Great Bay Coast Watch	
NY	Community Fly Fisher	
NC	Watershed Watch	
OK	Illinois Basin/Spring Creek Blue Thumb	✓
RI	URI Watershed Watch	✓
WA	WSU Beach Watchers	
WA, ID, OR	Pacific Northwest Water Quality Monitoring Program	
WI	Wisconsin Lakes Partnership/Adopt-a-Lake	
WI	Water Action Volunteers	✓
VT	Watershed Alliance	

<u>Videos</u>

Six program coordinators indicated their programs' outreach materials include videos (Table 5). Five of these programs indicated their videos were available to be purchased, while the Hoosier Riverwatch Program indicated they offer their video for free. The videos are about coliform monitoring and collecting macroinvertebrates from streams.

Table 5: Video availability.

State	Program	Video(s) developed
AL	Alabama Water Watch	✓
CO	North Fork Volunteer Monitoring Project	
IN	Hoosier Riverwatch	✓
IA	IOWATER	
KS	Private well monitoring	
ME	Maine Shore Stewards	✓
MI	Lake Superior Lake Watch	
MN	Volunteer Stream Monitoring Partnership	
MN	St. Louis River- River Watch	
NV, CA	Tahoe-Truckee Snapshot	
NH	NH Lake Lay Monitoring Program	✓
NH	Great Bay Coast Watch	✓
NY	Community Fly Fisher	
NC	Watershed Watch	
OK	Illinois Basin/Spring Creek Blue Thumb	
RI	URI Watershed Watch	
WA	WSU Beach Watchers	
WA, ID, OR	Pacific Northwest Water Quality Monitoring Program	
WI	Wisconsin Lakes Partnership/Adopt-a-Lake	
WI	Water Action Volunteers	✓
VT	Watershed Alliance	

Identification Keys

Eight programs have identification keys developed, and seven of these programs offer the keys for free (Table 6). These keys are generally for identification of macroinvertebrates. WSU Beach Watchers are in the process of determining if their key will be able to be made available outside the program for purchase or for free.

Table 6: Identification key availability.

State	Program	ID key(s) developed	Available on website*
AL	Alabama Water Watch	✓	
CO	North Fork Volunteer Monitoring Project		
IN	Hoosier Riverwatch	✓	✓
IA	IOWATER	✓	✓
KS	Private well monitoring		
ME	Maine Shore Stewards		
MI	Lake Superior Lake Watch		
MN	Volunteer Stream Monitoring Partnership	✓	
MN	St. Louis River- River Watch		
NV, CA	Tahoe-Truckee Snapshot		
NH	NH Lake Lay Monitoring Program		
NH	Great Bay Coast Watch		
NY	Community Fly Fisher	✓	
NC	Watershed Watch		
OK	Illinois Basin/Spring Creek Blue Thumb		
RI	URI Watershed Watch		
WA	WSU Beach Watchers	✓	
WA, ID, OR	Pacific Northwest Water Quality Monitoring Program		
WI	Wisconsin Lakes Partnership/Adopt-a-Lake	✓	
WI	Water Action Volunteers	✓	✓
VT	Watershed Alliance		

*See Appendix A for web address

Educational Activities

Eight programs have developed educational activities as outreach materials (Table 7). Seven of these programs offer the activities to others for free, while the Water Action Volunteers Program asks that these materials be purchased when requested in large quantities from individuals or groups out of state.

Table 7: Educational activity availability.

State	Program	Educational activities developed	Available on website*
AL	Alabama Water Watch	✓	✓
CO	North Fork Volunteer Monitoring Project		
IN	Hoosier Riverwatch		
IA	IOWATER		
KS	Private well monitoring		
ME	Maine Shore Stewards		
MI	Lake Superior Lake Watch		
MN	Volunteer Stream Monitoring Partnership		
MN	St. Louis River- River Watch		
NV, CA	Tahoe-Truckee Snapshot		
NH	NH Lake Lay Monitoring Program	✓	
NH	Great Bay Coast Watch	✓	
NY	Community Fly Fisher	✓	
NC	Watershed Watch		
OK	Illinois Basin/Spring Creek Blue Thumb	✓	
RI	URI Watershed Watch		
WA	WSU Beach Watchers		
WA, ID, OR	Pacific Northwest Water Quality Monitoring Program		
WI	Wisconsin Lakes Partnership/Adopt-a-Lake	✓	
WI	Water Action Volunteers	✓	
VT	Watershed Alliance	✓	

*See Appendix A for web address

Games

Alabama Water Watch, the Wisconsin Lakes Partnership Adopt-a-Lake, and the Water Action Volunteers have developed games as part of their outreach activities. The Wisconsin programs offer directions of how to create their games for free, while Alabama Water Watch has their Bio-Assess game available for purchase.

