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Dear Commissioners,

We vacation every summer at Lewes, Delaware, on the Delaware Bay. We have 14 people in our vacation family. We are in the bay water every day so we must have clean water, completely free of the toxic chemicals of drilling, fracking, and processing. A total ban in the Delaware basin is necessary if we are to continue to be safe to vacation on the Delaware Bay.

I was a resident of Delaware for over ten years, as a graduate student and as a professor. I am aware of the importance of keeping Delaware and its streams clear of toxic chemicals. My daughter has done USGS research in Delaware to add to our knowledge base and understanding.

This is an important matter. We support the DRBC and ask for a ban on horizontal drilling and hydraulic fracking.

The regulations proposed by the DRBC are setting up an unsustainable cycle of sending clean water out of the basin and bringing highly contaminated water into the basin. If we are to successfully combat climate change, we must stop our unsustainable practices and avoid implementing new ones.

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.

As stated in the Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking, 5th Edition, growing evidence shows that regulations are simply not capable of preventing harm (pg 17). Further, cases of drinking water sources contaminated by drilling and fracking activities, or by associated waste disposal, are now proven. EPA's assessment of fracking's impacts on drinking water resources confirmed specific instances of water contamination caused by drilling and fracking related activities and identified the various pathways by which this contamination has occurred: spills; discharge of fracking waste into rivers and streams; and underground migration of chemicals, including gas, into drinking water wells (pg18).

Sincerely,

Duane Nichols