



June 8, 2018

Hon. Daryl D. Metcalfe, Majority Chair
Pennsylvania House State Government Committee
144 Main Capitol Building
PO Box 202012
Harrisburg, PA
Pam Neugard, Pneugard@pahousegop.com
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Re: Written Testimony submitted for the Public Hearing of Pennsylvania House State Government Committee regarding Delaware River Basin Commission, June 11, 2018

Dear Mr. Metcalfe,

Delaware Riverkeeper Network (DRN) submits this comment to the Public Hearing of the Pennsylvania House State Government Committee that is scheduled for June 11. The hearing is to receive testimony regarding the Delaware River Basin Commission (DRBC) policies and actions on business growth and economic vitality in the basin and the rights of property owners within the basin.

DRN is a non-profit organization established in 1988 to protect and restore the Delaware River, its associated watershed, tributaries, and habitats. In its efforts to protect and restore the watershed, DRN organizes and implements stream, wetland and habitat restorations, a volunteer monitoring program, educational programs, environmental advocacy initiatives, recreational activities, and environmental law enforcement efforts throughout the entire Delaware River Basin. DRN is a membership organization headquartered in Bristol, Pennsylvania, with more than 20,000 members with interests in the health and welfare of the Delaware River and its watershed. DRN is uniquely qualified as a stakeholder to comment on and provide relevant information concerning the Delaware River Basin Commission's policies and actions, which directly impact its members and the Delaware River Watershed.

The Upper Delaware River is a federally designated "Scenic and Recreational River" administered by the National Park Service. The National Wild and Scenic Rivers System also includes large portions of the Lower Delaware and the Delaware Water Gap. The Lower, Middle and Upper Delaware River have high water quality and are subject to Delaware River Basin Commission Special Protection Waters Designation. The Basin and River are home to a number of federal and state listed endangered or threatened species

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including, but not limited to, the dwarf wedgemussel, Indiana bat, Timber Rattle snakes, bog turtle, Northeastern bulrush. Over 200 species of migratory birds have been identified within the drainage area of the Upper Delaware River within the Basin, including the largest wintering population of bald eagles within the Northeastern United States. The ecologically, recreationally and economically important American Shad population migrates up through the nontidal portions of the Delaware River to spawn, American Shad populations in the Delaware River are currently at depressed numbers. Migratory birds breed in or migrate through the high quality riparian corridors of the Basin. The Delaware River is also home to dozens of species of commercially and recreationally important fish and shellfish species. These attributes provide important economic value to the Delaware River Watershed and, when sustained, contribute daily to the economic viability of the basin's resources. This comment provides specific information regarding the benefits of the Delaware River Basin's water supplies, ecosystems and natural resources, and the irreplaceable value of a healthy river.

The Delaware River's waters are protected under the terms of the Delaware River Compact, the DRBC's Special Protection Waters Program, and regulations adopted in its Comprehensive Plan and Rules of Practice and Procedure. Attached is DRN's written comment submitted to the DRBC regarding recent proposed rulemaking "Proposed New 18 CFR Part 440 - Hydraulic Fracturing in Shale and Other Formations; Proposed revisions and additions to section 18 CFR 401.35 relating to project review classifications", available at

<http://www.delawariverkeeper.org/sites/default/files/DRN%20Comment%20on%20DRBC%20Draft%20Regulations%20w%20Attachments%20%282018-03-30%29.pdf>. Pages 5 through 12 of the comment address in detail the legal framework from which the State Government Committee's inquiry should be conducted.

The economic value of the Delaware River's resources have been recognized by Congress through its designation of the Delaware as a Wild and Scenic River and the specific recognition of its outstanding and profitable recreational values. The living resources and commercial importance of the Delaware Estuary and Bay are recognized by the inclusion of the Delaware in the federal National Estuary Program. The economic value of the water supplied each day to 15 to 17 million people, including Philadelphia and regions outside of the Basin in New York City and New Jersey, is also recognized by the U.S. Environmental Protection Agency, all four of the Basin states (Pennsylvania, New York, New Jersey and Delaware) and by studies and academic research over many decades.

