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Better Safe Than Sorry: New York Bans Fracking Due to Potential Impacts on Water Resources

[Romany Webb](#) July 6, 2015

After a seven year environmental review, the New York State Department of Environmental Conservation (DEC) last week released its [final decision](#) banning high-volume hydraulic fracturing (fracking). The decision was foreshadowed back in December, when DEC Commissioner Joseph Martens announced plans to “issue a legally binding findings statement” prohibiting fracking across the state. The statement, released on June 29, sets out the legal justification for the prohibition. It concludes that, given the serious environmental and public health risks associated with fracking and taking into account possible mitigation measures, a prohibition is the only reasonable means of avoiding harm.

The DEC’s decision reflects application of the precautionary principle; the idea that a lack of scientific data should not preclude regulation where there is a risk of serious or irreversible environmental harm. In its findings statement, the DEC acknowledged that “significant uncertainty remains regarding the level of risks to public health and the environment that would result from permitting high-volume... [fracking] and regarding the degree of effectiveness of proposed mitigation measures.” Nevertheless, according to the DEC, the potential for serious adverse environmental impacts justifies regulation. The DEC identified a raft of possible impacts, including to water resources.

As [previously reported](#), fracking involves the injection of fluid underground at high pressure to fracture the rock to release oil and gas. The fracking fluid is comprised principally of water, mixed with [chemicals](#) and a [proppant](#), such as sand. The volume of water required varies widely depending on the well location’s geology. Typically, according to the [Department of Energy](#), between two and seven million gallons of water are required per well. With thousands of wells undergoing fracking annually, water volumes can add up quickly.

Currently, most fracking operations use freshwater, withdrawn from local surface streams and/or underground aquifers. (As [previously reported](#), while some operators are using recycled water in fracking, such use remains limited). Much of this water remains underground after use and is never returned to the hydrological cycle. Consequently, and given that most use is concentrated in limited geographic [areas](#), fracking may contribute to the depletion of water resources. As the New York DEC observed, “[w]ithout proper controls on the rate, timing and location of...water withdrawals, the cumulative impacts of such withdrawals could cause modifications to groundwater levels, surface water levels, and stream flows that could result in significant adverse impacts.”

Similar concerns have also recently been raised by the U.S. Environmental Protection Agency (EPA). In a [study](#) published last month, the EPA explored the potential impacts of fracking on drinking water resources. The study found that, in certain areas with low water availability and/or high water use, fracking “has the potential to affect the quantity of drinking water resources” and may lead to drinking water shortages. (The study also found the potential for adverse effects on drinking water quality, noting that inappropriate handling, treatment, or disposal of fracking fluids and wastes may lead to the contamination of surface and/or groundwater resources).

Despite this, the EPA study ultimately concluded that there is no evidence that fracking has had “widespread, systemic impacts on drinking water resources.” This conclusion was, however, based on only limited data. The EPA noted that there is a “paucity of long-term systematic studies” examining fracking’s impact on water resources. Consequently, the EPA could not determine the risk of future impacts “with any certainty.”

Recognizing this uncertainty, and given the potential for harm, the New York DEC chose to ban fracking. New York took this action as a precaution to, among other things, minimize the risk to water resources. Other states have been less cautious. Here in Texas, for example, there are few regulations designed to protect water resources from the risks associated with fracking. As [previously reported](#), in many parts of the state, fracking operators are not required to obtain a permit or other regulatory approval before taking groundwater. Consequently, operators can and often do take large amounts of water, with little oversight by regulators. This may contribute to the depletion of groundwater resources, with recent [studies](#) finding that some of the state’s aquifers are being overdrawn by nearly 2.5 times their natural recharge rate. (This was not, however, solely due to fracking. The study found that, absent fracking, the aquifers would still be overdrawn by at least 1.5 times their natural recharge rate.)

Comparing these regimes raises the question of why the states have adopted such vastly different approaches to fracking. Perhaps it is because the states have differing views on the extent of the risk posed by fracking. Or perhaps they take differing views on fracking’s benefits. Texas, with its permissive approach to fracking, has realized significant economic benefits from increased oil and gas development. New York, however, has chosen to prioritize environmental protection by banning gas development. New York, however, has chosen to prioritize environmental protection by banning fracking. It makes one think, couldn’t a middle ground be reached that allows fracking to continue but also requires safeguards to protect the environment, thereby achieving both objectives.

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