Other Outreach Materials

Other outreach materials that have been developed include:

- Annual reports, a 10 year report, and a manual (Great Bay Coast Watch)
- Annual river congress (St. Louis River-River Watch)
- Water quality-related clip art CD (Water Action Volunteers)
- Enviroscape groundwater flow model (Watershed Watch in North Carolina)
- Macroinvertebrate poster (Hoosier Riverwatch)
- Special reports, text sheets, and publicity materials (NH Lakes Lay Monitoring Program)

Outreach Success Stories

Here are some outreach strategy successes about which program coordinators are proud:

Alabama Water Watch:

- The bio-assess game that simulates a stream bioassessment and watershed evaluation in the classroom. It was developed at Auburn University through the AWW program and is copyrighted and sold nationwide with all proceeds returned to the AWW program. It is now distributed in several states and used internationally.
- Relational database development for tracking all biophysical data and monitor data with upcoming capacity for monitors to enter data online.

North Fork Volunteer Monitoring Project:

- Home schooled kids and their parents make excellent volunteers. We reach them via word of mouth, Park Service announcements, and newspaper articles.

Hoosier Riverwatch:

- We are known all over the country for our benthic macroinvertebrate poster. It has been purchased in 26-30 states, and 150,000 copies have been distributed.
- Our newly revised training manual has received much praise from our volunteers.

Maine Shore Stewards:

- Our environmental monitoring fair has been a great resource to environmental monitors—lots of great sessions with experts, case studies, and networking.
- Our website has been a boon to our program—a quick way to get information out.

Volunteer Stream Monitoring Partnership:

- A Volunteer stream monitoring activities guide was developed with a matrix of monitoring activities that volunteers can undertake.
- We conducted a River Summit that brought together about 250 volunteers, agency staff, and local decision makers to share/celebrate volunteer accomplishments.

St. Louis River- River Watch

- Our annual River Watch Congress at our college brings participating students, teachers, and community members together for a day of celebrating accomplishments in the program, sharing data, and learning more about the St. Louis River Watershed. Students create displays highlighting their monitoring activities of the year and present them at the congress. Some schools choose to present their work in a formal session. Participants attend various learning and activity sessions throughout the day that relate to the program. They see that they are a part of a huge group of monitors in the region and learn from each other Participants and teachers are recognized with awards, certificates, and all attendants receive a River Watch t-shirt. It's a FUN day. . Approximately 300 volunteers participate annually.

NH Lakes Lay Monitoring Program:

- "Following the flow" video is a good follow up to monitoring.
- Watershed Natural Resources Inventory – GIS capacity is being developed for communities/associations

Great Bay Watch:

- Our Volunteers present data to Conservation Commissions. We have cooperation with research scientists who help to focus the ideas and train the "watchers" to tell their stories and information.

Watershed Watch (NC):

- We have kids in the creek program that involves youth getting out into the stream and learning about stream ecology and conservation.
- Groundwater Protection Education—using groundwater flow model helps to educate the public on how surface water and groundwater are connected.

Illinois Basin/Spring Creek Blue Thumb:

- Local newspaper coverage of volunteers seems to work well.
- Meetings with groups such as college classes and fly fishermen groups and participation in a watershed fair helps to get our word out.

URI Watershed Watch:

- Our great partnership with URI News Bureau makes it easy to get notices out to the statewide paper *The Providence Journal*.

Wisconsin Lakes Partnership Adopt-a-Lake Program

- To continue to expand the Adopt-a-Lake program, "Life under the Ice" winter monitoring program developed. This Adopt-A-Lake program is designed for cool hands-on exposure to plant and animal adaptations and the power of snow and ice. Often lake monitoring was considered a "nice weather" activity. In WI a large portion of weather is preparing for "ice on" and "ice off". A program was needed to bridge the gap and continue to study lakes as they progressed through the full year cycle.
- We also developed an Aquatic Invasive Traveling Trunk. It's been an excellent boost for the AAL program. Invasive species are always a threat, and hands-on learning was needed. To date, over 100 trunks are placed in WI to teach others about Purple Loosestrife, Eurasian Water Milfoil, Zebra Mussels, and Rusty Crayfish.

