

VIRGINIA WATER MONITORING COUNCIL

Vision

Water resources information of appropriate quantity and quality is available so that the condition of Virginia's waters is known and informed decisions can be made on their preservation, protection, and use.

Mission

The mission of the Virginia Water Monitoring Council is to promote and facilitate coordination, collaboration, and communication among water monitoring programs throughout the Commonwealth of Virginia.

Goals

Major goals of the VWMC are:

- Enhance coordination, collaboration, and communication among government agencies, organizations, and individuals involved in monitoring
- Encourage effective and efficient use of monitoring resources (e.g., labor, finances, and equipment)
- Facilitate the transfer of water monitoring information

Major Accomplishments of 2004-2005

VWMC 5th Annual Conference
Sponsored Sessions at the Citizens for Water Quality 2005 Summit
GIS Map of Community Monitoring Programs in Virginia
World Water Monitoring Day Activities
Fact Sheets on Proposed Laboratory Accreditation Regulations



2004-2005 Steering Committee Officers

Chair Marvin Booth, City of Bedford, Virginia Association of Municipal Wastewater Agencies
Vice-chair Michele Monti, Virginia Department of Health
Secretary Robin Wilder, Henrico County Department of Public Works

2004-2005 Steering Committee Members

Representatives of Non-government Organizations

Marvin Booth Virginia Association of Municipal Wastewater Agencies
Stacey Brown Virginia Save Our Streams
Jane Cain Virginia Water Well Association
Dana Roberts Virginia Association of Soil & Water Conservation Districts
David Frackelton Virginia Agribusiness Council
Chuck Frederickson James River Association
Stacey Moulds Alliance for the Chesapeake Bay
Katie Register Clean Virginia Waterways
Jessica Schildroth Citizens for Water Quality
Bruce Schwenneker American Water Works Association

Representatives of Government Organizations

Eva Ammentorp U.S. Environmental Protection Agency¹
Sam Austin Virginia Department of Forestry
Jody Aston, Rick Hill Virginia Department of Conservation and Recreation
James Beckley Virginia Department of Environmental Quality
Steven Begg Virginia Department of Transportation
M. Rupert Cutler Virginia Municipal League
David van Gelder Virginia Association of Counties
John Kauffman Virginia Department of Game and Inland Fisheries
Michele Monti Virginia Department of Health
Darryl Glover Virginia Department of Environmental Quality
Ward Staubitz, Mark Bennett U.S. Geological Survey
Robin Wilder County of Henrico Department of Public Works

Representatives of Academic Organizations

David Buckalew Longwood University
Leonard Smock Virginia Commonwealth University
Lyle Varnell Virginia Institute of Marine Science
Tamim Younos Virginia Water Resources Research Center

¹ Serves in an advisory role as a non-voting member.

Steering Committee

The role of the Steering Committee is to generate ideas of new program areas, help implement the VWMC program activities, provide oversight of the work of committees, and provide leadership for the VWMC annual conference.

The Steering Committee is currently comprised of twenty-five voting members from organizations interested in (or responsible for) water monitoring, including governmental agencies (local, state, and federal), members of the regulated community, academics, nonprofit environmental groups, and trade associations. The VWMC strives to have balanced representation among the government and non-government groups on the Steering Committee. Because of their ongoing responsibilities for monitoring, the United States Geological Survey and the Virginia Department of Environmental Quality are permanent members of the Steering Committee. The United States Environmental Protection Agency has an advisory role and serves as a non-voting member of the Steering Committee. Three new members were elected to the Steering Committee to serve from January 2005-January 2009. These members include: Stacey Moulds, Alliance for the Chesapeake Bay; Katie Register, Clean Virginia Waterways; and Dana Roberts, Virginia Association of Soil and Water Conservation Districts.

Since the last annual conference, the VWMC Steering Committee has met seven times. In March 2005, the Steering Committee held a strategic planning session facilitated by Tanya Denckla Cobb with the Institute for Environmental Negotiation. The committee reached consensus concerning the VWMC's short and long-term goals and developed a work plan that encompasses these goals. Minutes of the meetings are posted on the VWMC's website: <http://www.vwrrc.vt.edu/vwmc>.

Committees

1) Operations Committee

The Operations Committee is comprised of several Steering Committee members. The mission of the Operations Committee is to promote the effective operation of the Virginia Water Monitoring Council by providing support in areas such as strategic planning, election of officers, and organization of the annual conference.

During the past year the Operations Committee:

- Planned the bi-monthly Steering Committee meetings
- Organized the 2005 Strategic Planning Session
- Developed the VWMC 2005 Annual Work Plan
- Recommended an attendance policy to the Steering Committee, which was adopted at the January 2005 meeting: *"A representative, either the elected Steering Committee member or a substitute, of each non-permanent organization must attend two Steering Committee meetings within a year's time, or the organization will be considered inactive and asked to terminate its membership on the Steering Committee."*
- Nominated candidates for membership on the Steering Committee

Operations Committee Members:

Samuel Austin, Chair	Virginia Department of Forestry
Marvin Booth	City of Bedford, Virginia Association of Municipal Wastewater Agencies
Jane Cain	Virginia Water Well Association
Darryl Glover	Virginia Department of Environmental Quality
Michele Monti	Virginia Department of Health
Dana Roberts	Virginia Association of Soil and Water Conservation Districts
Jessica Schildroth	Citizens for Water Quality, Aegis Environmental, Inc
Lyle Varnell	Virginia Institute of Marine Science
Jane Walker	Virginia Water Resources Research Center
Robin Wilder	County of Henrico Department of Public Works
Tamim Younos	Virginia Water Resources Research Center

2) Finance Committee

The responsibilities of the Finance Committee include developing a short-term and long-term financial base for the Virginia Water Monitoring Council in order to make the Council's programs sustainable. In 2004, the Finance Committee established an account through the Virginia Tech Foundation (Fund # 872802) to receive membership dues and donations to the VWMC. Katie Register, committee chair, developed and mailed letters of request for donations to the Council's membership in November 2004. This fund-raising effort raised nearly \$2,000.

