



**ENVIRONMENTAL  
ADVOCATES OF NEW YORK**

YOUR GOVERNMENT WATCHDOG

March 30, 2018

Commissioners  
Delaware River Basin Commission  
PO Box 7360  
West Trenton, NJ 08628-9522

RE: Proposed Draft Regulations Addressing Hydraulic Fracturing and Additional Clarifying Amendments

Dear Commissioners:

Environmental Advocates of New York appreciates the opportunity to comment on the Delaware River Basin Commission (DRBC) proposed draft regulations regarding hydraulic fracturing activities within the Delaware River Basin (“the Basin”). We thank DRBC for its continued work protecting and managing the Delaware River and its tributaries.

Environmental Advocates is New York State’s government watchdog, holding lawmakers and agencies accountable for enacting and enforcing laws that protect natural resources and public health. Environmental Advocates works alone and in coalitions and has an activist network of more than 45,000 New Yorkers located throughout the state, and we are the New York affiliate of the National Wildlife Federation.

Environmental Advocates of New York offers the following as our comments on the Proposed Draft Regulations Addressing Hydraulic Fracturing and Additional Clarifying Amendments.

***Final Regulations Must Ban Fracking in the Basin***

We strongly support DRBC’s decision to ban high volume hydraulic fracturing (“fracking”) within the Basin. There is a large body of scientific evidence indicating that fracking and its associated activities, including the storage and use of chemicals for extraction, the process of drilling, the withdrawal of large volumes of water, and its discharge and disposal as waste, have adverse impacts on water, air, and public health. In 2014, after an exhaustive study by the New York Department of Health found that fracking posed significant health risks, New York State under Governor Cuomo banned hydraulic fracturing. New York residents continue to be positively impacted by this historic decision.

***Final Regulations Must Ban Fracking Waste in the Basin***

While it is crucial that DRBC ban fracking within the Basin, it is equally as important that DRBC ban fracking waste acceptance within the Basin. Allowing fracking wastewater to be stored, processed, or discharged opens up the waters of the Delaware River and its tributaries, as well as people within the Basin, to the very real dangers of fracking wastewater.

Wastewater, including flowback water and production brine produced by the process of fracking, contains brine, industrial chemicals and hydrocarbons, including many with dangerous and toxic constituents. Some of the chemicals known to be in the wastewater are carcinogenic, some have known health effects, and some are toxic to aquatic life and plant life. EPA has reported that “health effects associated with chronic oral exposure to these chemicals include carcinogenicity, neurotoxicity, immune system effects, changes in body weight, changes in blood chemistry, liver and kidney toxicity, and reproductive and developmental toxicity”.<sup>1</sup>

Drilling companies do not have to disclose the identities of the chemicals used in the fracking process. This leaves the public in the dark about the risks they face - and this uncertainty alone should be worrisome enough to disallow wastewater in the Basin. Treatment facilities are not equipped to properly process any fracking wastewater when they are unaware of the chemicals present in the wastewater. This means that any wastewater discharged from a treatment facility will be done so with no guarantee that toxic and harmful chemicals have been removed from the water now entering the ecosystem.

In addition, the Marcellus Shale formation has high levels of naturally occurring radioactivity, making radium-laden wastewater essentially unavoidable.<sup>2</sup> Exposure to these radioactive materials by the public will occur as a result of flowback produced by fracking through one pathway or another, thereby increasing the likelihood of cancers.<sup>3</sup> This radioactive wastewater will be likely to leak, spill or otherwise migrate to groundwater and drinking water supplies if storage, processing or discharge is allowed within the Basin.

Allowing for the acceptance of fracking wastewater opens up a host of other concerns not addressed in the regulations. It is unclear if allowed, how wastewater will be stored within the Basin. Common practice in other areas is to store wastewater in underground injection wells, in which wastewater is not treated but rather stored deep underground. This poses the risk of untreated wastewater migrating to aquifers and surface water through leaks in the wells, as well as the risk of earthquakes, as has occurred in Ohio and Oklahoma.

As evidenced by New York, banning fracking does not fully protect residents from the dangers of the practice and allowing fracking wastewater acceptance would set a dangerous precedent in the Basin. Despite the ban, New York has been accepting fracking waste from Pennsylvania at New York landfills with lax oversight for years<sup>4</sup> and spreading oil and gas brine on roads. Waste used in road spreading can runoff into nearby water bodies and contaminate underground aquifers.

Pollutants from fracking wastewater stored or processed in the Basin could travel downstream to negatively impact the watershed states, habitats, wildlife, and recreational values of the river and our vulnerable drinking water supplies. Chemicals from fracking wastewater, including radium, selenium, lead, and other toxic chemicals have been found to persist in surface water for years after a spill.<sup>5</sup> With the duty of protecting the shared waters that provide 15 to 17 million people

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<sup>1</sup> U.S. Environmental Protection Agency. Hydraulic fracturing for oil and gas: impacts from the hydraulic fracturing water cycle on drinking water resources in the United States. Washington, DC: Office of Research and Development; 2016, at ES-45 to ES-46 and 9-1. EPA Report # 600/R-16/236F. See <https://www.epa.gov/hfstudy>.

