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Comments on Proposed Regulations for Oil and Gas Surface Activities (Amendments to 25 Pa. Code Chapter 78, Subchapter C)

National Parks Conservation Association
March 5, 2014

Environmental Quality Board Members:

Thank you for the opportunity to submit comments on Pennsylvania's draft changes to state regulations organized under Chapter 78: Oil and Gas Wells. The following comments are submitted on behalf of the more than 800,000 members and supporters of the National Parks Conservation Association (NPCA) across the country, more than 34,000 of whom reside in Pennsylvania. The nonpartisan NPCA is the only nonprofit advocacy organization dedicated to protecting and enhancing America's national parks for our children and grandchildren.

Perhaps more than any other state, the national parks in Pennsylvania represent the breadth and diversity of the national park system. Historic and cultural parks in Pennsylvania cover almost the entirety of American history, including parks commemorating the French and Indian War; Revolutionary War; Civil War; World War II and the major terrorist attacks on September 11, 2001.[1] National parks in Pennsylvania protect natural beauty as well, with three parks along the Delaware River – Upper Delaware Scenic and Recreational River; Middle Delaware National Recreational River; and, Delaware Water Gap National Recreation Area.

National parks in Pennsylvania provide important economic engines in the Commonwealth. In 2011, visitors to national parks across Pennsylvania spent nearly $500 million dollars and supported more than 5,300 jobs. These numbers are important to local economies, because they are not as subject to "boom and bust" cycles as are other industries, and they cannot be exported from Pennsylvania. And yet, the economies supported by these national treasures in Pennsylvania are fragile, and can be harmed by other activities.

If not properly managed, the boom in natural gas production sweeping across Pennsylvania could threaten the quality and visitor enjoyment of the national parks in Pennsylvania. While there may be benefits from the safe production of natural gas in Pennsylvania, these resources must be developed in such a way as to minimize the harmful impacts on our remarkable history and heritage.

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[1] There are 18 national park units in Pennsylvania: Allegheny Portage Railroad National Historic Site; Appalachian National Scenic Trail; Delaware Water Gap National Recreation Area, Edgar Allan Poe National Historic Site; Eisenhower National Historic Site; First State National Monument; Flight 93 National Memorial; Fort Necessity National Battlefield; Friendship Hill National Historic Site; Gettysburg National Military Park; Hopewell Furnace National Historic Site; Independence National Historical Park; Johnstown Flood National Memorial; Middle Delaware National Scenic River; Steamtown National Historic Site; Thaddeus Kosciuszko National Memorial; Upper Delaware Scenic and Recreational River; and, Valley Forge National Historical Park.

The production of natural gas on nearby lands could harm Pennsylvania's national parks in two main ways. First are direct environmental impacts. The water quality in the parks – and especially in the three parks along the Delaware River – could be harmed if there are wastewater spills close to nearby waterways. Contamination of the Delaware River, in particular, would have far-reaching consequences that could degrade the drinking water supply for some 15 million citizens in the region.[2] Air quality at any one of Pennsylvania's parks can be negatively impacted by fracking development, which emits more pollutants than traditional oil and gas extraction methods. Finally, increased development near parks fragments the habitats of park wildlife that move across park borders.

The second type of impacts center around the visitor's enjoyment of national parks. As with any tourism-based economy, visitation, and repeat visitation, depends on the quality of the experience. Where there is industrial development too close to parks, the visitor experience suffers. Visitors travel to parks in order to escape the pressures of modern life, including industrial development. However, visitors to parks near fracking activities may experience air and water pollution, industrial noise from compressors, trucks and other equipment, the visual intrusion of oil rigs and lighted equipment on scenic or historic viewsheds, and traffic and congestion on otherwise rural roads. Industrialization of our park landscapes is already harming parks amid the drilling booms in the Rocky Mountain West. The experience of visiting North Dakota's rural Theodore Roosevelt National Park has been significantly degraded, and now visitors have to deal with heavy traffic, air quality warnings and nighttime gas flares. It's an experience Pennsylvania needs to prevent at the national parks in the Commonwealth.

Proposed Changes to Chapter 78 of the Pennsylvania Code

In order to protect national parks in Pennsylvania and the surrounding area from the abovementioned impacts, the Commonwealth needs to adopt effective regulations. The proposed Chapter 78 changes fall far short of what is needed to protect the Commonwealth's national parks and to protect the balance between important national park economies and the oil and gas industry.

NPCA's comments on the draft Chapter 78 regulations focus on three issues:

1. The need to keep the moratorium on fracking in the Delaware River Basin in place until a full environmental impacts study is conducted to determine potential negative impacts of drilling in the Basin, and how to avoid such impacts.
2. The need for improved cataloguing and plugging of Pennsylvania's more than 250,000 "orphaned and abandoned" wells;
3. The need to increase the proposed 200 foot setback from public areas to a minimum of one-half mile; and

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[2] According to the Delaware River Basin Commission, "[o]ver 15 million people (approximately five percent of the nation's population) rely on the waters of the Delaware River Basin for drinking, agricultural, and industrial use, but the watershed drains only four-tenths of one percent of the total continental U.S. land area. The 15 million figure includes about seven million people in New York City and northern New Jersey who live outside the basin. New York City gets roughly half its water from three large reservoirs located on tributaries to the Delaware." http://www.state.nj.us/drbc/basin/.

