

Statement of Mary Krueger,
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The Wilderness Society
before the
Environmental Protection Agency
Science Advisory Board Committee Meeting
regarding
Hydraulic Fracturing and Drinking Water Resources
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Hello. My name is Mary Krueger, and I'm a policy analyst at the Wilderness Society. On behalf of more than 525,000 members and supporters nationwide, the Wilderness Society works to protect wilderness and inspire Americans to care for our wild places. Our energy program includes a focus on oil and gas development featuring the work of numerous economists, GIS modelers and policy experts. Our extensive work on oil and gas development can best be summed up in the phrase "do it right". We believe the federal government needs a full complement of tools, including further study, the ability to regulate under the Safe Drinking Water Act, and full public disclosure of the kinds and amounts of fracturing chemicals to best ensure protection of the environment, especially clean and abundant drinking water. In particular, exempting hydraulic fracturing from the Safe Drinking Water Act creates a regulatory black hole that unnecessarily puts public safety in jeopardy.

I want to thank the Science Advisory Board Committee for the opportunity to testify today. Robust public involvement will be an important component of the study process, and will ensure this study avoids repeating the pitfalls and deficiencies of the study completed in 2004.

I want to begin by associating ourselves with the excellent written testimony submitted by our colleagues at Riverkeeper, NRDC and the Sierra Club and incorporate their points herein.

In my limited time, I want to address three crucial study elements we believe the Agency must consider. (Slide 1) The first of these are the substantial risk posed by hydraulic fracturing in karst landscapes. Karst is "the term used to describe a special style of landscape containing caves and extensive underground water systems that is developed on especially soluble rocks such as limestone, marble and gypsum...Experience shows that many hydrogeologists mistakenly assume that if karst landforms are absent or not obvious on the surface, then the groundwater system will not be karstic. This assumption can lead to serious errors in groundwater management and environmental impact assessment, because karst groundwater circulation can develop even though surface karst

is not apparent.”¹ Karst is typified by seeps, springs, sinkholes, sinking streams and caves. Hydraulic fracturing in karst increases the risk of contamination to groundwater supplies and, where springs and seeps exist, risks surface water contamination as well.

(Slide 2) Karst is abundant in the U.S. particularly in areas where gas drilling and hydraulic fracturing are becoming increasingly common, such as the Marcellus Shale. However, the use of hydraulic fracturing is not limited to the Marcellus, rather, as the Independent Petroleum Association of America (IPAA) pointed out in their written comments to this committee, “The IPAA represents the thousands of independent oil and natural gas producers that develop 90 percent of U.S. wells and produce over 80 percent of U.S. natural gas. Approximately 90 percent of these wells now require the use of hydraulic fracturing.”² We have seen this increase in the use of hydraulic fracturing in West Virginia in the development of the Oriskany formation, where recent land application of hydraulic fracturing fluids resulted in the death of vegetation in the Fernow Experimental Forest on the Monongahela National Forest.

(Slide 3, then Slide 4) There is however, significant overlap between karst areas and the Marcellus shale formation. As development of the Marcellus is increasing, the risk of significant drinking water contamination in karst will grow. We urge the Environmental Engineering Committee to ensure that the special concerns of the use of hydraulic fracturing in karst are fully examined in the study.

Secondly, though it has been touched on by others, we reiterate the need for the study to examine the full lifecycle of the hydraulic fracturing process, including an examination of water sourcing issues. Given the huge amounts of water needed for each “frack” during the hydraulic fracturing process and the various uses to which available water supplies are already committed, ensuring both quantity and quality of drinking water will be paramount now and in the future.

Finally, we believe the Committee must examine the risk of hydraulic fracturing on the drinking water quantity and quality of those citizens who rely on individual water wells to supply their drinking water needs. Because natural gas development tends to take place in rural areas, which are also the areas where people are most likely to rely on well water, the Committee must examine both threats to continued water supply from water drawdown at the beginning of the hydraulic fracturing process to the risks of well water contamination as hydraulic fracturing proceeds. The study committee must examine the special threats to safe drinking water these residents face.

¹ *Karst Hydrogeology and Geomorphology*, Derek Ford and Paul Williams, 2007 John Willey & Sons, Ltd, pg 1

² IPAA comments to the Science Advisory Board Staff Office dated March 28, 2010. Available on this committee’s web site.

Again, thank you for the opportunity to testify today. If you have any questions, please do not hesitate to contact me. The Wilderness Society looks forward to continued involvement in this important study to ensure development of unconventional natural gas resources proceeds in appropriate places, using the right practices, and at a sustainable pace, in the densely populated Eastern states as well as on the Western public lands. Thank you.