

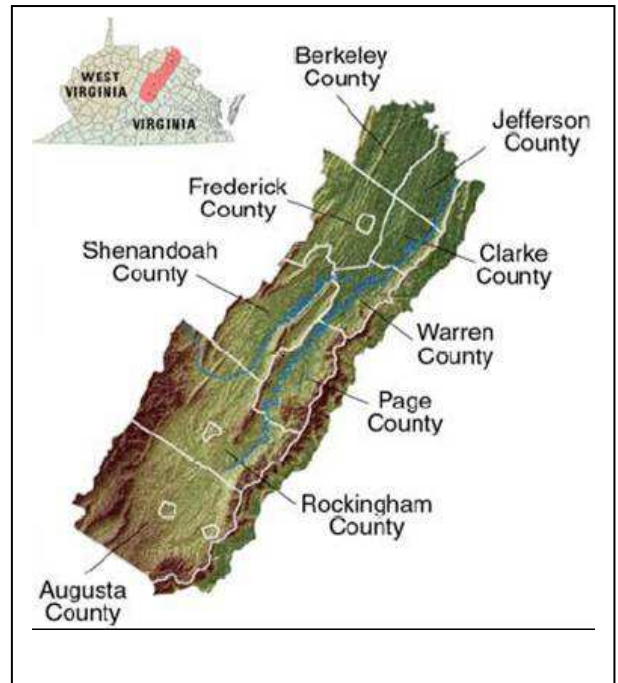
Shenandoah Valley Natural Systems Symposium
Science for “Taking Care of the Water” plus Air & Land Relationships
Objective: Build A Shenandoah Valley Science Plan that will inform policy makers.

**Organized by the
Shenandoah Valley Science Collaborative**

**October 15 – 16, 2007
Shenandoah University
Winchester, Virginia 22601**

Sponsors:

**U.S. Geological Survey
Foundation for Earth Science
Great Valley Water Science Forum
Shenandoah Valley Regional Water Resources
Policy Committee
SHENAIR Local Government Committee**



October 15, 2007

8:30 a.m. Registration – Continental Breakfast

9 a.m. Welcome – John Staelin, Chair, Regional Water Resources Policy Committee

Goal Statement: Shenandoah Valley researchers, Virginia and West Virginia, are invited to the Symposium to present an overview of current work, a statement of current goals and needs, identification of gaps and other science needed from the research perspective. Federal and State agencies, research universities and organizations are invited to consider the existing programs and expressed needs with an eye to considering if they have data, tools, techniques or other resources that might provide quick results in the short run and build for greater results in the long term – define the science needed for the Shenandoah Valley region.

Overview – The water science questions and the local governmental policy needs. The following questions developed from local government and Water Resources Policy Committee members were developed and sent to Dr. Suzette Kimball, Eastern Regional Director, U.S. Geological Survey, on September 15, 2005.

1. What is the inter-relationship of flow between groundwater and stream flow in the Shenandoah Valley? (groundwater flows into streams and stream flows back to the groundwater)

2. What are the current levels of groundwater pollution in the Valley (How much of the problem is caused by natural causes, septic failures, farming, urban runoff, etc. and how can these be remediated and prevented?)
3. Can groundwater budgets be defined by local area? (The USGS is working on a water budget for the region. However, as it is expensive to build water distribution systems it would be extremely useful to have groundwater budgets by small localized area.)
4. If #3 is not possible, can underground “watersheds” be defined for karst areas? The long held assumption has been that underground water flow mirrors surface water flow, but that assumption has been proven false. (We understand that underground watersheds have been defined for karst areas in Kentucky.)
5. What is the potential for deepwater reservoirs as either a source of water or as a storage area?
6. What is the interrelationship between air quality and water quality? (The NOAA funded, ShenAir project should provide useful data but the data will need to be studied and interpreted.)
7. What is the interrelationship between soil quality and water retention and water quality? (According to a USDA study, a section of soil containing 4-5% organic matter with a humus reading of 12-15 can hold double its weight in water – absorbing a 3-4 “ rain event in a hour compared to soil with a humus rating of 6-9 which can only absorb ½ inch of rain per hour.)

Further in pursuit of this information, development of a Science Plan for the Strategy Number 4 of the Plan is to develop a “Shenandoah Valley Water Resources Science Plan” to provide decision-makers with the ability to better see how policy actions affect future watershed conditions. The purpose of this Symposium is to scope out the science needed to answer these questions as well as consider related science questions that relate to maintaining and improving water quality in the region. [Shenandoah Valley Regional Water Resources Strategic Plan](#)

9:20 a.m. Overview of Methodology and Symposium Outcome - Jim McNeal, USGS

9:35 a.m. Panel 1 - Science Plan Recommendations – USGS Science Centers – I
 Hugh Bevans, Director, West Virginia Water Science Center
 Mark Bennett, Director, Virginia Water Science Center
 Niel Plummer, Research Hydrologist, Eastern Branch of Hydrologic Research, NRP

