



Join the Buffalo Association of Professional Geologists (BAPG) For a Dinner Meeting



Marcellus Shale Gas Development and Water Resources

John H. Williams – Hydrologist GW Specialist - U. S. Geological Survey

The meeting sponsor is



When: Wednesday October 19th, 2011

Time: 5:30 Social Hour (cash bar)
6:30 Caribbean Buffet Dinner
Meeting / Presentation to Follow

Where: Curly's Grill and Banquet Center
647 Ridge Road
Lackawanna, NY 14218

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|---------------|---------|---------|
| Cost: | Early | Late |
| Members: | \$25.00 | \$30.00 |
| Non –Members: | \$27.00 | \$30.00 |
| Students: | \$10.00 | \$15.00 |

Payments are now accepted online under [event registration](#) or make checks payable to BAPG.

For reservations, please visit our website at BAPG.org and click Events. You can also e-mail Todd Bown t.bown@palmertongroup.com or call him at (716) 393-3273.

Please reserve by Close of Business on October 14th for special early registration pricing.

If you cannot attend after reserving, please notify Todd Bown as soon as possible, since BAPG is responsible for all "no-shows".

Abstract

Horizontal drilling and high-volume hydraulic fracturing are being used to develop gas from the Marcellus and other organic-rich black shales. Water-resource issues associated with shale-gas development include impacts of frac-water withdrawals, disposal of drill cuttings, and treatment of frac flowback. Surface spills of fracturing fluids and flowback and problems with casing and cement seals that allow migration of gas to freshwater aquifers pose the greatest threats to the water resources. Best practices to mitigate impacts include characterization of the freshwater aquifer and its relation to shallow saltwater and gas, proper design and installation of casing and cement seals, offsite disposal of drill cuttings, cumulative and low-flow assessment of frac-water withdrawals, onsite frac fluid and flowback storage in tanks, avoidance of fracturing near high-angle structures delineated by seismic surveys, microseismic monitoring during fracturing, reuse of frac flowback, and groundwater-quality monitoring before and following drilling and fracturing operations.

Bio – [USGS Professional Page](#)

John H. Williams has a BA in Geology from Colgate University, and a MS in Geosciences from Pennsylvania State University. John currently is the Groundwater Specialist for the U. S. Geological Survey Water Science Center in New York, and is responsible for technical oversight of the Survey's groundwater program in the State.

John has provided technical assistance and undertaken groundwater investigations in fractured-rock and glacial-drift aquifers for Pennsylvania and New York State cooperators, U. S. Environmental Protection Agency, Army Corp of Engineers, and U.S. Nuclear Regulatory Commission. In addition, he is an integral part of the Survey's nationwide training and technology transfer program in borehole geophysical applications for groundwater investigations. Over the past two years, John has made presentations on water-resource issues related to Marcellus shale-gas development to the U. S. Department of Energy, U. S. Environmental Protection Agency, National Ground Water Association, Empire State Water Well Drillers Association, New York State Department of Environmental Conservation, and Pennsylvania Department of Environmental Protection. He also has provided testimony to the New York State Assembly and New York City Council on these issues.