

Assessing the Environmental Effects of Marcellus Shale Gas Development: The State of the Science

Speaker Bios

V. Alaric Sample

V. Alaric (Al) Sample has served as President of the Pinchot Institute for Conservation in Washington, DC since 1995. He is a Fellow of the Society of American Foresters, and a Research Affiliate on the faculty at the Yale School of Forestry and Environmental Studies. He is author of numerous research papers, articles and books on topics in national and international forest policy. His most recent book is *Common Goals for Sustainable Forest Management: Divergence and Reconvergence of American and European Forestry*, with Steven Anderson (Forest History Society 2008). Sample earned his doctorate in resource policy and economics from Yale University. He holds two masters degrees, an MBA and a Master of Forestry both from Yale, and a Bachelor of Science in forest resource management from the University of Montana. His professional experience is in both the public and private sector and includes assignments with the U.S. Forest Service, Champion International, The Wilderness Society, and the Prince of Thurn und Taxis in Bavaria, Germany. He specialized in resource economics and forest policy as a Senior Fellow at the Conservation Foundation in Washington, DC, and later as Vice President for Research at the American Forestry Association. Sample has served on numerous national task forces and commissions, including the President's Commission on Environmental Quality task force on biodiversity on private lands, and the National Commission on Science for Sustainable Forestry.

Jerry Mead

Jerry Mead leads the watershed and systems ecology section of the Patrick Center for Environmental Research.

As a systems ecologist, Mead studies the development, disruption, and dynamics of ecosystems typically using simulation models. Mead's research and teaching program provides the knowledge and tools (i.e., spatial models and geo-databases) for managing landscapes at multiple spatial and temporal scales. Aquatic Ecology is his focus with extensions to Ecological and Biophysical Economics.

Mead earned his doctorate from Dr. Charles Hall at the College of Environmental Science and Forestry in New York. His academic roots stems back to the great systems ecologist Dr. Howard T. Odum (Dr. Hall's PhD advisor). Mead is credited for developing the first spatial model of energy flow through a small temperate stream foodweb. Dr. Mead's research section is currently

working on a dozen or more research projects in places all over the world. Examples of current projects range from mapping terrestrial snails for the entire island of Jamaica (in collaboration with Academy's Malacology department), modeling growth potential of stream fishes in the Delaware River Basin, studying the structure of stream channels in old growth temperate forests in the U.S. and Chile, developing models of northern pike reproduction in the St. Lawrence River (currently used by Canadian and U.S. government to develop new water level management plans), and examining the economic feasibility and energy return on investment from greening Philadelphia following Philadelphia's Greenworks plan.

Jim Campbell

As Director of the principal operating Science Center of the USGS, the Pennsylvania Water Science Center provides unbiased scientific and technical information needed for the best use and management of Pennsylvania's water resources. Responsibilities include technical direction and management of the Pennsylvania Water Science Center's cadre of nearly 100 scientists, technicians, and support staff in New Cumberland, Exton, Pittsburgh, and Williamsport work in cooperation with numerous Federal, state, and local agencies to collect scientific data and conduct interpretive studies of the source, distribution, quantity, quality, ecology, and use of the Commonwealth's water resources. The results of these activities in some way affect every citizen, every day.

Previous assignments include: Associate Director, Pennsylvania Water Science Center (2006-2009); Director Rhode Island State Office, Massachusetts/Rhode Island Water Science Center (1996-2006); Hydrologic Investigations Chief, Virginia Water Science Center (1992-1996); Hydrologic Surveillance Chief, New York Water Science Center, (1988-1992); Research Hydrologist, New Jersey Water Science Center (1976-1988).

Nels Johnson

Nels Johnson is Deputy State Director for The Nature Conservancy's Pennsylvania Chapter. He has worked on biodiversity and forest conservation projects in Asia, Latin America, Africa, and North America. Johnson has published articles in Science, the Journal of Forestry, and Conservation Biology and is author/editor of several books, articles and reports on forest management, biodiversity conservation, ecosystem services, climate change and energy development. He was Deputy Director of the Biological Resources Program at the World Resources Institute before joining The Nature Conservancy. He currently serves on the Board of Directors for the Pinchot Institute for Conservation. Johnson received a B.A. (biology) at Reed College and an M.S (forest ecology) at the Yale University School of Forestry and Environmental Studies.

Jim Richenderfer

Jim Richenderfer is Director of the Technical Programs at the Susquehanna River Basin Commission (SRBC). His responsibilities include oversight of five technical programs that address the Commission's regulatory functions; compliance and enforcement; planning and operations, including flood management, and drought coordination; watershed restoration and protection; and watershed monitoring and assessment.

Jim supervises the technical staff of the Commission which is comprised of engineers, geologists, hydrologists, environmental scientists, and biologists. Under his direction, the technical staff focuses on the long-term sustainable utilization of the basin's shared water resources.

