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Dear Commissioners,

Dear sir and madame,

Duke University researchers announced in January that they are finding radioactivity in Pennsylvania sediment from a Pennsylvania stream near a plant where fracking waste is treated. Science is still catching up with the damage fracking has done everywhere it's been done. Meanwhile, the Intergovernmental Panel on Climate Change has said, "Climate change challenges the traditional assumption that past hydrological experience provides a good guide to future conditions." Michael Mann says that it would be a mistake to see 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." We are dealing with many unknowns and when we do learn something, it's never good news. There are no bases except political expedience and greed that advocate for doing anything but banning all fracking related activities.

DRBC's draft regulations do not specifically propose that injection wells that would hold frack wastewater be allowed in the Delaware River Watershed. However, they do propose to allow wastewater from fracking to be brought into the Watershed for storage, treatment and discharge so "storage" could mean long-term storage of wastewater in underground wells within the Basin. This is a practice that threatens public health and the environment. Injection of wastewater does not "treat" waste or remove contaminants, it simply moves the toxic wastewater produced by fracking from one place and time to another. It risks the migration of untreated toxic and radioactive frack wastewater to aquifers and surface water through leaks from the injection well and spills and accidental releases while being handled. Injection wells are causing earthquakes in Ohio and Oklahoma as well as other locations, as documented by USGS and other scientific institutions. Injection wells are not leak-proof and can exposing groundwater and aquifers to contamination from the toxic mix that constitutes untreated frack wastewater when seals are broken and fractures occur as a result of seismic activity., When a site is developed for gas well development, the change is dramatic, essentially transforming the land to an industrial landscape. The result is destruction of acres of vegetation (8.8 acres per well pad in 2011

with 30 acres of forest impacts due to edge effects, more than double that is the trend today), soil compaction and destruction of the natural land contours, alterations to watershed drainage patterns, and hydrologically connected systems such as wetlands and vernal pools. Habitats and complex ecosystems are disrupted or lost. 85% of the Upper Delaware where the Marcellus Shale is located is forested. Forest destruction and fragmentation in turn destroys the ability of the forest ecosystem to capture, clean, and infiltrate precipitation, removes the trees that sequester carbon, reduces biodiversity, encourages invasive species, and destroys vital habitat.

On March 13, leading scientists and physicians released the Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking, 5th Edition documenting fracking's harm to public health. Please read all of the study's findings. Their conclusion, and mine, is that the only way to truly protect public health is to prohibit fracking and all its associated activities (waste hauling, treatment, disposal). I urge you to ban all of these activities in your final regulations.

Thank you

Sincerely,

Margaret Quinn