The Finance Committee worked with the other VWMC committees and the VWMC administrative assistant to raise funds through various grants. Successful grants include: \$10,000 from Altria Group, Inc. to develop an inventory of groundwater monitoring programs and \$5,000 from Virginia Department of Environmental Quality (Citizen Monitoring Program) for Water Monitoring Day kits and educational programs.

The Finance Committee met with Secretary of Natural Resources Tayloe Murphy and Deputy Secretary of Natural Resources David Paylor to discuss funding for the VWMC. As a part of this meeting, the Finance Committee worked with the Communications Committee to develop a flyer about the VWMC (see the following page). Unfortunately, Secretary Murphy was unable to include funding for administration of the VWMC in his budget. However, the meeting was very positive, and the committee was pleased with the interest that Secretary Murphy and Deputy Secretary Paylor showed towards the VWMC.

Finance Committee Members:

Sam Austin	Virginia Department of Forestry
David Frackelton	Virginia Agribusiness Council
Katie Register, Chair	Clean Virginia Waterways/Longwood University
Leonard Smock	Virginia Commonwealth University
Lyle Varnell	Virginia Institute of Marine Science
Jane Walker	Virginia Water Resources Research Center
Tamim Younos	Virginia Water Resources Research Center
Carl Zipper	Virginia Tech



Mission

The Virginia Water Monitoring Council (VWMC) promotes communication, collaboration and coordination of water monitoring programs in Virginia.

Request

The Virginia Water Monitoring Council is requesting \$28,000 be included in the budget of the Secretary of Natural Resources for administration of the council. For the past five years, the VWMC has been administered through the Virginia Water Resources Research Center (VWRRC) at Virginia Tech.

Rationale

The VWMC offers a unique opportunity for dialogue and collaboration among all parties interested in water monitoring in an agenda-neutral setting. This is essential, as effective monitoring solutions often require relationships that span organizational boundaries. Our diverse partnership of universities, federal and state agencies, and nonprofit associations gives us an in-depth expertise to successfully accomplish our goals. However, this would not be possible without the valuable work of the VWMC administrative assistant. The VWMC, therefore, needs this funding to meet our mission and to continue serving the Commonwealth of Virginia.

Beneficiaries of the VWMC's Programs

- State and federal agencies – VWMC's web site includes an inventory of water monitoring programs in Virginia: see www.vwrcc.vt.edu/vwmc (VA Water Monitoring).
- Local governments – VWMC sponsors an annual conference (this year's topic was "Urban Watershed Issues"), educational programs, and provides monitor training for soil & water conservation district employees.
- Citizens – VWMC's weekly e-mails communicate information about statewide and regional meetings, workshops, and other events of interest. Additionally, VWMC sponsors seminars and workshops for volunteer citizen monitors, and hosts annual "World Water Monitoring Day" demonstrations and activities, as well as distributing monitoring kits to schools and civic organizations.

Future plans

- Develop a GIS component to the inventory of monitoring programs,
- Expand the inventory to include groundwater programs, and
- Increase the number of educational programs offered.

3) Marketing Committee

As a result of the 2005 strategic planning session held by the Steering Committee, the VWMC developed the Marketing Committee. This committee has a threefold mission: 1) to successfully develop and market the identity of the VWMC (Identity Subcommittee); 2) to market the VWMC in an effort to increase membership and membership participation (Membership Subcommittee); and 3) to provide a means of interaction within the water monitoring community, particularly VWMC members, and to provide essential information to all interested parties (Communications Subcommittee).

A) Identity Subcommittee: In 2005, the Identity Subcommittee worked with the Virginia Commonwealth University (VCU) Business School to develop a marketing project that would, when implemented in 2006, raise awareness about the VWMC among: local governments, academia, volunteer monitoring groups, industry, federal and state agencies, and schools (see the developed creative brief, which was presented to the VCU students and is shown on the next page). This project is scheduled for completion in November 2005. In addition to providing recommendations for new approaches to “marketing” the VWMC, it will also result in a proposed motto, as well as changes to the logo, brochure, and VWMC display.

For the first time, the VWMC had a display booth at the Environment Virginia Conference. This activity provided an opportunity to introduce the VWMC to a number of private businesses and resulted in approximately 50 new members.

Identity Subcommittee Members:

Sam Austin	Virginia Department of Forestry
James Beckley	Virginia Department of Environmental Quality
Steven Begg, Co-chair	Virginia Department of Transportation
Marvin Booth	City of Bedford, Virginia Association of Municipal Wastewater Agencies
Jane Cain	Virginia Water Well Association
Carol Davit	Western Virginia Water Authority
Chuck Frederickson	James River Association
Darryl Glover, Co-chair	Virginia Department of Environmental Quality
Robin Wilder	County of Henrico Department of Public Works

Creative Brief – Virginia Water Monitoring Council - September 2005

- I. **Who are we?** – The Virginia Water Monitoring Council (VWMC) is a group of government, industry, and citizen organizations that promotes collaboration, information sharing, and training for those who collect and use water monitoring data.

