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**Savage River Watershed Association**

**Marcellus Shale Follow-up # 5**

SRWA Written Testimony for House Bill 852

**House Environmental Matters Committee  
HB 852 - The Marcellus Shale Safe Drilling Act of 2011  
Position: Favorable With Amendments  
February 23, 2011**

The Savage River Watershed Association (SRWA) asks that you vote in favor of House Bill 852 as amended by the sponsor. At a time when states and nations are finding themselves fighting over access to clean water and facing water shortages, Maryland must not risk this precious natural resource, so basic to the survival of our citizens and environment. When government scientists are calling for more research before Marcellus Shale natural gas drilling proceeds, Maryland must proceed cautiously to protect the health of our people and our environment.

There is currently little data on aquifer hydraulic properties or stream flow in western Maryland. In addition there has also been no systematic study of groundwater quality in Garrett or Allegany county. It's obvious that we need to know more about the quality and quantity of our wells, streams and springs before drilling begins, as well as during and after drilling has occurred, to establish any cause-effect relationship. Rigorous data on the potential impacts of shale gas drilling and production on water resources, air quality, and ecosystems is also needed. Isn't it well-worth waiting for the outcome of such research if it translates into better safeguards for Maryland's water resources and the health of our citizens and environment? In addition, sufficient information is not yet available to determine whether drilling gas in Marcellus Shale can be made compatible with the natural resources that conservation easements are designed to preserve. If time is needed to determine the potential impacts to natural resources from drilling on conserved lands, why wouldn't time be needed to ensure adequate protection for the natural resources on all lands in Maryland?

The Savage River Watershed Association (SRWA) respects private property rights. Unfortunately, the many problems associated with Marcellus Shale natural gas extraction do not respect property boundaries. Whether one has signed a lease or not, our entire community and environment will be forced to bare the brunt of potential impacts. Why take such risks when the likelihood of negative impacts could be significantly reduced through additional research, proper planning, well-developed safeguards, and stringent regulations?

As Maryland's premier brook trout fishery, the Savage River has been identified as a conservation priority because it is one of the few watersheds that still contain intact populations of native brook trout in Maryland. The main reason for these high quality streams is that 82% of this watershed is forested (more than half of this forested area is MD State Forest & Park land). The negative ecological impacts associated with natural gas drilling including forest fragmentation and invasive species would be devastating to the Savage River watershed. As such we request a prohibition on Marcellus Shale gas drilling and/or associated infrastructure on or beneath MD State Forests and other public lands.

Another significant feature within Savage River watershed is Crabtree Cave, home to several endangered species and the largest cave in Maryland. Little is known about fluid movement and connectivity in karst geology. Linkages between cave streams and other waters (ground and surface) must be determined before drilling begins so that both fragile cave ecosystems and critical water resources are protected. We request that drilling in karst topography be prohibited until these connections (and potential impacts) are determined.

SRWA asks that you take every possible action to ensure that this needed energy doesn't come at the price of the clean water and natural resources in our watershed, or elsewhere in Maryland.

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Upcoming Events:

**March 2 - Natural Gas & Our Future** (7:00 - 9:00 pm, Palace Theater, 31 East Main Street, Frostburg)  
The Maryland Humanities Council invites you to a discussion on the topic of Marcellus Shale natural gas drilling and its potential benefits and risks. The evening's panelists include **Gregory Wrightstone**, director of Geology for Pittsburgh-based Texas Keystone Inc. and the president of the American Association of Petroleum Geologists and **Josh Fox**, director of the Oscar nominated film *Gasland*. This discussion will be moderated by **Roger Wolf**, University of Maryland School of Law Professor Emeritus and former director of the Maryland School of Law's Center for Dispute Resolution.  
**For information:** (410) 685-0095 (event is free; come early, since seating is not reserved)  
**To register:** <http://www.mdhc.org/programs/practicing-democracy/event-registration/>

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Important research:

**EPA Draft Plan to Study the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources.**  
This plan has been submitted for review by independent scientists and for public comment. To download the plan, go to the bottom of the news release and open the website; the plan is available as a PDF file on the tab labeled "Background."  
<http://yosemite.epa.gov/opa/admpress.nsf/0/26195e235a35cb3885257831005fd9cd?OpenDocument>

