

**WATER RESOURCE ISSUES RELATED TO HYDRAULIC FRACTURING
IN THE MARCELLUS SHALE REGION**

**J. Daniel Arthur
David Alleman*
Preston Wilson
Mike Uretsky**

ALL Consulting, LLC
1719 S. Cheyenne
Tulsa, OK 74119
Voice: 918-382-7581
Fax: 918-3827582
darthur@all-llc.com

High volume hydraulic fracturing (HVHF), combined with horizontal drilling, are the keys to extracting natural gas from the Marcellus Shale. While these two technologies are well developed, their application in the Marcellus Shale will require additional usage of water resources in the region. Although the region that encompasses the Marcellus Shale play has many water resources and abundant rainfall compared to other shale plays, such as the Barnett Shale of the Ft. Worth Basin, there are many factors that affect the sourcing and usage of these resources for purposes of unconventional gas development. Furthermore, the regulatory infrastructure of the region encompasses multiple states and major river basins, and is managed through several different regulatory regimes. This paper explores the water resources of the Marcellus Play area and further examines key issues that relate directly to development of the unconventional gas resources. It also includes a summary and discussion of available water resources, major river basins and watersheds, the regulatory authorities that manage these resources, and some of the issues involved with gaining access to these critical development resources.

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