- II. **Who is the VWMC talking to and why?**
 - **Academia** -- provides a network of contacts for faculty interested in Virginia water monitoring data and water resources for research and/or classroom use.
 - **Non-profit Organizations** -- offers access to experts in water resources, training, and information about meetings, volunteer opportunities, and water monitoring activities.
 - **Consultants** -- provides networking opportunities with potential clients and provides information about regulatory changes in water programs.
 - **Regulated Community** – fosters interaction between the regulated community and the public, fostering understanding of and respect between different watershed stakeholders.
 - **Local Governments** -- assists localities in meeting their statutory and regulatory mandates related to water quality by providing pertinent information, sources of water monitoring data, and contacts to water-resource experts.
 - **State Agencies** -- facilitates communication with federal, academic, citizen, and other water monitors and enables access to information and resources specific.
 - **Federal Agencies** -- helps communicate the work of the federal agencies regarding water-related problems and provides a means to interact with the citizens of Virginia.

- III. **What do we want to say?** – 1) The VWMC is the only organization in the Commonwealth that coordinates between all water monitoring programs in Virginia. 2) The VWMC facilitates the exchange of water monitoring data and water resources information. 3) The VWMC provides networking opportunities with other monitoring programs across the state.

- IV. **What behaviors/beliefs do we want to change?** – We want: 1) More monitors and data users of Virginia’s waters to join the VWMC. 2) VWMC members to become more active in the organization (e.g., attend annual meetings, participate in VWMC activities, and become involved in the VWMC’s committees). 3) More water monitors and data users to participate in and use the VWMC inventory.

- V. **What is our working budget?** – \$1,000 in 2006, non-renewable

- VI. **What are we looking for?** –
 - a. Improve existing VWMC tabletop display (used at conferences)
 - b. Visually enhance/redesign existing VWMC brochure
 - c. Visually enhance/redesign existing VWMC website
 - d. Suggestions to make VWMC website captivating and more user-friendly
 - e. Candidates for a potential new logo (have an existing logo)
 - f. Candidates for a potential motto

B) Membership Subcommittee: This newly-established subcommittee of the Marketing Committee is charged with developing and implementing strategies that increase the VWMC's membership base. As of the date of this report, the VWMC boasts a membership of 246. The VWMC Steering Committee views this membership level as healthy but would like the membership level to be much greater. A larger membership would add to the strengths and mission of the Council. The Membership Subcommittee currently is investigating establishing membership fees and the possibility of the Council converting to a professional society.

Membership Subcommittee Members:

Sam Austin	Virginia Department of Forestry
Steven Begg	Virginia Department of Transportation
Marvin Booth	City of Bedford, Virginia Association of Municipal Wastewater Agencies
David Buckalew	Longwood University
Carol Davit	Western Virginia Water Authority
Chuck Frederickson	James River Association
Darryl Glover	Virginia Department of Environmental Quality
Jessica Schildroth	Aegis Environmental, Inc
Leonard Smock	Virginia Commonwealth University
Lyle Varnell, Chair	Virginia Institute of Marine Science
Robin Wilder	County of Henrico Department of Public Works
Tamim Younos	Virginia Water Resources Research Center, Virginia Tech

C) Communications Subcommittee: The Communications Subcommittee worked with the other VWMC committees and the VWMC administrative assistant to promote and distribute educational materials via the VWMC website and published materials. For example, the Communications Subcommittee posted beach monitoring information, the VWMC's laboratory accreditation fact sheets, and other information on the VWMC website. In 2005, the Communications Subcommittee increased the announcements it sends to the VWMC membership to a weekly basis, each with a listing of seven to ten statewide or regional events, reports, job openings, and other information of interest to the VWMC membership.

Communications Subcommittee Members:

Jody Aston, Co-chair	Virginia Department of Conservation and Recreation
Nicole Bennett	US Marine Corps, Marine Corps Base Quantico
Stacey Brown, Co-chair	Virginia Save Our Streams
Jim Disbrow	People Protecting Watershed Headwaters
Jane Walker	Virginia Water Resource Research Center

4) Inventory Committee

The mission of the Inventory Committee is to create and maintain a dynamic statewide water monitoring inventory. The following summarizes work accomplished in prior years:

- In November 2001, approximately 2,200 surveys were mailed by the Department of Environmental Quality (DEQ) in cooperation with the VWMC Inventory Committee and the VWMC Needs Assessment Committee.
- By fall of 2002, the survey information was posted on the VWMC website, with results retrievable by user-defined queries: geographical extent, organization type, matrices monitored, etc.
- In 2004, the inventory database included user accessible fields to identify water quality monitoring programs based on the county and/or HUC code.

In 2005, the Inventory Committee partnered with the DEQ to publish a GIS map containing the inventory data currently found on the VWMC website. The map contains a layer of counties in Virginia where the inventory committee has identified areas of monitoring. To view the GIS inventory map, see the VWMC website: <http://www.vwrrc.vt.edu/vwmc/>. As new entries are entered online, the Inventory Committee will make regular updates to the GIS map.

Plans for 2006 include:

- Find a permanent home for the GIS map: The DEQ is temporarily hosting and maintaining the GIS map for the VWMC. The VWMC will need to find a permanent host for the GIS map. Currently, the committee is looking into several academic institutions such as the Virginia Institute of Marine Science (VIMS).
- Continue updating and refining the GIS map: The inventory committee will continue to find and update additional groups into the GIS map to make the map a more effective tool. In addition, new layers such as watersheds are being considered to better identify the program monitoring areas.
- Refinement and update of the VWMC Inventory site: The inventory site maintained by the VWMC will be updated to a more efficient Microsoft® Access™ or similar database. This upgrade will allow for faster updating of the VWMC GIS map.