**Effects of Development of a Natural Gas Well and Associated Pipeline on the Natural and Scientific Resources of the Fernow Experimental Forest.**  
This US Forest Service paper on the Fernow experimental forest in nearby WV actually describes impacts associated with a conventional well in Oriskany sandstone. The size of the well pad, quantity of fracking fluids, truck traffic, etc., were much less than those for a gas well in Marcellus Shale. Despite being a simpler gas drilling process, there were still many negative impacts, which the authors did a good job of describing.  
<http://nrs.fs.fed.us/pubs/37268>

**Potential Development of the Marcellus Shale Resources.** This National Park Service paper does not mention the C & O Canal NPS, an apparent oversight according to one of the authors...this should be of concern to those who value this national resource.  
Follow this link <http://www.dnr.state.md.us/irc/bibs/marcellusshale.html> and scroll down to "Overviews" section to the link to this National Park Service 2008 paper.

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Links to investigative reports, news articles and web sites:

**Explosion, Fire at Marcellus Shale Gas well Site Under Investigation**  
**Feb 23, 2011 Washington County, PA**  
<http://www.wtae.com:80/r/26973100/detail.html>

**O'Malley Administration and Lawmakers Want Two-Year Study and Safeguards Before Any Hydraulic Fracturing Starts in Maryland**  
**By Tom Pelton, Bay Daily, Feb 23, 2011**  
[http://cbf.typepad.com/bay\\_daily/2011/02/cancer-causing-chemicals-heavy-truck-traffic-contaminated-drinking-water-polluted-streams-these-are-some-of-the-potentia.html#more](http://cbf.typepad.com/bay_daily/2011/02/cancer-causing-chemicals-heavy-truck-traffic-contaminated-drinking-water-polluted-streams-these-are-some-of-the-potentia.html#more)

**MD Lawmakers Warned of Natural Gas Drilling Woes in PA**

By Tim Wheeler, Baltimore Sun, Feb 9, 2011

[http://www.baltimoresun.com/features/green/bs-gr-marcellus-20110209\\_0,6104108.story](http://www.baltimoresun.com/features/green/bs-gr-marcellus-20110209_0,6104108.story)

**Diesel Use by Gas Drillers Cited as Risk to Water**

By Tom Zeller Jr., New York Times, Feb 1, 2011

[http://www.nytimes.com/2011/02/01/business/energy-environment/01gas.html?\\_r=1&hp](http://www.nytimes.com/2011/02/01/business/energy-environment/01gas.html?_r=1&hp)

**Climate Benefits of Natural Gas May Be Overstated**

By Abrahm Lustgarten, Jan 25, 2011

<http://www.propublica.org/article/natural-gas-and-coal-pollution-gap-in-doubt>

**Beyond Fracking: Experts Challenge Safety of Exploratory Wells, Vertical Drilling**

By Marie C. Baca ProPublica, Dec. 6, 2010

<http://www.propublica.org/article/beyond-fracking-experts-challenge-safety-of-exploratory-wells-vertical-drill>

**Photos of Marcellus Shale gas wells in PA and WV**

<http://www.marcellus-shale.us/>

**Tompkins County, New York (Finger Lakes Region) with many excellent resources on drilling**

[http://www.tcgasmap.org/default.asp?metatags\\_Action=Find\('PID','8'\)](http://www.tcgasmap.org/default.asp?metatags_Action=Find('PID','8'))

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News article:

**Closed-loop systems: Innovative way to dispose of Marcellus drilling debris**

By Andrew Maykuth, Philadelphia Inquirer Staff Writer, Feb 13, 2011

LUCULLUS, Pa. - As Marcellus Shale horizontal wells get bigger, they are producing vast quantities of something other than natural gas: Drilling debris. As gas drillers improve their ability to capture ever greater swaths of acreage - some wells now extend laterally nearly two miles - the amount of rock that is brought to the surface in the initial digging process mounts up quickly. According to Anadarko Petroleum Corp., which is drilling on leased land in Tiadaghton State Forest near this Lycoming County hamlet, a typical horizontal Marcellus well produces more than 1,000 tons of material, about 75 truckloads. State regulations allow cuttings to be stored in lined pits near the well site. After the drilling is completed, the pits can then be covered in plastic and entombed beneath soil, a kind of mini-landfill. But horizontal drilling produces so much material that it cannot be easily buried at some drilling sites. Those sites may contain several wells, each producing a thousand tons of cuttings. Anadarko, which is drilling extensively on state forest land, decided last year to convert all its Marcellus operations into closed-loop systems, eliminating pits and collecting debris in steel containers that are carted to landfills. It also received state permission to dig up the buried cuttings from about a dozen wells it already had drilled. "We want to say we haven't buried anything here," said Steve Woelfel, Anadarko's drilling-operations manager in Appalachia. "It always could be a risk. It could come back to you." As the natural gas industry has come increasingly under a microscope during the Marcellus Shale gas boom, on-site burial is also under scrutiny, although state regulators and the industry maintain the practice is environmentally sound. The well-drilling process and the cuttings it generates are separate from the controversial practice of hydraulic fracturing, which is done after the borehole is drilled and lined with steel casing and cement. "Fracking," which involves the high-pressure injection of water, chemicals, and sand into the well to shatter the shale, produces great quantities of toxic liquid wastes. Those wastes can be recycled or treated, but they cannot be disposed of at the well site. Long before fracking begins, cuttings from deep shale formations brought up in the initial drilling process may contain salts, metals such as barium and strontium, and some naturally occurring radioactive material, also called NORM.

The debris also can contain drilling fluids. The Delaware River Basin Commission has drafted regulations that would ban so-called reserve pits in the environmentally sensitive Delaware watershed. The DRBC's regulations would require closed-loop drilling and off-site disposal of cuttings. "Our main concern is that materials not left on the site don't cause a future problem," said William J. Muszynski, who heads the DRBC's water resources management branch. The Northern Wayne Property Owners Association, which represents 1,300 owners in northeastern Pennsylvania, required the companies drilling on its land to employ closed-loop systems as an environmental precaution. Tracy Carluccio, the deputy director of the Delaware Riverkeeper Network, an environmental-advocacy group, calls the buried cuttings "a little time bomb of pollution." "Pennsylvania should not be allowing the burials of cuttings on-site," she said. "That's definitely a pathway of pollution." Industry officials say concerns about drill cuttings are exaggerated. "Cuttings are basically just rocks," said Louis D'Amico, president of the Pennsylvania Independent Oil and Gas Association. In some states, operators dispose of drilling debris by plowing it into fields, a practice known as "land-farming." Other "beneficial uses" include using cuttings on gravel roads or mixing them with asphalt as paving material. Jamie Legenos, a spokeswoman for the Pennsylvania Department of Environmental Protection, said the state had received no formal requests for beneficial uses of drill cuttings. Natural gas drilling has aroused such ardent opposition that even disposing of cuttings at approved landfills has raised alarms, forcing landfill operators to assure local officials that all incoming waste is tested for radioactivity and hazardous materials. The advent of shale-gas drilling in Pennsylvania is transforming an industry that had been dominated by smaller, shallow-well operators. "The Marcellus has attracted a whole different scale of operations," said James Erb, a consultant to the Associated Petroleum Industries of Pennsylvania. The larger companies are importing new practices, including closed-loop drilling systems, he said. Although several operators are using closed-loop systems, Anadarko's practices are being held up as an industry best practice. The Marcellus Shale Coalition arranged for former Gov. Tom Ridge, its strategic adviser, to tour an Anadarko well site in Lycoming County earlier this month to learn more about closed-loop drilling. State regulators say closed-loop systems show promise, though DEP is not considering requiring the practice statewide. "Closed-loop drilling has potential to enable a larger scale of reuse for drilling mud and would eradicate the need for a drilling waste pit, which in turn would eliminate earth disturbance and possible erosion and sediment-control issues," said the DEP's Legenos. Anadarko says the closed-loop system is part of a broader "no-spill" strategy aimed at keeping all materials contained during the drilling process. Said Scott Chesebro, Anadarko's engineering manager for Appalachian operations: "Nothing we bring to the surface touches the ground."

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*SRWA is a group of local landowners and other citizens dedicated to preserving and enhancing the rural nature and natural resources of the Savage River watershed by assisting interested landowners and public land managers with environmental stewardship efforts and educational outreach.*

*Board Members: Kenny Braitman, Annie Bristow, Mike Dean, John Fritts,  
Ed Gates, Carol McDaniel, Liz McDowell, Rich Raesly, Matt Sell, Tom Wolfe*

*SRWA is a 501c3 non-profit charitable organization. Please consider joining or making a donation.  
For more information visit our web site at [www.savageriverwatershed.org](http://www.savageriverwatershed.org)*