Dr. Gerald Kauffman of the University of Delaware published a seminal analysis in 2011 entitled "[Socioeconomic Value of the Delaware River Basin in Delaware, New Jersey, New York, and Pennsylvania](#)", attached to this comment. The report examines the Basin's annual economic activity, ecosystem services, and jobs and wages of the Delaware River. These are included in the resources that the DRBC is responsible for in its administration of its policies and actions.

The Executive Summary explains:

What do the Guggenheim Museum, Boeing, Sunoco, Campbell's Soup, DuPont, Wawa, Starbucks, Iron Hill Brewery, Philadelphia Eagles, Camelback Ski Area, Pt. Pleasant Canoe Livery, Salem Nuclear Power Plant, and United States Navy all have in common? They all depend on the waters of the Delaware River Basin to sustain their business. **The Delaware River Basin is an economic engine that supplies drinking water to the 1st (New York City) and 5th (Philadelphia) largest**

metropolitan economies in the United States and supports the largest freshwater port in the world. (*Emphasis added*) The Delaware Basin's water supplies, natural resources, and ecosystems in Delaware, New Jersey, New York, Pennsylvania and a small sliver of Maryland:

- Contribute \$22 billion in annual economic activity from recreation, water quality, water supply, hunting/fishing, ecotourism, forest, agriculture, open space, and port benefits.
- Provide ecosystem goods and services (natural capital) of \$21 billion per year in 2010 dollars with net present value (NPV) of \$683 billion discounted over 100 years.
- Are directly/indirectly responsible for 600,000 jobs with \$10 billion in annual wages. (Kauffman 2011, p.1)

The values of the Delaware River are examined in a report published by DRN in 2010 “RIVER VALUES, The Value of a Clean and Healthy Delaware River” found at http://www.delawariverkeeper.org/sites/default/files/River_Values_Report_0_0.pdf. The report is attached. The report examines economic aspects of the Basin such as the value of clean water, property values, environmental health, waterfront businesses, recreational assets, employment, and cultural and historic values such as current Native American communities and cultural heritage, historic settlement of the region, and scenic values. It also explains that while restoration of the river’s quality has made its comeback from a polluted waterway incapable of supporting life to a vibrant, highly valued Watershed, it is the work of dedicated individuals, communities and organizations, the investment of billions of dollars over many decades and the implementation of environmental laws and action by local, state and federal agencies, and most importantly the DRBC, that has made its renaissance possible. The DRBC’s implementation of the Watershed approach to environmental quality makes it possible to provide the locally-based information, data and scientific and technical knowledge that can help avoid damage and the level of disregard that resulted in the river’s decline by the mid-20th Century. Once damage has been done, it is extremely costly and difficult to undo, making it both economical and environmentally beneficial to prevent the harm before it occurs through informed, integrated planning, community-driven initiatives, and protective regulation.

The Forward by the Delaware Riverkeeper Maya van Rossum discusses the significance of the Delaware River Watershed’s remarkable assets:

The rich ecological history of the river region, still evidenced today, has not only been critical to the success of the recreational uses and associated ecotourism, but has been the foundation upon which the region’s culture and sense of identity has evolved. Historic and ongoing community vigilance has preserved unique cliff formations overlooking the River; natural islands, rapids, a remarkably well-established green riparian buffer including wetlands, and magnificent and unparalleled ecological phenomena including the arrival of hundreds of thousands of migratory shorebirds coming to feast on the eggs of the Horseshoe Crab, a species that has lived and spawned in our Delaware Bay since before the dinosaurs. (DRN 2010, p. v)

Access to pure, life-sustaining water that supports diverse and healthy aquatic communities is an inalienable right of all beings, and of the Delaware River itself. The Delaware River and the watershed it supports is our opportunity to receive the benefits of this inalienable right. No one entity, person, corporation, industry, town, county or state, has the right to use the Delaware River or any of the streams that feed it in a way that harms others or infringes on this right.

