

Draft 8/3/07

Shenandoah Valley Natural Systems Symposium
Science for “Taking Care of the Water” plus Air & Land Relationships
Organized by the
Shenandoah Valley Science Collaborative

Objective: To Build A Shenandoah Valley Science Plan that will inform policy makers.

October 15 – 16 (Monday & Tuesday) – Shenandoah University -
Attendance: 100 average with a range of 75-125 depending upon the day.
Teleconference participation, audio and video recording, as well as – facilitated recording
of bullet points from individual sessions for compilation is needed. Use of Wiki and
Wi-fi during the event an option.

October 15, 2007

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

Goal Statement: All Shenandoah Valley researchers, Virginia and West Virginia, 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 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 – John Staelin – 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

Introduction of people present – Who and why? – An alternative would be to have a list of attendees. 60-75 people may be too many to introduce? ** denotes confirmed presenter

9:40 a.m. Panel 1 - Science Plan Recommendations -USGS Water Science Centers:
Mark Bennett, Director, Virginia Water Science Center **
Hugh Bevans, Director, West Virginia Water Science Center **
Bill Palmisano, Director, Leetown Science Center **
(10-12 minute presentations – 20 minutes discussion)

10:45 a.m. Break

11:00 a.m. Panel 2 - Science Plan Recommendations – USGS Divisions
Rich Harrison, Chief Scientist, Eastern Region Earth Surface Processes Team
Pierre Glynn, Chief, Eastern Region Branch of Regional Research, National Research Program
Dave Kirtland, Chief, Eastern Geographic Science Center (Peter Claggett - John Jones)

Noon - Lunch Break

12:45 p.m. – Panel 3 – Science Plan recommendations – University Researchers
Don Orth, Ph.D., Virginia Tech - Beyond Instream Flow **

Conrad Heatwole, PE, Ph.D., Virginia Tech – The Opequon (cover both VA & WV sections – additional speaker may be needed.)
Jim Giraytys, CCM, James Madison University, SHENAIR Institute **

1:45 p.m. – Panel 4 - Science Plan recommendations – State Agencies
Scott Kudlas, Virginia DEQ **
Don Kain, Virginia DEQ – Fish Kill Task Force
Patrick Campbell, West Virginia DEP – Fish Kill

2:45 p.m. – Break

3:00 p.m. Panel 5 - Science Plan recommendations – State Agencies
Mohinder Saini, M.S., Env. Eng, Lord Fairfax Health District – Septic Systems
Rick Hertges, WVDHHR
Wil Orndorff, DCR – Karst **

4:00 p.m. Panel 6 - Science Plan Recommendations – Universities
Rick Webb, UVA, Shenandoah Watershed Study (SWAS)
Wayne Teel, JMU – Air-Water Quality **
Jim Campbell or Peter Sforza, VA Tech – Remote Sensing Tools

5 p.m. Adjourn – Networking .

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

1. Tess Wynn, Virginia Tech, Stream & Wetlands Restoration
2. Bruce Lundeen, Pure Water Forum **
3. Karen Andersen, Friends of the Shenandoah River
4. USGS & other researchers .. goal minimum of 12 posters

October 16, 2007

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

9:05 Review of Monday – Goals for Today – Jim McNeal

9:15 a.m. Panel 7 - Science Plan Resources – Federal Research Agencies & related Organizations
Introduction, Dick Wertz, Federation of Earth Scientists –
Paul Houser, Center for Research on Environment and Water, George Mason University
Jami Montgomery, CLEANER, Collaborative Large-scale Engineering Analysis Network for
Environmental Research

10:15 a.m. Break

10:30 a.m. Panel 8 – Science Plan recommendations – Federal Agencies
Regional Integrated Sciences and Assessments (RISA) Program – Speaker
National Integrated Drought Information System (NIDIS) – Speaker

Noon - Lunch Break

12:45 p.m. – Science Plan – Putting it together

3:00 p.m. – Break

3:15 p.m. – Science Plan – Putting it together

4:15 p.m. Adjourn – Networking .

[Symposium and Science Plan Wiki](#)