Inventory Committee Members:

James Beckley, Chair	Virginia Department of Environmental Quality
Jane Corson-Lassiter	Eastern Shore Soil and Water Conservation District
Jim Cummins	Interstate Commission on the Potomac River Basin
Alecia Daves	Piedmont Soil and Water Conservation District
Michael Kieffer	Bull Run Mountains Conservancy, Inc
Michele Monti	Virginia Department of Health
Stacey Moulds	Alliance for the Chesapeake Bay
Robert Royall	Royall Pump and Well
Andrea Ryon	Michael Baker, Jr. Inc., American Water Works Association
Jessica Schildroth	Citizens for Water Quality, Aegis Environmental, Inc
Roger Stewart II	Virginia Department of Environmental Quality
Wayne Teel	James Madison University
Carolyn Thomas	Ferrum College, Smith Mountain Lake Volunteer Water Quality Monitoring Program
Lyle Varnell	Virginia Institute of Marine Science

5) Groundwater Committee

The mission of the Groundwater Committee is to facilitate communication, cooperation, and collaboration among government agencies, institutions, organizations and individuals involved in groundwater monitoring projects. In 2004, the Groundwater Committee worked with the Finance Committee and the VWMC administrative assistant to secure funding from Altria Group, Inc. to 1) develop an inventory of groundwater monitoring programs in the Commonwealth of Virginia, 2) create a database of the groundwater monitoring activities in Virginia, and 3) develop an interactive mapping system of the inventory data for groundwater and surface water. It is anticipated that this interactive mapping system will be completed in 2006. The VWMC groundwater inventory will be modeled after the surface water inventory and posted on the VWMC's website at <http://www.vwrrc.vt.edu./vwmc/WaterMonitoring.asp>.

In 2005, the Groundwater Committee created a survey to cover the necessary information for the inventory and developed a database. The committee has also begun to identify and contact the agencies, organizations, and individuals who are conducting groundwater monitoring programs to ask that they complete the survey. Later this year, the committee will collect the surveys and put the information into a database, thereby providing information about who is developing data on groundwater and where the existing data can be found.

Groundwater Committee Members:

Chris Adkins	Virginia Department of Health
David Buckalew	Longwood University
Jane Cain, Chair	Virginia Water Well Association
Jason Early	Environmental Alliance, Inc.
William Reay	College of William and Mary, Virginia Institute of Marine Science
Jessica Schildroth	Citizens for Water Quality, Aegis Environmental, Inc
Barr Smith	U.S. Geological Survey

6) Education Committee

The purpose of the Education Committee is to meet the following goals:

- Engage county level monitoring groups (specifically) by holding at least one educational workshop for them each year.
- Provide educational programs for localities and citizens for each physiographic region over 2-years
- Co-sponsor and partner with other groups to provide educational/training programs for the monitoring community.
- Provide the general public with information about water monitoring and its importance.

The Education Committee participated in the following activities in 2004-2005 to work towards these goals:

- Worked with James Beckley, Water Quality Data Liaison with the Virginia Department of Environmental Quality, and Nancy Saylor, a consultant working with the Division of Consolidated Laboratories, to develop two fact sheets to address information about proposed laboratory accreditation regulations. Posted the fact sheets on the VWMC's website <http://www.vwrrc.vt.edu/vwmc/Reference.asp>.
- Enhanced the educational component of the VWMC website. Posted fact sheets concerning beach monitoring, stream monitoring, pollution prevention, Total Maximum Daily Loads, etc. Also listed links to websites with a glossary of scientific terms, Virginia-related information, publications, and tools for teachers.
- Assisted in organizing two VWMC sponsored sessions at the Citizens for Water Quality 2005 Summit held July 23, 2005. The first session covered effective ways to communicate monitoring results, and the second session explained the role of regulatory and other agencies. For this session, the committee developed a document entitled: "Water Related Regulations: Which Government Agency is Responsible?"
- Provided support for World Water Monitoring Day activities throughout Virginia. The committee worked with the U.S. Geological Survey, Virginia Department of Environmental Quality, and other groups by providing assistance in support of the Virginia Water Monitoring Day website, monitoring kit distribution, and special educational activities associated with the event. For 2005, the VWMC provided 125 World Water Monitoring Day kits for distribution to schools and civic organizations without monitoring equipment.
- Assisted the Operations Committee in developing the program for the 2005 Annual VWMC Conference
- Helped find session leaders for the EPA Region III Volunteer Monitoring Conference, November 4-5, 2005. Jeff and Joanna Cornell and James Beckley will represent the VWMC as session leaders. They will cover similar information provided at the Citizens for Water Quality Summit

Education Committee Members:

Nicole Bennett	U.S. Marine Corps, Marine Corps Base, Quantico
Marvin Booth	City of Bedford, Virginia Association of Municipal Wastewater Agencies
David Buckalew	Longwood University
Carol Davit	Western Virginia Water Authority
Chuck Frederickson	James River Association
Tracy Hancock	U.S. Geological Survey
Michael LaChance	Virginia Cooperative Extension
Michele Monti	Virginia Department of Health
Stacey Moulds	Alliance for the Chesapeake Bay
Dana Roberts, Chair	Virginia Association of Soil and Water Conservation Districts
Jessica Schildroth	Citizens for Water Quality, Aegis Environmental, Inc
Jen Sidleck	Alliance for the Chesapeake Bay
Lyle Varnell	Virginia Institute of Marine Science
Jane Walker	Virginia Water Resources Research Center
Robin Wilder	County of Henrico Department of Public Works

Events and Activities:

VWMC 5th Annual Conference

The Virginia Water Monitoring Council held its 5th Annual Conference on October 18, 2004 at the Henrico County Government Training Center in Richmond, Virginia. The theme of the conference was: Water Monitoring to Address Urban Watershed Issues. Approximately 90 VWMC members and the general public attended. The conference focused on providing educational presentations of interest to local governments. The presentations are posted on the VWMC's website (<http://www.vwrrc.vt.edu/vwmc/Minutes.asp>) and include:

- Hampton Roads Regional Water Resources Management Program
John Carlock, Hampton Roads Planning District Commission
- Watershed Assessment and Stream Protection Program
Joan Salvati, Chesterfield County
- City Of Virginia Beach: An Approach to Water Quality Needs
Bill Johnston, City of Virginia Beach
- Scoping Stream Improvement Projects
Laura Grape, Fairfax County
- Henrico County Stream Assessment/Watershed Management Program
Keith White, Henrico County
- Understanding Virginia's New Stormwater Law, SB 1177
Lee Hill, Virginia Department of Conservation and Recreation
- Enhanced Water Quality Monitoring in Virginia's Tidal Tributaries
Britt-Anne Anderson, Virginia Institute of Marine Science
- Bacterial Source Tracking: Methods Comparison and Field Application
Ken Hyer, U.S. Geological Survey
- Bacterial Source Tracking in Virginia's Public Beaches
Charles Hagedorn, Virginia Tech

Sponsored Sessions at the Citizens for Water Quality 2005 Summit

The VWMC sponsored two sessions at the Citizens for Water Quality 2005 Summit, held July 23, 2005. The first session concerned how to effectively present monitoring results. This session covered the importance of statistics and provided a hands-on example of how statistics can help present data. The session was led by Jeff and Joanna Cornell (Fairfax Soil and Water Conservation District). The second session was entitled *How to Determine the Quality of Your Stream*. This session was led by James Beckley (Virginia Department of Environmental Quality) and Moira Croghan (Virginia Department of Conservation and Recreation). The session explained the role of regulatory and other agencies. For this session, the VWMC developed a document entitled: "Water Related Regulations: Which Government Agency is Responsible?"

GIS Map of Community Monitoring Programs in Virginia

In an effort to make the VWMC's inventory of water monitoring programs more user-friendly, the VWMC developed a GIS map of community monitoring programs in Virginia. In 2005, the VWMC partnered with the Department of Environmental Quality to publish a GIS map containing the inventory data currently found on the VWMC website. The map contains a layer of counties in Virginia where the inventory committee has identified areas of monitoring. To

view the GIS inventory map, see the VWMC website <http://www.vwrrc.vt.edu/vwmc/>. As new entries are entered online, the Inventory Committee will make regular updates to the GIS map.

World Water Monitoring Day Activities

World Water Monitoring Day was established on October 18, the anniversary of the Clean Water Act, to increase public awareness and involvement in the protection of water quality. As part of this celebration, a month-long (September 18 – October 18) and worldwide effort is made to monitor surface waters for temperature, pH, clarity, and dissolved oxygen.

For the past four years, the VWMC has worked closely with the U.S. Geological Survey, Virginia Department of Environmental Quality, and others to help coordinate the World Water Monitoring Day activities in Virginia. The VWMC provides assistance in support of the Virginia Water Monitoring Day website (<http://va.water.usgs.gov/watermonitoring05.htm>) to help advertise events in river basins throughout Virginia and provide monitoring information of use to teachers and others.

In 2005, the VWMC provided 125 World Water Monitoring Day kits for distribution at no cost to schools and civic organizations without monitoring equipment. Through this effort, thousands of students and interested citizens have been able to monitor streams and other water bodies within their respective communities. In 2005, the VWMC also partnered with the Friends of Chesterfield's Riverfront and others to organize and lead a hands-on educational program for elementary school classes in the James River watershed. The activities include physical and chemical water quality monitoring, biological water quality monitoring with aquatic insects and fish, a nature walk, and an introduction to watersheds.

Fact Sheets on Proposed Laboratory Accreditation Regulations

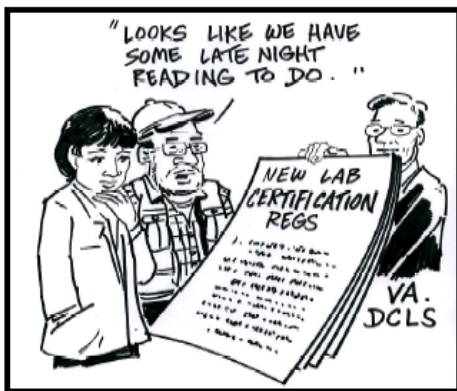
The VWMC worked with James Beckley, Water Quality Data Liaison with the Virginia Department of Environmental Quality, and Nancy Saylor, a consultant working with the Division of Consolidated Laboratories, to develop two fact sheets concerning proposed laboratory accreditation regulations. The first fact sheet addresses frequently asked questions, and the second describes the potential effects of the proposed regulations on Virginia's citizen monitors. The feature article of the August 2005 edition of the *Virginia Water Central*, newsletter of the Virginia Water Resources Research Center, includes the fact sheets and is provided below. The fact sheets are posted on the VWMC's website: <http://www.vwrrc.vt.edu/vwmc/Reference.asp>.

Changes for Virginia's Environmental Laboratory Certification Program

Regulations have been proposed by the Division of Consolidated Laboratory Services (DCLS) to establish a program to certify laboratories that perform environmental tests in support of the Commonwealth's air, waste, and water laws and regulations. As of early August 2005, DCLS had completed its review of the latest round of public comments and the draft final regulations, and the executive branch had begun its last review of the final regulation package.

Water Central presents here two fact sheets that the Virginia Water Monitoring Council prepared on the regulations. The first, beginning on page 2, answers frequently asked questions that pertain specifically to the proposed regulations for *laboratories* that support Virginia's water laws and regulations. The second, beginning on page 4, describes the potential effects of the proposed regulations on *Virginia citizen groups* that conduct water-quality monitoring. (The two fact sheets duplicate each other to some extent; they have been slightly edited here for space.)

