

To: EPA

From: The League of Women Voters of Tompkins County, New York
www.lwvtompkins.org

Concerning: Slick-water Horizontal Hydraulic Fracturing of Shale for Natural Gas

Our comments are based on the League of Women Voters position that

“... natural resources should be managed as interrelated parts of life-supporting ecosystems. Resources should be conserved and protected to assure their future availability. Pollution of these resources should be controlled in order to preserve the physical, chemical and biological integrity of ecosystems and to protect public health.” (Statement on Natural Resources, as Affirmed by the 1986 LWVUS Convention)

In June 2010, at its national convention, the League of Women Voters passed with unanimous consent a resolution proposed by our Tompkins County League that calls for stronger regulation and enforcement of drilling and mining for energy resources. The Tompkins County League prepared this resolution for the convention in response to our serious concerns about Slick-water Horizontal Hydraulic Fracturing for gas in shale. The oil-drilling disaster in the Gulf of Mexico only deepened our concerns, reminding us that *worst case scenarios can and do happen and that the failure to require adequate safeguards increases that likelihood.*

We come from a county which includes the relatively small city of Ithaca situated in the middle of a predominantly rural area. *A significant number of the households depend on individual wells for their water supply and have no alternative sources.* Those not on wells depend on rivers and lakes to supply their water. Current levels of air pollution are relatively low and both the county and individual homeowners are making major efforts to reduce those emissions even further. The county is the home of the Cornell Lab of Ornithology and numerous forests and land preserves.

The future of our county is at stake if drilling occurs as planned. At least 39% of the land in the county has been leased for drilling in the shale. It is projected that over 2,000 gas wells will be drilled in this county alone. Neighboring counties may end up with closer to 5,000. The well sites will be accompanied by disposal pits for flowback water, compressors, and a vast network of roads and pipelines. Each individual well site is the possible source of both water contamination and air pollution. *But the cumulative impact of the large industrial complex that will be created is even more worrisome.*

We call on the EPA to do a serious and detailed study which includes the following problems and focuses on the cumulative impact of the many thousands of wells to be drilled, not just on individual point sources, roads and pipelines:

Air Pollution: *The national discussion concerning the use of natural gas as a transition energy resource ignores the serious air pollution stemming from both the drilling and the long-run production of natural gas from shale.* This pollution is caused in part by diesel engine exhaust from trucks, pumps, and compressors that may run for decades, plus leaks of methane gas from the wells and pipes. The combined air pollution due to extraction, production and consumption of natural gas has been estimated to be closely comparable to those for coal. These estimates need to be evaluated and quantified by the EPA to determine both the amount of pollution and the possible ways to dramatically reduce it.

Water Pollution and Use: We list here just a few of the problems.

- *No adequate solution to the problem of the disposal of flowback water has been established.* How do we get rid of the brines, heavy metals, radionuclides, and up to 15,000 gallons of chemical additives and organics in the flowback water after every fracturing event? *The US Geological Survey questions whether wastewater plants can adequately detoxify flowback waste and officially acknowledges that “our knowledge of how this extraction might affect water resources has not kept pace” [with other aspects of the extraction technology].* One disposal method involves underground injection, which can contaminate aquifers. Another involves surface dehydration beds, which can leak, produce air pollution, and overflow during storms and floods.
- *There can be no guarantees that the chemically treated water will not enter local aquifers and other sources of water during the fracking activity itself.* A major casing failure in even a single well that penetrates an aquifer could mean a major disaster. There have already been many reports in other states of households for which their well water became seriously contaminated after fracking occurred close to their homes.
- *The water used and left underground is permanently lost from the environment.* It is also not known if this water can eventually migrate upwards and enter the aquifers.

Damage to Habitats and Loss of Carbon Sinks: Drilling activity will replace fields and forests with wells, disposal pits, compressors, and networks of roads and pipelines. Roads cut through forested areas invite invasion by non-native plants and animals, crowding out native species and inhabitants. The loss of open fields together with light, noise, and air pollution from the drilling activities further disrupts the wildlife habitats.

And as the size of the forests and fields is dramatically reduced, we lose an important source of carbon sinks.

Cumulative Impact: Each individual well may cause serious problems, but the cumulative impact of the many thousands of gas wells planned for each county over the Marcellus Shale makes the issue even more complicated to analyze and difficult to control.

It is critical that the EPA look at the total picture and think about the permanent damage that may be done. The activities surrounding Slick-water Horizontal Hydraulic Fracturing may not produce one accident equivalent to the current oil-drilling disaster in the Gulf of Mexico, but a multitude of individual sources of air and water pollution plus damage to habitats can be even more serious in the long run.

Summary: *We are counting on you to analyze all environmental impacts, both under normal operations and in cases of system failure, of drilling for gas in shale. We encourage you to take as much time as is needed to do the study with thoroughness and accuracy.*