Protecting, respecting and restoring a clean, healthy and free flowing Delaware River provides the greatest level of protection, healthy growth and quality of life to our communities. A healthy Delaware River including floodplains, flows, tributaries, aquifers and habitats protects our communities from flood damages and drought, provides clean and abundant drinking water at a sustainable level to our communities, supports growing businesses of all types, supports healthy commerce, encourages both commercial and recreational fisheries providing safe food, creates vibrant recreation, encourages growing ecotourism, increases the marketability and market value of our homes, and makes our communities more desirable places to live and be. (DRN 2010, p. vi)

The prevention of environmental degradation, pollution, and community harm is an essential consideration for all actions in the Delaware River Basin. High volume hydraulic fracturing (“fracking”), the processing, storage and discharge of wastewater produced by fracking, and the withdrawal of water for fracking are activities being considered by the DRBC at this time in their proposed rulemaking, “Proposed New 18 CFR Part 440 - Hydraulic Fracturing in Shale and Other Formations; Proposed revisions and additions to section 18 CFR 401.35 relating to project review classifications”, available at <http://www.nj.gov/drbc/programs/natural/>. The most comprehensive collection of scientific literature on high volume hydraulic fracturing, and its impacts is the [Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking, 5th Edition](#), available at <http://concernedhealthny.org/compendium/>. The Fifth Edition of this authoritative report started in 2014 examining the impacts of fracking on the environment and public health was published March 2018.

The health professionals who reported and analyzed over 1,200 peer reviewed research articles for the Compendium concluded in the report: The “...findings to date from scientific, medical, and journalistic investigations combine to demonstrate that fracking poses significant threats to air, water, health, public safety, climate stability, seismic stability, community cohesion, and long-term economic vitality. Emerging data from a rapidly expanding body of evidence continue to reveal a plethora of recurring problems and harms that cannot be sufficiently averted through regulatory frameworks. There is no evidence that fracking can operate without threatening public health directly or without imperiling climate stability upon which public health depends.” (psr.org/resources/fracking-compendium.html, p. 266.)

Another related report is a literature review that examines literature compiled on fracking impacts for an earlier edition of the Compendium. The report concludes that the body of scientific evidence demonstrating the negative environmental and human health effects from unconventional natural gas development (UNGD) is very strong. The authors of a 2016 study evaluated peer-reviewed literature published between January 1, 2009 and December 31, 2015 as they related to the potential impacts of UNGD on public health, water quality, and air quality. The boundaries of the assessment included scientific literature on hydraulic fracturing and the associated operations and ancillary infrastructure required to develop and distribute unconventional natural gas. (Hays, J. & Shonkoff, S.B.C. (2016). Toward an Understanding of the Environmental and Public Health Impacts of Unconventional Natural Gas Development: A Categorical Assessment of the Peer- Reviewed Scientific Literature, 2009-2015. *PLoS ONE*, Vol. 11, No.4. Retrieved from <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0154164>) The results indicated that at least 685 papers have been published in peer-reviewed scientific journals that are relevant to assessing the impacts of UNGD. (Hays and Shonkoff, 2016)

A portion of these papers covering each category (public health, water quality, and air quality) was selected by the authors to review. Of the 31 studies selected for public health, 26 (84%) contained findings that indicate public health hazards, elevated risks, or adverse public health outcomes from UNGD. (Hays and Shonkoff 2016) Of the 58 studies related to water quality, 40 (69%) had findings that indicated potential, positive association, or actual incidence of water contamination from UNGD. (Hays and Shonkoff, 2016) Finally, of the 46 studies associated with air quality, 40 (87%) had findings that indicated that UNGD increased air pollutant emissions and/or atmospheric concentrations. (Hays and Shonkoff, 2016) This study demonstrates that the weight of the findings in the scientific community indicates hazards and elevated risks to human health as well as possible adverse health outcomes associated with UNGD.