References in bold and parentheses—such as **(1 VAC 30-45-500)**—refer to the eventual sections in the *Virginia Administrative Code* (when the regulations are finally approved; the Code did not include the referenced sections as of August 3, 2005). The *Administrative Code* is available online at leg1.state.va.us.



Impacts of Virginia's New Laboratory Certification Regulations on *Laboratories*

1.) What is the purpose of the proposed laboratory certification program?

The purpose of the program is to ensure that environmental laboratories that submit data for use by the Virginia Department of Environmental Quality (DEQ) will conduct analyses accurately and consistently. In addition, once the certification program is in place, all environmental laboratories must be certified in order to submit their data to DEQ. DEQ may not use data from laboratories that are not certified once the program is established. The program will be established three years from the date the regulations become effective. During these three years, laboratories should submit applications for certification, and DCLS will review these applications to determine whether the laboratories meet the certification standards.

2.) Which laboratories will be affected by the proposed regulations?

Any laboratory that analyzes samples in support of the state's water, waste, or air laws will need to meet these new regulations. This rule will cover local sewage treatment plants, industries, and their laboratory contractors. Also, any water data used by DEQ in its Assessment Program (under sections 305b and 303d of the Clean Water Act) will need to come from certified laboratories, including data from federal government laboratories, such as the U.S. Environmental Protection Agency; state government laboratories; and citizen monitoring groups. The Total Maximum Daily Load (TMDL) program will be affected because any laboratory data used in the TMDL process will need to come from a certified laboratory. Laboratories submitting data for TMDL development primarily include environmental consulting firms and universities.

3.) What are the general laboratory certification requirements outlined in the proposed regulations?

a.) Laboratories must pass an on-site assessment to become certified and repeat the assessment at renewal every two years.

b.) Laboratories must pass two proficiency tests per year for each field of certification. The proficiency test—where a known concentration of an analyte is tested in the laboratory—is used to ensure that the test procedure properly detects the analyte at the correct concentration level. **(1 VAC 30-45-500)**

c.) For commercial laboratories (in general, those that analyze samples for others), there are significant educational requirements as outlined in section 4.1.1.1 of the 2003 National Environmental Laboratory Accreditation Conference (NELAC) standards, found online at www.epa.gov/nelac/. For non-commercial laboratories (in general, those that only analyze samples from their own monitoring activities), there are two educational requirements:

i. The manager of a non-commercial laboratory must have at least two years experience managing an environmental laboratory or performing the analysis that will be subject to certification **(1 VAC 30-45-200)**.

ii. The quality assurance (QA) officer of a non-commercial laboratory must possess documented training or experience in quality assurance/quality control (QA/QC) procedures and have a QA/QC system in place. In addition, the QA officer must have knowledge of the test methods that are under their review **(1 VAC 30-45-210)**.

There are some exceptions to these requirements. **(1 VAC 30-45-200)**

d.) Certified laboratories will need to pay fees to cover the costs associated with the certification and re-certification process and to cover the costs associated with the proficiency tests.

i. Each laboratory must pay certification fees to become certified and to remain certified. The fees will vary according to the number and type of laboratory analyses being performed. For example, fees for non-commercial laboratories are expected to range from \$475 to \$5,200 biennially.

Commercial laboratories are expected to pay biennial fees from \$2,075 to \$5,200. **(1 VAC 30-46-130)** [*Ed. note:* Please see the second fact sheet for or more on fees.]

ii. Additionally, each laboratory must pay proficiency test fees to cover the costs of the

proficiency tests. These costs vary based on the type of analyte being tested but typically range from \$50 per test for a simple analysis like total suspended solids (TSS) to over \$200 for bacteria analysis and other complex analyses. It is expected that proficiency fees will result in an additional cost to laboratories of at least \$100 to well over \$400 each year based on the number and types of proficiency tests performed.

4.) What monitoring activities are exempt from the proposed regulations?

Some environmental analyses are exempted from the proposed standards because the tests have to occur in the field. The exempted field tests include continuous emissions monitoring; on-line monitoring; flow monitoring; tests for pH, residual chlorine, temperature and dissolved oxygen; and field analysis for soil gas **(1 VAC 30-45-40)**. If the test is conducted in the laboratory instead of in the field, the test will fall under the certification program.

Currently, benthic macroinvertebrate monitoring will not be covered under the new rule because no national standards have been established. Once standards are developed for macroinvertebrate monitoring, DCLS may add this type of testing to its certification program. If so, DCLS will initiate a rulemaking for this purpose.

5.) What are the potential advantages of the proposed regulations?

These regulations were developed to provide quality assurance and quality control standards that all environmental laboratories providing data to DEQ would need to follow. Certified laboratories should then be able to produce data that are accurate and consistent. To be acceptable generally and also in a court of law, the method or process used to derive data must be traceable and replicable.

6.) What are the potential disadvantages of the proposed regulations?

The regulations will result in increased laboratory costs that may be passed on to the laboratory's customers. If these costs are passed on, the laboratory customers will either need to increase their budgets for water sample analyses, decrease the number of samples being analyzed, or

decrease the number of analyses per sample. These regulations could, therefore, have a significant impact on the overall budgets of various monitoring groups, including citizen monitoring organizations, small businesses, local governments, state agencies, and others. It could also result in less water monitoring throughout the Commonwealth of Virginia.