10:45 a.m. Break

11:00 a.m. Panel 2 - Science Plan Recommendations – USGS Science Centers – II
 David Weary, Research Geologist, Eastern Region Earth Surface Processes Team
 Bruce Taggart, Assistant Director, Leetown Science Center
 Dave Kirtland, Chief, Eastern Geographic Science Center

Noon - Lunch Break

12:45 p.m. – Panel 3 – Science Plan recommendations – University Researchers
 Greg Carbone, University of South Carolina, Regional Integrated Sciences and Assessment - RISA Program, NOAA Climate Office research and Decision Support Tools

Don Orth, Ph.D., Thomas Jones Professor, Fisheries and Wildlife Sciences, Department of Fisheries and Wildlife Sciences, Virginia Tech - Beyond Instream Flow
Mark Kozar, USGS – The Opequon Creek – VA-WV Partnership
Jim Giraytys, CCM, James Madison University - Airshed/Watersheds

2:00 p.m. – Panel 4 - Science Plan recommendations – State Agencies
Scott Kudlas, Manager, Office of Water Supply Planning, VA Department of Environmental Quality
Don Kain, Fish Kill Task Force, VA Department of Environmental Quality
Andrew Johnson, Wildlife Biologist II, West Virginia Department of Environmental Protection

2:45 p.m. – Break

3:00 p.m. Panel 5 - Science Plan recommendations – State Agencies
Dr. Diane Helentjaris, Director, Loud Fairfax Health District, Virginia
Rick Hertges, R.S., Onsite Sewage Program Coordinator, WV Department of Health and Human Resources
Wil Orndorff, Karst Protection Coordinator, VA Department of Conservation and Recreation

4:00 p.m. Panel 6 - Science Plan Recommendations – Universities
Rick Webb, Projects Coordinator, Shenandoah Watershed Study (SWAS), University of Virginia
Wayne Teel, Ast. Professor, National Atmospheric Deposition Program, James Madison University
Peter Sforza, VirginiaView Coordinator, Virginia Tech - Satellite Remote Sensing Resources

5 p.m. Adjourn – Networking .

5:30 p.m. – 7 p.m. Poster sessions – reception.

7 p.m. – Dinner on your own – networking encouraged.

October 16, 2007

8:30 a.m. Welcome – John Staelin, Chair, Regional Water Resources Policy Committee

8:35 Review of Monday – Goals for Today – Jim McNeal

8:45 a.m. Panel 7 – Science Plan Resources – Federation of Earth Science Information Partner Organizations

Introduction, Dick Wertz, Foundation for Earth Science

Kristi R. Arsenault, Research Associate, Goddard Earth Sciences and Technology Center, Hydrological Sciences Branch (NASA Perspective)

Nicholas L. Clesceri, **WATER** and **Environmental Research Systems Network (WATERS Network)** (NSF Perspective)

Mary McCaffery, EPA, Office of Research and Development (EPA Resources and Decision Support Tools)

Tim Owen, National Climatic Data Center, National Integrated Drought Information Center (NIDIS) NOAA/NESDIS Resources and Decision Support Tools)

Erick Malaret, Applied Coherent Technology Corporation , Rapid Environmental Assessment Composition Tools (REACT)

Noon - Lunch Break

12:45 p.m. – Science Plan – Priorities – Break-out groups

The information from the first day will be posted to the Wiki and the Conference Science Writer will compile recommendations and comments into a list or lists as the material requires. Participants will be divided into groups which will meet to discuss the recommendations, review them to determine if gaps remain, and then prioritize the research recommendations for inclusion into the initial Science Plan.

2:45 p.m. – Break

3:00 p.m. – Science Plan – Putting it together.

The Break-out groups will be brought together for to compare priority rankings of recommended science and those things which may have been added. The participants will then work to develop Valley-wide priorities.

The last step will be to have a Working Committee which will follow-up on completion of the Plan for presentation to the Regional Water Resources Policy Committee and SHENAIR Local Government Committees in December, 2007.

4:15 p.m. Adjourn – Networking .

4:45 p.m. Planning Committee Debriefing

Lodging and University Location Information

Directions to - Shenandoah University (SU) - Winchester, VA 22601 - The Main Campus of SU is located off of I-81 exit 313. Take Route 50/17 west. Bear right on Millwood Pike turning right on Lowery Drive and the first right. Symposium location is Henkel Hall - Building 20 on Campus Map - http://www.su.edu/campus_map1.html Area hotels are listed on the University website: http://www.su.edu/university_info/hotels.asp Most hotels have a government rate, though availability can be first come, first served. Sample rates were \$67.60 and \$70. Fairfield Inn offers a Shenandoah University Corporate Rate to those attending functions at SU and this conference qualifies. It is equal to the government rate. Rooms have direct internet access and the lobby has Wi-Fi. As this is the Fall season, make reservations as soon as possible.

Remote Participation Links

[ColabWiki: Shenandoah Valley Science](http://colab.cim3.net/cgi-bin/wiki.pl?ShenandoahValleyScience)

<http://colab.cim3.net/cgi-bin/wiki.pl?ShenandoahValleyScience>