Dr. Conrad Daniel Volz

Dr. Volz is a member of the graduate faculty of the Department of Environmental and Occupational Health (EOH) at the Graduate School of Public Health (GSPH), Director for the GSPH Environmental Health Risk Assessment Certificate Program and Director for the Center for Healthy Environments and Communities at the Graduate School of Public Health (GSPH), University of Pittsburgh. He also has a secondary appointment as an Assistant Professor in the School of Law and is a technical consultant to the University of Pittsburgh Environmental Law Clinic. Dr Volz's research interests are primarily focused on how industrial and municipal contaminants, including toxic heavy metals and elements (Hg, As, Se etc), and endocrine disrupting chemicals-particularly those that are estrogenic, move through the air, water, soil and groundwater to reach people and how to block this movement. He is a specialist in the fields of human and ecological receptor exposure assessment and fate and transport of contaminants through environmental media and teaches these classes at the GSPH.

Chris Crockett

Christopher S. Crockett, Ph.D., P.E., was recently appointed the Acting Deputy Commissioner of the Planning & Environmental Services Division at the Philadelphia Water Department (PWD) responsible for watershed protection, drinking water protection, laboratory services, planning, and research. Dr. Crockett was formerly the Director of Planning & Research for PWD where he oversaw a staff of thirty that conducted activities related to infrastructure planning, asset management, water and wastewater applied treatment research, energy management, renewable energy projects, stormwater management plan reviews, stormwater rate credits, water quality studies, air emissions and land management, and regulatory compliance support for PWD.

Ken Klemow

Dr. Ken Klemow is a Professor of Biology at Wilkes University, where he also serves as the Associate Director for the Institute for Energy and Environmental Research of Northeastern Pennsylvania. A native of Hazleton, Ken received his bachelor's degree in Biology from the University of Miami, and his doctorate in Plant Ecology from the State University of New York College of Environmental Science and Forestry in Syracuse. At Wilkes, Ken teaches courses in Biology, Ecology, and Alternative Energy. Much of his research program involves understanding the environmental impacts of energy development, especially lands and waters affected by anthracite mining. Ken actively consults on wetland and rare plant issues, including two major wind energy projects in northeastern Pennsylvania. Ken is involved in ecology education at the national level. Last August, he was the proud recipient of the Ecological Society of America's Eugene Odum award for Excellence in Ecology Education. He has a passion for ensuring that public understanding of energy issues, and energy policy are based on solid science.

Ken is the Principal Investigator for a DOE contract focusing on Marcellus impacts in northeastern Pennsylvania. One part of that project involves the creation of an information clearinghouse to educate stakeholders on Marcellus issues in that part of the state. He will now tell us about that initiative.

William J. Manner

Mr. Manner worked for over 36 years for the Pa. Department of Environmental Protection in the Watershed Management Program, Water Supply Management Program, Growing Greener, and Water

Quality Management Programs. He has served on numerous Department committees formulating policy and regulatory initiatives including the Greener Team, Non-point Source Pollution, various regulations in Water Supply Program, and Watershed Management Programs.

He was appointed to serve as Department delegate to the Upper Susquehanna State Water Planning Committee, and was an unofficial delegate to Delaware State Water Planning Committee, assisting in preparation of the Pa. State Water Plan. Participated in the development of Water Management Plans for Marcellus Gas Well drilling, and attend training on the development of Marcellus gas wells.

He is currently serving as a technical consultant to the Pinchot Institute for Conservation on their study of Marcellus Gas Well Drilling in the Upper Delaware River Basin. Mr. Manner has a M.S. Degree in Biology from East Stroudsburg University, and a B.A. Degree in Biology for Bloomsburg State College.

Ellen Shultzabarger

Ellen Shultzabarger manages the Ecological Services Section in the Bureau of Forestry. This section provides the Bureau of Forestry with ecological expertise in plants, wildlife, wetlands and natural communities and also manages the state-wide Wild Plant Program (PA Endangered, Threatened and Rare plants). Ellen started her career with MassWildlife performing regulatory review of threatened and endangered species. Then moved to PA and continued with similar work, performing regulatory review for plants for the Bureau of Forestry. Most recently, Ellen has been working on developing ecological guidance for managing gas on State Forest lands, developing management plans for T&E species on State Forest lands, and developing the Wild Plant Sanctuary program on state and private lands.

Jeffrey J. Fulgham

Jeff is the Chief Sustainability Officer and ecomagination Leader for GE Power & Water. In this role Jeff applies his 30 years of experience in the water industry to creating sustainable water solutions across GE's global facilities and employees, driving sustainable water solutions to GE Water's 50,000 global customers, and working through NGOs, partners and universities globally to create more sustainable communities.