<sup>2</sup> Swanson, VE, “Oil Yield and Uranium Content of Black Shales,” USGS paper 356-A, 1960

<sup>3</sup> Resnikoff, Marvin, “Review of Pennsylvania Department of Environmental Protection Technologically Enhanced Naturally Occurring Radioactivity Materials (TENORM) Study Report”, Dec. 2015

<sup>4</sup> Elizabeth Moran. “License to Dump: Despite Ban, New York Permits Pennsylvania to Dump Radioactive Fracking Waste Inside Our Borders”. Environmental Advocates of New York 2015.

<sup>5</sup> Lauer, NE, JS Harkness and A Vengosh. “Brine Spills Associated with Unconventional Oil Development in North Dakota” Environmental Science & Technology 2016 50 (10), 5389-5397.

in all four of the Delaware River Watershed states with drinking water, including New York City and Philadelphia, DRBC has the responsibility to ban hydraulic fracturing wastewater acceptance in the Basin.

### ***Final Regulations Must Ban Water Withdrawals for Hydraulic Fracturing***

Environmental Advocates also urges DRBC to ban water withdrawals for hydraulic fracturing activities in regions outside of the Basin. While the proposed regulations “discourage” water withdrawals for fracking elsewhere in the region, discouraging this practice is simply not enough to protect the Delaware River Basin and its precious water resources. The only way to truly protect the Basin and ensure healthy water levels are maintained is to ban water withdrawals for any kind of fracking activities.

In 2014, the average water used to drill a horizontal natural gas well was up to 5.1 million gallons per well, and wells in states like Pennsylvania are increasingly using up to 9 million gallons of water per well.<sup>6</sup> This enormous volume of water, if sourced from within the Basin, would devastate its water resources. Water withdrawals at this scale have the potential to disrupt flow regimes and change stream morphology. This will degrade habitats and any hydrologically connected wetlands or other water-dependent bodies such as open ponds and springs. Critically, water withdrawals would undoubtedly diminish groundwater and aquifers.

The water used in fracking is completely lost to the hydrologic cycle by being either polluted or consumed. It therefore cannot be recovered and returned to its source. This means that the streams and groundwater of the Basin would be permanently depleted. With less fresh water flowing in streams, the Basin’s capacity to assimilate and dilute the input of pollutants and to withstand drought conditions is drastically reduced.

In addition, allowing water withdrawals within the Basin for fracking activities outside of the Basin enables this harmful practice elsewhere. Support for the fracking industry and natural gas development would have enormous climate impacts, as methane is a greenhouse 86 times more efficient at warming the atmosphere than carbon over a 20 year time frame<sup>7</sup> and its effects persist for hundreds of years.<sup>8</sup> The impacts of climate change on the Basin’s water resources include changes in precipitation and runoff that increase flooding and drought, impairment of habitats and water quality and sea level rise.

The Delaware River Basin watershed, which represents 2,362 square miles of land area within New York State, serves as a major drinking water source for the residents of New York City. The watershed provides roughly half of the city’s drinking water from the Pepacton, Cannonsville, and Neversink reservoirs.<sup>9</sup> Fracking wastewater stored, processed or discharged within the Basin endangers the watershed with unknown chemicals, dangerous pollutants, and radioactive materials that can leak or migrate into the water supplies. Threatening this major drinking water source for New York City’s over 8 million residents with fracking activities is unconscionable.

The Delaware River has been given Special Protection Water status by the DRBC, which prohibits degradation of water quality in the Basin. Allowing fracking and associated activities

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<sup>6</sup> Bobby Magill, “Water Use Rises as Fracking Use Expands”, Scientific American, July 1, 2015.

<https://www.scientificamerican.com/article/water-use-rises-as-fracking-expands/>

<sup>7</sup> Intergovernmental Panel on Climate Change (IPCC). 2013. Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.

<sup>8</sup> <http://www.pnas.org/content/early/2017/01/03/1612066114.full>

<sup>9</sup> <http://nj.gov/drbc/basin/>

would undoubtedly threaten to undermine this policy. In addition, the Delaware River was designated as a national Wild and Scenic River by Congress because of its outstanding features, irreplaceable resources, exceptional water quality and scenic and recreational value. These prized assets are gravely jeopardized by fracking and its polluting operations and must be protected for the public and future generations.

Environmental Advocates of New York strongly supports the proposed ban on fracking within the Delaware River Basin, but urges DRBC to disallow any fracking wastewater or water withdrawals. A full ban on all fracking activities in the Delaware River Basin is the only way to fully protect the health of its water and people.

Thank you for consideration of our comments.

Sincerely,

A handwritten signature in black ink that reads "Elizabeth Moran". The signature is written in a cursive, flowing style.

Elizabeth Moran  
Water & Natural Resources Director  
Environmental Advocates of New York