

Dear Commissioners,

I am submitting this comment to express my support for your decision to ban hydraulic fracturing in the basin and to urge you to put in place a full fracking ban that includes the practices you are considering regulating – fracking waste processing/discharge and water transfers. In effect, what you propose would create an unsustainable cycle of clean water leaving the basin and dirty water coming into the basin.

The Commissioners consulted the science on fracking in coming to its decision to ban it. Concerned Health Professionals of New York and Physicians for Social Responsibility recently issued the 5th edition of *The Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking*ⁱ that summarizes the more than 1200 peer-reviewed studies on fracking. Among them are several that point to the dangers of fracking waste processing/discharge and water transfers. No aspect of shale gas development is safe. You must not take a piecemeal approach to protecting our water.

For those of us who live in Pennsylvania and have seen what fracking has done to our communities, we know that enabling the industry by providing it a place to dump its waste and get clean water is not just damaging to the basin; it is damaging to every community in the shale fields because it guarantees more fracking. The industry's goal is to put 100,000 wells in Pennsylvania. The Wolf administration talks about a 100-year cycle of fracking. Pennsylvania is currently 10,000 wells and 10 years in. Elected officials, journalists, researchers, scientists, and others from around the world have visited Pennsylvania to see what not to do. What they have seen here has informed decisions to impose moratoria or bans. And we're only just a tenth of the way in. If the industry has its way, Pennsylvania will be unrecognizable. For the sake of our communities, please don't enable any more fracking.

Of course, the impacts of fracking are not limited to those being experienced on the ground. Peer-reviewed research points to health impacts from exposures occurring today that may not present for years. Orphaned and abandoned wells number in the hundreds of thousands. The state is hopelessly behind in finding ways to manage that problem. Each well must be maintained in perpetuity and every Marcellus and Utica well will one day be part of that massive and very expensive legacy problem. It will be the taxpayers' burden to pay for that maintenance because the methane leaks from those wells only exacerbates the other major impact of fracking – climate change. Pennsylvania has been recklessly expanding the market for fossil fuels at a time when much of the rest of the world is trying to figure out how to transition to clean, renewable energy as quickly as possible. As most of us understand, what we do affects others. What happens in Pennsylvania doesn't stay in Pennsylvania. Our government's denial of climate change will have a tremendous impact on the entire watershed. In fact, it is already having an impact.

CLIMATE CHANGE

Days before the deadly and destructive bomb cyclone that hit the Northeast on March 2nd, Penn State atmospheric scientist and author Michael Mann said in an interview on **Public Radio International's** *Living on Earth*, "We are seeing a taste of what's in store and there's no question in my mind that, in the unprecedented extreme weather that we've seen over the past year, we can see the fingerprint of human influence on our climate."ⁱⁱ

NOAA's National Centers for Environmental Information has listed extreme weather events on *U.S. Billion-Dollar Extreme Weather & Climate Disasters 1980 – 2017*. The list is searchable by state and by year. Since 2000, 46 events have occurred in one or more of the Delaware River Basin's 4 watershed states. The total cost of those events for all areas of the country they impacted totals \$292.8 billion and the total number of lives lost is 1,318.ⁱⁱⁱ

Mann said that it would be a mistake to see these extreme weather events as the 'new normal'. What we are dealing with is an "ever-shifting baseline." "So, there isn't a new normal," he explains. "Things get continually worse if we go down this highway. What we need to do is to take the earliest exit ramp that we can in the form of decreasing our emissions and transitioning from fossil fuels to renewable energy."^{iv}

Natural gas is a particularly impactful fossil fuel. In his piece "*Methane Leaks Erase Climate Benefit of Fracked Gas, Countless Studies Find*", Joe Romm lists some of the studies that point to the leaks that occur at every step of shale gas production.^v Those leaks are especially damaging because methane is at least 86 times more efficient than carbon dioxide is at trapping heat.

In a press event at COP23, Robert Howarth, the David R. Atkinson Professor of Ecology at Cornell University said, "Methane is an important greenhouse gas and is currently responsible for an amount of global warming equal to approximately 60% of that caused by carbon dioxide. Methane reductions offer one of the few available approaches to immediately slow the rate of global warming, since the climate responds more quickly to decreases in methane compared to carbon dioxide."^{vi} A ban on fracking in the Delaware River Basin is an important step in limiting methane emissions, but allowing water withdrawals and the processing of fracking waste in the Basin will only enable more fracking and, therefore, more methane leaks outside of the basin.