The development of the infrastructure required by natural gas development also requires extensive analysis to prevent environmental degradation, pollution, and community harm in the Basin. Communities across America are being abused by the use and misuse of powers granted to the Federal Energy Regulatory Commission (FERC) pursuant to the Natural Gas Act. An extensive analysis that documents the lack of needed environmental protection available is a dossier reviewing the Federal Energy Regulatory Commission (FERC): *People's Dossier: FERC's Abuses of Power and Law* available at <http://bit.ly/DossierofFERCAbuse> The dossier demonstrates the repeated examples of FERC's misuse of the law to strip people of their legal and constitutional rights; to strip the legal authority of states; to undermine the authority of other federal agencies; to prevent fair public participation in the pipeline review process; to ignore the mandates of the Clean Water Act and the National Environmental Policy Act; to take from residents and citizens their private property rights; to take from communities the protection of public parks, forests and conserved lands that they have invested heavily in protecting; to take jobs and destroy small businesses; to inflict on our communities health, safety and environmental harms ... all for the benefit of the pipeline industry seeking to advance its own corporate profits and business edge over its competitors.

The authority of the DRBC extends to decision making that can affect water resources, land use, ecosystems and other watershed assets. The House State Government Committee is examining private property rights as part of this Hearing. Attached is a Legal Memorandum addressing the "takings" issue that was submitted by DRN to DRBC explaining why leaseholders do not have a regulatory takings claim against them for their enactment of a moratorium on shale gas drilling. While the memo addressed specific statements by landowners in 2013, it applies to the broader issue of private property rights and "takings".

The CONCLUSION states:

Over fifteen million people benefit from the unfiltered drinking water supplied by the Delaware River Watershed. Clean drinking water is a quintessential public good that benefits everyone in the population. The burdens to the landowners, by contrast, are small and consist of no more than what any landowner must submit to in order to secure "the advantage of living and doing business in a civilized community." *Andrus v. Allard*, 444 U.S. at 67, 100 S. Ct. at 328 (quoting *Pennsylvania Coal Co.*, 260 U.S. at 422, 43 S. Ct. at 163 (Brandeis, J., dissenting)). The regulation of gas drilling has long been concerned with environmental protection, including the protection of drinking water supplies. The aim is not to conserve wild land in its natural state—this is a law specifically focused on drilling for natural gas. A narrowly drawn regulation focused precisely on the injury to be prevented is one for which the burden should "in all fairness and justice" be borne by the property owner *alone* because he holds his property subject to reasonable regulation and the implied obligation not to use property in a way injurious to the community. *See Mugler v. Kansas*, 123 U.S. 623, 665, 8 S. Ct. 273, 299 (1887).

For the aforementioned reasons, leaseholders in the Delaware River Basin likely do not have an actionable taking claim. (DRN Legal Memo “Regulatory Takings: Northern Wayne Property Owners Alliance Letters to DRBC”, 2010, p. 15-16)

Finally, DRN points out the very limited and unstable economic footing of shale gas development. There are numerous analyses, including reports and articles by oil and gas industry experts, which question the viability and longevity of shale gas with an economic benefit, particularly due to the “boom and bust” nature of its development and also due to the manifestation of the stronger long-term economic engine of renewable energy and energy efficiency.