David Alleman

David is a plant and wildlife ecologist with over 20 years experience in oil and gas environmental issues. Prior to joining ALL, he managed the Oil and Gas Environmental Research Program for the US Dept. of Energy's National Energy Technology Laboratory (NETL). Major research efforts included studies of the potential surface and ground water impacts of CBNG produced water, and the potential impacts of oil and gas development on terrestrial and avian wildlife. At ALL, David's focus has been on shale gas issues. He is one of several authors of the Shale Gas Primer, and has co-authored numerous technical papers on shale gas environmental issues.

Carol Collier

Ms. Collier was appointed Executive Director of the Delaware River Basin Commission (DRBC) on August 31, 1998. The DRBC is an interstate/federal commission that provides a unified approach to water resource management without regard to political boundaries. Before joining DRBC Ms. Collier was Executive Director of Pennsylvania's 21st Century Environment Commission. Governor Tom Ridge formed the Environment Commission in 1997 to establish the Commonwealth's environmental priorities and to recommend a course of action for the next century.

Ms. Collier has a B.A. in Biology from Smith College and a Masters in Regional Planning from the University of Pennsylvania. She is a Professional Planner licensed in the State of New Jersey, a member of the American Institute of Certified Planners (AICP) and a Certified Senior Ecologist. In 1997 she was presented the Touchstone Award from the Society of Women Environmental Professionals and in 1998 the Woman of Distinction Award from the Philadelphia Business Journal. In 2007 the American Water Resources Association (AWRA) presented her with the Mary H. Marsh Medal for exemplary contributions to the protection and wise use of the nation's water resources.

Matthew Keefer

Matthew Keefer is Chief of the Resource Planning and Inventory Division in the PA DCNR, Bureau of Forestry. In addition to forest planning, this division is responsible for the bureau's forest inventory and monitoring and GIS programs. Matt is heavily engaged in DCNR's oil and gas program, assisting with guidelines, BMPs, and policy development.

John W. Ubinger, Jr.

Jack Ubinger is a Senior Vice President of the Pennsylvania Environmental Council ("PEC"). He is a co-author of a PEC report issued in July 2010 entitled: "Developing the Marcellus Shale: Environmental Policy and Planning Recommendations for the Development of the Marcellus Shale Play in Pennsylvania." Prior to joining PEC in April 2008, Mr. Ubinger had a 35-year career practicing environmental law for clients throughout the United States. Mr. Ubinger is an adjunct professor for the Environmental Science and Management Masters Degree program at Duquesne University where he has offered a course on Environmental Conflict Resolution and Problem Solving since 1993. He was also a founding director and current director of the Allegheny Land Trust.

Tom Schuler

Tom Schuler is a research forester and team leader with the Northern Research Station of the U.S Forest Service in Parsons, West Virginia. He has published over 70 scientific papers on various aspects of forest management and most recently was a co-author on a paper describing the effects of a new natural gas well and pipeline on the natural and scientific resources of the Fernow Experimental forest in West Virginia. As the manager of the Fernow, he works with private developers and other federal officials to minimize the impact of natural gas development on the experimental forest. Dr. Schuler and Dr. Susan Stout, also of the U.S Forest Service and in attendance at this workshop, are working together to develop recommendations for a new line of science for the Northern Research Station that will address both site and landscape forest management issues related to gas development in the eastern United States.

Dr. David Velinsky

Dr. David Velinsky is a Biogeochemist, Senior Scientist and Vice President of the Patrick Center for Environmental Research at the Academy of Natural Sciences. He obtained a B.S. Degree from the Florida Institute of Technology in Oceanography with a minor in Chemistry and was awarded his Ph.D. degree from Old Dominion University in Marine Geochemistry. For his doctorate, Dr. Velinsky studied the cycling of selenium and sulfur in coastal marshes of the Delaware estuary. He then continued his studies as a Postdoctoral Research Fellow at the College of Marine Studies, University of Delaware and at the Geophysical Laboratory, Carnegie Institution of Washington. He used the stable isotopes of carbon and nitrogen to trace biogeochemical processes in estuaries and low-oxygen water bodies such as the Black Sea and Farmvaren Fjord (Norway). Dr. David Velinsky is the author of over 30 peer-reviewed publications and over 70 presentations at local, national and international scientific meetings. He is

currently a member of the Toxics Advisory Committee and of the Science and Technical Advisory Committee of the Delaware Estuary Program.

Dr. Velinsky's current research interests focus on the fate and transport of chemical contaminants and bioactive elements in water systems. He is particularly interested in the tidal freshwater reaches of estuaries, such as the urbanized area of the Delaware River in the Philadelphia region and the Anacostia and Potomac rivers within the District of Columbia. A key focus is how tidal freshwater wetlands and marshes in these areas alter the movement of nutrients and contaminants, such as polychlorinated biphenyls (PCBs) and lead (Pb), from the watershed to the more saline sections of the estuary. Dr. Velinsky is also investigating long-term changes in chemical loadings and ecological responses, using sediment cores from marshes throughout the Delaware estuary.