A 2017 study by researchers at the Northeast Climate Science Center and Climate System Research Center at U. Mass Amherst found that the Northeastern U.S. is the fastest-warming region in the lower 48 states, heating at a rate 50 percent faster than the global average.^{vii viii} According to the Union of Concerned Scientists, "Records from the mid-twentieth century through 2000 show that the number of snow-covered days across the Northeast has decreased significantly."^{ix} The shrinking snowpack and increased runoff will worsen as temperatures continue to rise. Further reducing our water supply by moving water out of the basin and exposing our remaining water to fracking waste contamination should not be permitted, especially when those practices support the fossil fuel production that is exacerbating warming in the first place.

In fact, at the very same time that warming is posing risks to our water supply, the amount of water required for fracking is increasing. "Oil and natural gas fracking, on average, uses more than 28 times the water it did 15 years ago, gulping up to 9.6 million gallons of water per well."^{x xi} Fracking was never a good idea, but, as the problems it helped create intensify, it has become such a bad idea that it must be stopped. The Delaware River Basin Commission must provide the protections the Basin deserves and vote in favor of a full ban on fracking, water extraction, and fracking waste processing.

Infrastructure build-out is another Pennsylvania-made problem for the watershed states. I address that and make a brief comment on enforcement below.

INFRASTRUCTURE

According to the Pipeline and Hazardous Materials Safety Administration (PHMSA), in 2017, there were 17,840 miles of natural gas transmission and gathering lines in the four watershed states. The information comes to PHMSA in the annual reports received from pipeline operators.^{xii} It's worth noting that Pennsylvania is only one of two states that doesn't have one regulatory authority that oversees all intrastate pipelines^{xiii}, so it's not clear if PHMSA's numbers are accurate.

New York – 4,635 (Transmission and Gathering)

New Jersey – 1,578 (Transmission)

Pennsylvania – 11,278 (Transmission and Gathering)

Delaware – 349 (Transmission)

Transmission lines have served as the conduit that connects fracking in Pennsylvania to power plants, processing facilities, export facilities, and other infrastructure projects that have spread through the state and across its borders into neighboring states. In the final report of the Pipeline Infrastructure Task Force, PA DEP chief John Quigley said that within a few years, "In the next decade, Pennsylvania will undergo a substantial pipeline infrastructure build-out to transport gas and related byproducts from thousands of wells throughout the state.... The result will impact communities and the environment in every PA county."^{xiv}

The DRBC's draft regulations do not address pipelines or any of the other infrastructure build-out occurring in the basin. Nevertheless, the regulations that would allow fracking waste to be brought into the basin and clean water to be taken out enable more fracking. And more fracking means more pipelines, more infrastructure.

ENFORCEMENT

The DRBC is considering fracking regulations it is not capable of enforcing. The Commission relies on the watershed states' environmental regulators to carry out enforcement of the rules it sets. State regulatory agencies are chronically understaffed and underfunded. It is unreasonable for the DRBC to place on state regulators the burden of enforcement of dangerous practices like fracking waste processing and extraction of water for fracking operations outside of the basin.

You had ample reason to proceed with caution in 2010. Thanks to your restraint, the watershed has been spared. We know so much more than we did in 2010. The science on fracking is in. There is no

justification today to take any action that would lead to more fracking anywhere. Please protect the watershed and the people of Pennsylvania and vote for a full fracking ban.

Respectfully,

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Berks Gas Truth

ⁱ <http://concernedhealthny.org/compendium/>

ⁱⁱ <https://www.pri.org/stories/2018-02-18/climate-change-will-accelerate-extreme-weather-events-coming-years>

ⁱⁱⁱ <https://www.ncdc.noaa.gov/billions/events/DE/1980-2017>

^{iv} <https://www.pri.org/stories/2018-02-18/climate-change-will-accelerate-extreme-weather-events-coming-years>

^v <https://thinkprogress.org/methane-leaks-erase-climate-benefit-of-fracked-gas-countless-studies-find-8b060b2b395d/>

^{vi} http://www.eeb.cornell.edu/howarth/publications/COP23_Methane_Discussion_Document.pdf

^{vii} <https://www.nrdc.org/stories/northeast-fastest-warming-region-lower-48>

^{viii} <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0168697>

^{ix} https://www.ucsusa.org/sites/default/files/legacy/assets/documents/global_warming/The-Changing-Northeast-Climate.pdf

^x <http://www.climatecentral.org/news/fracking-water-use-skyrockets-19177>

^{xi} <http://onlinelibrary.wiley.com/doi/10.1002/2015WR017278/full>

^{xii} <https://hip.phmsa.dot.gov/analyticsSOAP/saw.dll?Portalpages>

^{xiii} <https://stateimpact.npr.org/pennsylvania/tag/pipelines/>

^{xiv} http://files.dep.state.pa.us/ProgramIntegration/PITF/PITF%20Report%20Webinar_JQ.pdf