Because all data for the DEQ Water Quality Assessment Program (305b/303d) will need to be generated from certified laboratories, laboratories that in the past have met DEQ quality assurance/quality control (QA/QC) requirements and provided data but cannot afford the certification fees may elect to stop submitting data to DEQ. Alternatively, monitoring organizations that use certified laboratories may require a fee for sharing their data. Either action could limit citizen input in future water quality assessments and would hinder DEQ from expanding the coverage of assessed waters in Virginia.

7.) What is the expected timeline for adoption of the laboratory certification regulations?

The Director of the Department of General Services, the Department of Planning and Budget, and the Secretary of Administration have approved the final regulation package. The next stage of the rulemaking is review by the Governor's Policy Office. Once the Governor's Policy Office approves the final regulation package, the final regulations can then be printed in the *Virginia Register of Regulations*. This publication starts the last phrase of the rulemaking. Thirty days following publication or on a date assigned by the agency, the regulations become final. DCLS anticipates an effective date in the late summer of 2005.

Impacts of Virginia's New Lab Certification Regulations on Citizen Monitoring Groups

Citizen groups that monitor water quality may be affected by the certification regulations for Virginia laboratories. The Virginia Division of Consolidated Laboratory Services (DCLS) proposed the regulations for laboratories that perform environmental tests as required by the environmental laboratory certification program statute (§2.2-1105 of the *Code of Virginia*). The statute states that the program's purpose is to set standards for environmental laboratories to ensure accurate and consistent testing. Any laboratory that analyzes samples in support of the State Water Control Law, the Virginia Waste Management Act, or Virginia's air law will need to meet these new standards.

For laboratories to become certified, they will have to pay fees to attain and maintain their certification and to conduct proficiency tests. These fees may increase the costs for laboratory customers, including citizen monitoring groups. In addition, citizen monitoring groups that conduct their own laboratory analyses would be subject to the certification fees and proficiency testing fees if they apply for certification.

The following information summarizes the potential effects of the proposed regulations on citizen monitoring groups, first for those that use outside laboratories, and second for those that choose to do their own analyses.

Shopping for a Laboratory?

Increase in laboratory fees. Due to the certification fees and proficiency test costs, an increase in the cost of laboratory analysis is likely. Because many citizen groups have tight budgets, higher costs for laboratory analyses will increase financial pressure on them. As a result, citizen groups that use certified laboratories may be forced to reduce their monitoring or find additional funding for laboratory services.

Reduced laboratory choice for citizen groups. Citizen monitors could have fewer choices in selecting laboratories to perform analyses. Many citizen groups work with college and university laboratories. Colleges and universities may decline to participate in the environmental laboratory certification program because of the fees that would be assessed.

Greater citizen monitoring startup costs. Newly organized citizen monitoring groups face significant startup costs, and the additional analysis costs caused directly or indirectly by the proposed regulation may further impede new groups.

Reduced monitoring of parameters. Citizen monitoring groups may decide to stop monitoring for parameters that would fall under the fee structure proposed by the regulations.

Reduced data submission to DEQ. All data used for the Virginia Department of Environmental Quality water quality assessment program (305b/303d) will have to come through a certified laboratory. As a result, some citizen groups may elect to stop submitting data to DEQ. Doing so would limit citizen input in future water quality assessments, and in turn, hinder DEQ from expanding the coverage of assessed waters in Virginia.

Applying for Certification?

For citizen monitoring groups applying for certification, the following provides details on fees and other requirements.

Certification Fees. Citizen monitoring groups that conduct their own water quality laboratory analyses and choose to apply for certification would have to pay the certification fees and proficiency testing costs. An environmental laboratory must pay a required fee to attain and maintain certification, which is valid for two years. Thus, either a certification or re-certification fee will be charged to the laboratory every two years.

Each laboratory will be charged a **base fee** and a **test category fee** for each category of test it conducts. The total fee charged for certification cannot exceed the maximum fee set for each type of laboratory. **(1 VAC 30-45-130)**

1. Base Fees

Non-commercial laboratories—For non-commercial laboratories performing only *simple* test procedures, the base fee is \$100. Simple test procedures are classified as the following tests:

- 5-day biochemical oxygen demand;
- fecal and total coliform, fecal streptococci, *E. coli*, enterococci;
- total solids, settleable solids, total dissolved solids, total suspended solids, total volatile solids, and
- total volatile suspended solids.

For non-commercial laboratories that perform tests *beyond the type of tests listed above* in the simple analysis section, the base fee is \$1,700.

Commercial laboratories—The base fee for commercial laboratories is \$1,700. Citizen groups who analyze samples in their own laboratory from *other* citizen groups will be considered a commercial laboratory under the proposed regulations.

2. Test Fees for Categories of Tests

The following table lists fees for the various categories.

TEST CATEGORY	FEE
Oxygen demand (BOD or COD)	\$375
Bacteriology	\$375
Inorganic chemistry, fewer than four methods	\$375
Inorganic chemistry, four or more methods	\$750
Chemistry metals, one - two methods	\$450
Chemistry metals, more than two methods	\$1,000
Organic chemistry, fewer than four methods	\$600
Organic chemistry, four or more methods	\$1,200
Aquatic toxicity, acute methods only	\$400
Aquatic toxicity, acute and chronic methods	\$700
Radiochemical	\$1,000
Physical (e.g., solids, turbidity, color)	\$375

The total certification fee will vary according to the type of base fee assessed and the number and type of analyses being performed. For example, if a laboratory is classified as a commercial laboratory, a base fee of \$1,700 will be assessed. If the laboratory wishes to be certified for running two types of inorganic chemistry tests (nitrogen and phosphorous), the test fee of \$375 will be added to the base fee. The final total fee in this example would be \$2,075.