Water Action Volunteers:

- Volunteers, teachers, and others from other states speak well of our publications. We have keys to life in rivers and ponds, and a citizen's monitoring biotic index poster. Our clip art CD has also been well received.
- The program operates in part in conjunction with Basin Educators throughout the state—giving local connections for citizens and offering additional staffing for the monitoring program. Their involvement is absolutely necessary to the success of this program. They're UW-Extension employees.

Community Fly Fisher:

- Using the sport of fly-fishing has helped to involve youth in water quality issues.

Watershed Alliance:

- The students we work with give presentations on their findings to watershed groups in the communities, school boards, planning commissions, etc. Coming from the kids, the information is always heard.

WSU Beach Watchers:

- Our monitoring manual for marine intertidal assessments, which has been fine tuned through the years, has been a great outreach tool.

Outreach Strategies That Have **NOT** Worked (listed in random order)

- Several of our long-established sponsors want to recruit only from within their own organizations (for monitoring sites of their choosing). This hasn't worked out because their folks are already too over committed and the monitoring wasn't done well. The one new monitor we happened to recruit for that organization is now their treasurer! The moral is we've often found it easier to work with new folks than with established groups!
- Zebra mussel watch-- due to low chance of survivability (soft water)- monitors lost interest in checking samplers and not finding any zebra mussels!
- We have a video that shows volunteer river, lake and wetland monitoring programs in our state. It is in every Soil and Water Conservation District office, and the public library in every county seat. I don't think it is used very often.
- Although our web-based data entry system and database will become an extremely valuable tool of the program, it took a long time for it to be created and that built some walls/bad feelings between some local folks who expected it sooner.
- Some of our conductivity data workshops worked well and others didn't. It may have been timing, perhaps, a cycle of burnout-- too many activities in a given year?
- We have repeatedly failed in starting activities in "quiet watershed" or "targeted watersheds" (of state environmental agency or others) where there was not a grassroots initiative to get involved. These efforts used/wasted much time and funding.
- Our website hasn't worked out so well yet. We haven't emphasized it much.
- Most of our long-term efforts with schools have not worked well. We have changed our approach to be short-term project or supplement to existing adult monitoring.
- In our experience, working with County Extension offices (Ag and 4-H educators) has not resulted in any new volunteers. I work at area/district level and it is hard to get County Extension participation due to many competing programs.
- Poorly advertised meetings meant meetings were poorly attended. No surprise.
- Our trainings have been of low attendance, we need better outreach/advertising.

- We developed a bluff monitoring manual but have not had the resources to get that aspect of our shoreline monitoring off the ground. Monitoring bluff erosion is a bit like watching paint dry.... but much slower.

- General emails that aren't personalized to teachers in our program generally don't generate a good response. If I'm interested in monitoring with a school/teacher, I call them first-this works much better as they seem to be overloaded with emails.

- First annual award dinner made some money and many friends. However, the development committee in charge of its planning handed it back to coordinator and "we" will have to generate a new "crew" to create the 2nd annual!!

Other Materials Offered on Website

As a follow up to the inquiry, websites from programs were visited in August 2002 and materials available online were noted. Appendix A lists programs, their websites, and items that are available to download from the site and the associated link. Although not all programs have methods, training materials, etc. available on their websites, many have information about their programs, resources (books, videos, publication titles), and links to other sites from their websites. You can access all programs' website from our project website at: www.usawaterquality.org/volunteer. Choose the button on the left side of the screen that reads "Extension Volunteer Monitoring Programs" or the "links" option at the bottom of any page on the website.

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Coastal Institute in Kingston, Rm 105   **1545 Observatory Drive**
1 Greenhouse Road   **Madison WI 53706-1289**
Kingston, RI 02881

Appendix A

Outreach Material Offerings on Websites of CE-related Volunteer Water Quality Monitoring Programs Questioned in 2002 Inquiry.

