

This letter is to plead a case in support of a COMPLETE and permanent fracking ban in Delaware River Watershed. As a citizen of Philadelphia who presently receives my drinking water from the basin, I am opposed to your draft gas regulations that would allow the toxic and radioactive wastewater produced by fracking to be stored, processed, and discharged in the Delaware River Watershed and allow water to be exported from the Basin to fuel fracking elsewhere.

Currently the entire nontidal Delaware River is protected by DRBC's Special Protection Waters regulations that do not allow water quality to be diminished in any way. We are dependent on that protection to keep our water safe. The DRBC Water Code's Policy of Protection and Preservation also states "The Basin waters have limited assimilative capacity and limited capacity to accept conservative substances without significant impacts. Accordingly, it also shall be the policy of the Commission to discourage the importation of wastewater into the Delaware River Basin that would significantly reduce the assimilative capacity of the receiving stream on the basis that the ability of Delaware River Basin streams to accept wastewater discharges should be reserved for users within the Basin.²⁷

You need only look at two of the states who have banned fracking whose Governors are on your Commission. After exhaustive study, the State of New York prohibited fracking based on environmental and public health analysis. The NY Department of Health concluded that the overall weight of the evidence demonstrated the likelihood that adverse health outcomes and environmental impacts from fracking could not be prevented, leading to the Governor's decision to ban high volume hydraulic fracturing in the state. The State of Maryland permanently banned fracking after 2 years of study, based on the [potential for adverse public health and environmental impacts](#).

The most recent statistical analysis of the body of scientific literature by the Concerned Health Professionals of New York and Physicians for Social Responsibility, 685 peer-reviewed papers examining gas drilling and/or hydraulic fracturing ("fracking") were reviewed and the overwhelming majority of studies found evidence of or potential [adverse impacts on water, air, and human health](#).

Pennsylvania Department of Environmental Protection (PADEP) has determined that there are 301 cases of private water well contamination caused by oil and gas operations in the Commonwealth⁶; over 4,400 water complaints related to oil and gas have been filed by the public with PADEP. Between 2004 and 11.2016, [PADEP lists 9,443 public complaints about environmental problems in shale gas drilling areas](#).⁷

Fracking pollutes groundwater, destroying the quality of aquifers for generations to come. Natural gas is primarily methane, a greenhouse gas 86 times more efficient at warming the atmosphere than carbon over a 20 year time frame¹⁴ and its effects persist for hundreds of years. The well documented vented and fugitive losses from natural gas systems contribute to atmospheric warming - accelerating climate change. This results in increased flooding and drought, impairment of habitats and water quality (including salt water intrusion to Delaware Estuary water supplies) and sea level rise.

Substantial damage is caused by the toxic wastewater produced by fracking which contains many dangerous pollutants, including naturally occurring [radioactive materials, that cannot be fully removed by treatment and those damages can substantially harm the water quality of our streams and the life in them](#). Pollutants will inevitably spread downstream to negatively impact all of the watershed states, the habitats, fish, wildlife, and recreational values of the river and our vulnerable drinking water supplies.

Yale University School of Public Health, in a study of chemicals used in fracking, found that of the 119 compounds with sufficient data to classify them in terms of carcinogenicity (only 20% of chemicals in use had sufficient data – a problem in itself), “44 percent of the water pollutants and 60 percent of air pollutants were either confirmed or possible carcinogens.”⁴⁶ 55 unique compounds with carcinogenic potential could be released to both water or air and 20 chemicals had evidence of increased risk for leukemia or lymphoma.

Some local detriments from fracking

- **Increased truck traffic.** Every gas well results in at least 1400 truck trips to bring in and take out chemicals, fracking proppants, equipment, water and wastewater. As well bores lengthen, the number of truck trips increase up to 2200 per well.
- Air emissions and water pollution have greater adverse health impacts on those who reside, work, go to school, or frequent the zone within approximately 2 miles from the gas operation. Studies show that those closest have greater exposure and are more likely to develop disease and other health problems.
- In the Delaware River Watershed, water supplies contribute 3.82 billion dollars in annual value to the regional economy and water quality brings \$2.5M in annual economic benefit to the Basin, according to a study out of the University of Delaware. When water is depleted, it has real economic impacts for the source watershed that has lost the value of that water. Fracking uses enormous volumes of water, approximately 5-10 million gallons per well, and increases of 10-20 million gallons are becoming more frequent. The old estimates of 4-5 million gallons, used by DRBC, are no longer valid as well bores lengthen. Technology used today can lengthen horizontal well bores up to 4 miles.²⁴
- The use of water for fracking is “depletive” - all of the water is lost – either by being polluted or by being consumed since most of the water injected for fracking is not recovered and is not returned to the source (PADEP reports that between 8% and 10% of Marcellus Shale frack water is returned to the surface, meaning up to 90% of the injected water stays underground.) This consumption depletes the surface waterway and/or groundwater from where it is taken. The water injected for fracking is not only “consumed”, but is a total loss to its source. The water used for fracking is no longer available to the hydrologic cycle because most of it is left sequestered deep in the ground, cut off from the natural water cycle, compounding the impacts of the loss.

In conclusion, I ask you to agree to a complete and permanent ban on natural gas drilling and fracking and all related activities (including wastewater processing and discharges from and water withdrawals for drilling and fracking operations) throughout the Delaware River Watershed. This is essential to protecting our drinking and recreational water because the only sure way to prevent pollution from fracking and its activities is to totally ban it. It makes no sense to ban fracking but allow its toxic waste to be dumped in the Watershed and our precious fresh water to be depleted for fracking. We need a complete and permanent ban now. In addition, the draft regulations do not address the storage of natural gas liquids in the Watershed. These hazardous liquids cannot be stored safely in underground caverns, which are prone to leakage and are unstable.

I find it so difficult to believe that you would even consider jeopardising the quantity and quality of your citizens drinking water and health for the sake of the increasing the gas industry's profits. PLEASE PROTECT YOUR PRESENT AND FUTURE CITIZENS. WE HAVE THE RIGHT TO ABUNDANT CLEAN WATER NOW AND FOREVER!!