Of note are studies addressing the economics of shale gas development by Janette Barth, president of J.M. Barth & Associates Inc. and founder of Pepacton Institute LLC, with 35 years of experience in economic modeling and forecasting. An article that summarizes her conclusions is available at <https://www.enr.com/articles/20867-hydrofracking-offers-short-term-boom-long-term-bust> and a report is available at: <http://www.state.nj.us/drbc/library/documents/dockets/stone-energy/Barth-Study-Economics032710.pdf> Dr. Barth concludes that the negative economic impacts of shale gas development may likely outweigh any positive economic gain. She states that “...the likelihood is that gas drilling would adversely affect other economic activities such as tourism and sport fishing and hunting. To some extent gas drilling and these other industries are likely to be mutually exclusive. The net effect is what must be considered.” (“Unanswered Questions About The Economic Impact of Gas Drilling In the Marcellus Shale: Don’t Jump to Conclusions”, J. Barth, 2010, p. 14) She concludes: “As decisions regarding gas drilling in the Marcellus Shale have potentially severe and in some cases irreversible consequences in the form of health, environmental and infrastructure degradation, it is imperative that all of the possible economic impact outcomes be fully understood.” (J. Barth, 2010, p. 15)

The problematic boom and bust cycle of shale gas development is examined in a published report authored by Susan Christopherson, Professor, Department of City & Regional Planning, Cornell University.

The cycle is described by Dr. Christopherson:

The extraction of non-renewable natural resources such as natural gas is characterized by a “boom-bust” cycle, in which a rapid increase in economic activity is followed by a rapid decrease. The rapid increase occurs when drilling crews and other gas-related businesses move into a region to extract the resource. During this period, the local population grows and jobs in construction, retail and services increase, though because the natural gas extraction industry is capital rather than labor intensive, drilling activity itself will produce relatively few jobs for locals. Costs to communities also rise significantly, for everything from road maintenance and public safety to schools. When drilling ceases because the commercially recoverable resource is depleted, there is an economic “bust” -- population and jobs depart the region, and fewer people are left to support the boomtown infrastructure. (Susan Christopherson, “The Economic Consequences of Marcellus Shale Gas Extraction: Key Issues, A Research Project sponsored by the Cornell University Department of City & Regional Planning, CaRDI Reports, 2011, p. 4 www.cardi.cornell.edu)

The lack of profit being made by the fracking industry undermines its ability to fuel economic growth. The over-inflation of job estimates and the shaky nature of the market, as explored by recent Wall Street Journal articles referenced in a May 12, 2018 article by S. Tom Bond, an industry analyst, has fooled many investors. The article points out that fracking just isn’t profitable and it has many negative impacts with long term damaging economic impacts. Available at: <http://www.frackcheckwv.net/2018/05/12/fracking->

[companie-are-drilling-more-and-enjoying-it-less/?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+frackcheckwv+%28Frack+Check+WV+%29.](https://www.bloombergenvironmental.com/news/articles/2016-04-06/wind-and-solar-are-crushing-fossil-fuels)

The expansion of renewable energy sources and the jobs and economic gains that this growing sector is producing have been the subject of many articles and reports over the last few years. A Bloomberg article by Tom Randall “Wind and Solar Are Crushing Fossil Fuels” discusses the growth of renewables and the decline of fossil fuels, including natural gas. Available at: <https://www.bloombergenvironmental.com/news/articles/2016-04-06/wind-and-solar-are-crushing-fossil-fuels>

An in-depth report shows that jobs and positive economic benefits accompany regulation.

(“Abel Russ and Eric Schaeffer, “DON’T BELIEVE THE “JOB KILLER HYPE: *Decades of Economic Research Show that Environmental Regulations are Good for the Economy*”, Environmental Integrity Project, January 16, 2017. <http://www.environmentalintegrity.org/wp-content/uploads/2017/01/Jobs-and-environment-report.pdf>)

The report states:

A large body of evidence accumulated over the past 30 years shows that regulations, and in particular environmental regulations, tend to create jobs, not kill them.” (Russ and Schaeffer, 2017, p. 1); and

The evidence also shows that environmental regulations do not hamper productivity growth. A 2014 review paper from the London School of Economics concluded that the effect of environmental regulations on competitiveness is “negligible compared to other factors such as market conditions and the quality of the local workforce. This is true at the national level, at the state level, and at the industry level.