State	Program	Website	Web Material Description	Web link to materials	Notes
AL	Alabama Water Watch	http://www.alabamawaterwatch.org/	Stream Visual Assessment Protocol	http://www.alabamawaterwatch.org/awwp/publications/various%20pdf/stream%20visual%20assess.pdf	
AL	Alabama Water Watch		Alabama Water Watch Quality Assurance Plan for Chemical Monitoring	http://www.alabamawaterwatch.org/awwp/pubs.htm#qap	QA Plan for bacteriological monitoring not online as pdf, but for sale online
AL	Alabama Water Watch		Annual Reports	http://www.alabamawaterwatch.org/awwp/pubs.htm#ar	
AL	Alabama Water Watch		Waterbody Reports	http://www.alabamawaterwatch.org/awwp/pubs.htm#ar	
AL	Alabama Water Watch		Stormwater Management and Your Community	http://www.alabamawaterwatch.org/awwp/publications/various%20pdf/stormwater%20brochure.pdf	
AL	Alabama Water Watch		Bacteria data form; Bioassessment data form; Water Chemistry data form	http://www.alabamawaterwatch.org/awwp/pubs.htm#ar	
AL	Alabama Water Watch		Storm Drain Stenciling Fact Sheet	http://www.alabamawaterwatch.org/awwp/publications/various%20pdf/storm%20drain%20stenciling.pdf	
AL	Alabama Water Watch		Stream Walk Activity	http://www.alabamawaterwatch.org/awwp/publications/various%20pdf/streamwalk.pdf	
AL	Alabama Water Watch		Newsletters	http://www.alabamawaterwatch.org/awwp/pubs.htm#ar	
AL	Alabama Water Watch		Sample Press Releases	http://www.alabamawaterwatch.org/pressrel.htm	
AL	Alabama Water Watch		Workshop registration forms	http://www.alabamawaterwatch.org/awwp/publications/various%20pdf/registration.pdf	
IN	Hoosier Riverwatch	www.in.gov/dnr/soilcons/riverwatch	Training Manual/Monitoring Procedures	http://www.in.gov/dnr/soilcons/riverwatch/vsm/manual.html	
IN	Hoosier Riverwatch		Taxonomic Key	http://www.in.gov/dnr/soilcons/riverwatch/pdf/manual/Chapter_5_Part2.pdf and http://www.in.gov/dnr/soilcons/riverwatch/pdf/manual/Bug_Key_Pg100.pdf	

State	Program	Website	Web Material Description	Web link to materials	Notes
IA	IOWATER	www.iowater.net	Taxonomic Key	http://www.iowater.net/benthickey.htm	
IA	IOWATER		Newsletter	http://www.iowater.net/newsletter.htm	
IA	IOWATER		Brochure	http://www.iowater.net/brochure.pdf	
IA	IOWATER		Database	http://www.iowater.net/database/online.asp	
OK	Blue Thumb	http://bioen.okstate.edu/waterquality/	Fact sheets	http://biosystems.okstate.edu/waterquality/education.htm#4hfair	Water Quality of Streams and Lakes (Ages 9-11); Aquatic Organisms (Ages 12-14); Understanding Human Impacts on Streams (Ages 15-18)
OK	Blue Thumb	http://bioen.okstate.edu/waterquality/	Presentations	http://biosystems.okstate.edu/waterquality/presentations/	As noted in summary, not user friendly format
RI	Watershed Watch	http://www.uri.edu/ce/wq/ww/html/ww.html	Fact sheets	http://www.uri.edu/ce/wq/ww/html/ww_resources.html	Algae in Aquatic Ecosystems; D.O. and Temp; P and Lake Aging; Measuring Water Clarity
RI	Watershed Watch		Methods	http://www.uri.edu/ce/wq/ww/html/ww_resources.html	
RI	Watershed Watch		Training Materials	http://www.uri.edu/ce/wq/ww/html/ww_resources.html	
WI	Water Action Volunteers	http://clean-water.uwex.edu/wav3/	Methods	http://clean-water.uwex.edu/wav3/monitoring/factsheet.htm and http://clean-water.uwex.edu/wav3/monitoring/datasheet.htm	Fact and data sheets
WI	Water Action Volunteers		Taxonomic Key	http://clean-water.uwex.edu/wav3/otherwav/index.htm	
WI	Water Action Volunteers		Database	http://clean-water.uwex.edu/wav3/datagate.htm	
VT	Watershed Alliance	http://snr.uvm.edu/watershed_alliance/	Database	http://snr.uvm.edu/watershed_alliance/data2000.htm and http://snr.uvm.edu/watershed_alliance/datatable.htm	Data from 1999 and 2000 and online data entry
VT	Watershed Alliance	http://snr.uvm.edu/watershed_alliance/	Database	http://snr.uvm.edu/watershed_alliance/dataform.htm	
WA	Beach Watchers	http://www.beachwatchers.wsu.edu/	Taxonomic Key	http://beachwatchers.wsu.edu/ezidindx.htm	Pictures and description of organisms