If the total amount exceeds a designated maximum fee, the laboratory will pay the maximum fee. For laboratories performing only simple test procedures, the maximum fee is \$600. For noncommercial and commercial laboratories that perform tests beyond the simple test procedures, the maximum fee is \$5,200. **(1 VAC 30-46-130)**

Exempted Activities. The regulations currently state that there are exempted monitoring activities that will not be under the proposed fee structure. The proposed regulations have the following clause for tests that would be exempted from fees:

“The following is a limited list of currently recognized field tests or measures that is not intended to be complete: continuous emissions monitoring; on-line monitoring; flow monitoring; tests for pH, residual chlorine, temperature and dissolved oxygen; and field analysis for soil gas.”

Field testing is not covered by the program unless the field test is performed in the laboratory instead of in the field. **(1 VAC 30-45-40)**

Benthic macroinvertebrate monitoring also is exempt from the program. No national standards for this monitoring have been established. If national standards are developed, DCLS will consider adding this type of testing to the program. DCLS would be required to initiate a rulemaking to add this testing to the program.

On-site Assessment. Laboratories will undergo an on-site evaluation as part of the initial certification and the renewal every two years. **(1 VAC 30-45-300)**

Proficiency Testing. In addition to the certification fees and laboratory inspection, the proposed regulations also require that a laboratory perform two proficiency tests per year for each field of certification for which the laboratory wishes to be certified (for example, for a particular analytical method). The proficiency test is where a known concentration of an analyte is tested in the laboratory. This test is used to ensure that the procedure properly detects the analyte and the correct concentration level. Proficiency test analytes are purchased from providers approved by either the National Environmental Laboratory Accreditation Conference (NELAC) or DCLS. The tests are performed in the laboratory and sent to the provider, who determines if the results are within the allowable range. The provider then submits a report to DCLS and the laboratory. **(1 VAC 30-45-500)**

Proficiency test costs can vary based on the type of analyte being tested. These costs typically range from \$50 per test for a simple analysis (such as total suspended solids) to over \$200 for fecal coliform and other bacteria analyses. The proficiency tests will result in an additional cost to laboratories of at least \$100 to well over \$400 each

year based on the number and types of proficiency tests that are analyzed. The proficiency test costs are in addition to the certification fees.

Educational Requirements. The regulations establish educational requirements for the **laboratory manager** and **quality assurance (QA) officer**.

The laboratory manager must have at least two years experience managing an environmental laboratory or performing the analysis that will be subject to certification. There are exceptions to this requirement. **(1 VAC 30-45-200)**

The QA officer must possess documented training or experience in quality assurance/quality control (QA/QC) procedures and have a QA/QC system in place. In addition, the QA officer must have knowledge of the test methods that are under their review. **(1 VAC 30-45-210)**

The laboratory manager of a commercial laboratory must have a minimum of a bachelor's degree in the chemical, environmental, biological, or physical sciences or engineering, with at least 24 college semester credit hours in chemistry and at least two years of experience in the environmental analysis of representative inorganic and organic analyses for which the laboratory seeks or maintains certification. A masters or doctoral degree in one of the above disciplines may be substituted for one year of experience. (See the 2003 NELAC Standards, section 4.1.1.1., available online at www.epa.gov/nelac/.)

For More Information

DCLS has staff available to provide assistance in understanding the regulations and determining the costs of fees. The current contact (as of August 2005) for the regulations is Nancy Saylor, (804) 231-7980 or nssaylor@erols.com.

Presently, the proposed regulations are available in PDF format on the Virginia Water Monitoring Council's Web site, www.vwrrc.vt.edu/vwmc/. To learn more about NELAC, which establishes and promotes mutually acceptable performance standards for the operation of environmental laboratories, see the Web site www.epa.gov/nelac/.

This article was based on fact sheets provided by the Virginia Water Monitoring Council. For more information on the Virginia Water Monitoring Council, contact Jane Walker at (540) 231-4159 or janewalk@vt.edu.

Financial Statement

The VWMC financial year follows the Virginia State Fiscal Year, July 1-June 30. A summary of the income and expenses for July 1, 2004-June 30, 2005 is below.

Balance as of July 1, 2004	\$ 0
Administrative Income July 1, 2004 - June 30, 2005	
Virginia Water Resources Research Center	\$ 5,000 ^a
U.S. Geological Survey	2,500
Voluntary Dues	1,125
VWMC Individual Member Contributions	<u>767</u>
Total Administrative Income	+ 9,392
Administrative Expenses July 1, 2004 - July 30, 2005	
Administrative Assistant Wages (25% time)	\$ 8,793
Administrative Assistant Fringe (32.25 %)	2,836
Administrative Support	5,000 ^a
Long distance phone calls	225
Travel	<u>485</u>
Total Administrative Expenses	- 17,339
Project Income July 1, 2004 - June 30, 2005	
Altria Group, Inc.	9,091
Virginia Department of Environmental Quality (Citizen Monitoring Program)	5,000
VWMC 2004 Conference	893
Virginia Save Our Streams (exhibit)	188
Individual donation towards exhibit	<u>187</u>
Total Project Expenses	+ 15,359
Project Expenses, July 1, 2004 - June 30, 2005	
Institute for Environmental Negotiations	400
Environment Virginia (exhibit)	<u>375</u>
Total Project Expenses	- 775
TOTAL END OF YEAR BALANCE	\$ 6,637

^a The VWRRRC budgeted \$5,000 for the year for office space, utilities, local phone, postage, office supplies, photocopying, website management, etc.

Administrative Support

The VWMC receives administrative support from the Virginia Water Resources Research Center. Administrative activities include maintenance of the membership roll, preparation of reports, assistance with committee activities, and fiscal management. Jane Walker served as administrative assistant for the year 2004-2005.



For additional information about the VWMC, please contact Jane Walker at

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