- A 2014 report from the Organization for Economic Cooperation and Development (OECD) found that stronger environmental policies lead to short-term gains in productivity growth, resulting in permanently higher levels of productivity.” (Russ and Schaeffer, 2017, p. 2)

An article by economist Deborah Lawrence examines the financial gains being made by renewable energy sources over fossil fuels, including coal and gas. (Deborah Lawrence, “Shales vs. solar: An investment perspective”, [Energy Policy Forum](http://www.resilience.org/stories/2014-07-29/shales-vs-solar-an-investment-perspective), 2014 <http://www.resilience.org/stories/2014-07-29/shales-vs-solar-an-investment-perspective>)

Ms. Lawrence quotes McKinsey and Company’s explanation of the phenomenon of renewables ascending financially:

“The heat-rate efficiency of the average coal-fired power plant has not significantly improved in more than 50 years...Underutilization and chronic inefficiency cannot be solved by financial engineering or offshoring labor. Something more fundamental is required. We see such challenges as emblematic of an unprecedented opportunity to produce and use resources far more imaginatively and efficiently, revolutionizing business and management in the process. Indeed, rather than facing a crisis of resource scarcity, the world economy will be revitalized by an array of business opportunities that will create trillions of dollars in profits.” (D. Lawrence, Energy Policy Forum 2014)

A review of the U.S. Labor Statistics regarding job growth nationally recognizes that the renewable energy sector is growing twice as fast as any other industry. (<https://qz.com/1111998/renewable-energy-is-creating-us-jobs-twice-as-fast-as-any-other-industry/>) and other reports on the growth of jobs in this sector continue. An article at <https://insideclimatenews.org/news/26052017/infographic-renewable-energy-jobs-worldwide->

[solar-wind-trump](#) reports that renewable energy jobs are growing, twice as many Americans now work in the wind industry as in coal mining, and solar employs many more than that. 9.8 million people are now employed in the renewable energy industry globally, and the numbers are increasing.

DRN supports protective action by the DRBC and recognizes its authority to take that action. DRN supports DRBC's proposal for the prohibition of fracking throughout the Delaware River Watershed. DRN opposes the diversion, transfer or exportation of water from sources within the Basin for utilization in fracking of hydrocarbon carbon bearing rock formations outside the Basin as proposed at Section 440.4 in their proposed rulemaking. DRN opposes the importation, transfer, treatment, storage, disposal, or discharge in the Basin of produced water and Centralized Waste Treatment (CWT) wastewater generated by fracking operations, as proposed at Section 440.5. DRN asserts that a ban on fracking and its activities as described here will provide economic stability and viability that supports the Delaware River Basin's resources, assets, and well-being. A complete ban by the DRBC is within their authority and would serve to fulfill their responsibility to protect the water resources of the Delaware River Basin.

Truly sustainable economic growth and stability requires a healthy river, clean water and air, and a thriving Watershed and it is Delaware Riverkeeper Network's goal to assure that this is achieved today and for future generations.

Respectfully submitted,



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CC: Hon. Matthew D. Bradford, Democratic Chair
Pennsylvania House State Government Committee
Bridget M. Lafferty, Executive Director, House State Government Committee
Steve Tambini, Executive Director, Delaware River Basin Commission
Pam Bush, Commission Secretary and Assistant General Counsel, Delaware River Basin Commission

Attachments:

DRN's written comment submitted to the DRBC regarding recent proposed rulemaking, d. 3.30.18
"Socioeconomic Value of the Delaware River Basin in Delaware, New Jersey, New York, and Pennsylvania", Dr. Gerald Kauffman

“RIVER VALUES, the Value of a Clean and Healthy Delaware River”, Delaware Riverkeeper Network, April, 2010.

Legal Memorandum Re: Regulatory Takings: Northern Wayne Property Owners Alliance Letters to DRBC, Delaware Riverkeeper Network, 2013