Fracking in the Delaware River Basin

The national parks along the Delaware River – Upper Delaware Scenic and Recreational River, Middle Delaware National Scenic River, and Delaware Water Gap National Recreation Area – are some of the most visited and most beloved national parks in the entire country. Nearly 5 million Americans visited Delaware Water Gap NRA alone in 2011.[3] The proximity of these parks to urban centers in Pennsylvania, New York and New Jersey means that the Delaware River provides a natural outlet for millions of Americans. What's more, the parks of the Delaware River support a vibrant and stable economy. In 2011 alone, visitors to Delaware Water Gap NRA spent $149,655,000 on their visits, supporting more than 2,000 jobs.[4] Provided the river remains an ecological draw, these numbers are not subject to the same "booms and busts" as other industries. Finally, in addition to the ecological importance and the tourism benefits, the Delaware River provides clean drinking water to more than 15 million residents in Pennsylvania, New York, New Jersey and Delaware.

That the resources of the Delaware River require special protection was clear as early as 1961 when President Kennedy and the governors of the four Delaware River states established the Delaware River Basin Commission (DRBC). Since then, the DRBC has done an admirable job managing the many demands put on the waters of the Delaware River. The potential for massive growth in the development of oil and gas found within the Basin presents a new challenge, one that, if mismanaged, could have dire consequences for the river, its visitors and its downstream users.

Regulations should be developed to govern the practice of hydraulic fracturing in the Delaware River Basin that reflect the fragility and importance of the river system by displaying the highest level of caution, the tightest technological requirements, and the utmost deference for visitors and businesses dependent on the environmental health of the region. The PA Chapter 78 regulations should be improved to reflect its recognition of the critical importance and fragility of the Delaware River basin, to signal its willingness to work with the Basin Commission on basin-specific regulations, which should be based upon the recommendations of the upcoming EPA study of the impacts of hydraulic fracturing on drinking water, as well as on a comprehensive Environmental Impact Statement to assess the range of potential harm, and how that harm can be reduced to protect the resources at risk. Regulations to allow any new energy development in the Basin should and must be informed by such a careful and thorough assessment prior to commencement of any new drilling activities.

In addition to working with the DRBC to establish regulations for drilling in the Basin, the state of Pennsylvania should restore funding to the DRBC to meet its agreed-upon obligation. The DRBC provides invaluable service to the citizens of Pennsylvania, protecting the water quality and stream flow of the Delaware River. In February 2014, Pennsylvania proposed a drastic cut of its funding to the DRBC, far below its "fair share" for the services it receives. Pennsylvania should restore its 2014 funding to the

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[3] Michigan State University and the National Park Service, "Economic Benefits to Local Communities from National Park Visitation, 2011" (2013) at 17, *available at:* http://www.nature.nps.gov/socialscience/docs/NPSSystemEstimates2011.pdf.

[4] Id.

DRBC, and to amend its Chapter 78 language to ensure continued "fair share" funding of the Commission going forward.

"Orphaned and Abandoned Wells"

As the Pennsylvania DEP states, there are likely more than 250,000 wells in the state that were not properly plugged after they stopped producing.[5] These "orphaned or abandoned" wells are often not well-documented – having been drilled before such requirements were in place – and could "simply be abandoned as gaping holes in the ground."[6] The plugging of abandoned wells was long considered an "afterthought" by the industry.[7]

As the DEP recognizes, "[a]n unplugged abandoned well can be a hazard not only to the environment, but also to the health and safety of Pennsylvania residents."[8] From an environmental standpoint, abandoned wells pose a number of potential threats. They provide potential conduits for fluids to migrate between formations and potentially into freshwater zones.[9] Unplugged or poorly plugged wells also may provide pathways for natural gas to seep to the surface and potentially cause a fire or be a health hazard.[10] As new technologies, such as hydraulic fracturing and horizontal drilling, return producers to areas once drilled and then abandoned, the risk of impacting a potentially-unknown orphan well increase. Abandoned wells provide a pathway to contamination for waters that flow into the national parks, particularly those along the Delaware River, and for chemicals that could harm parks and park visitors across the state.

The changes proposed in Chapter 78 take positive steps towards the identification and plugging of abandoned wells, but do not go far enough to ensure that proper safeguards are in place. Draft section 78.52a requires well operators to identify any orphaned or abandoned wells within 1,000 feet of the well bore. Next, draft section 78.73(c) and (d) require operators to visually monitor any identified orphaned or abandoned wells, and, if the orphaned or abandoned well is "altered" by the hydraulic fracturing activities, to plug the well.

In fact, all identified orphaned or abandoned wells should be plugged. These wells pose a significant risk of pollution, and visual monitoring will not ensure the risk is contained. "Alterations" from active drilling may not be visible from the surface, or they may not make themselves evident at the time of active drilling. Visual monitoring of orphaned or abandoned wells for "alterations" from active drilling gives operators far too much flexibility and deniability, and puts the public's precious water and air at risk.

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[5] Pennsylvania DEP, "Oil and Gas Surface Regulations – Summary of the Regulation" P. 3, *available at*: http://files.dep.state.pa.us/OilGas/BOGM/BOGMPortalFiles/PublicResources/PlainLanguageSummaryforCh78Regulation_February2014.pdf.

[6] National Petroleum Council, "Paper #2-25 PLUGGING AND ABANDONMENT OF OIL AND GAS WELLS" p. 6, *available at*: http://www.npc.org/Prudent_Development-Topic_Papers/2-25_Well_Plugging_and_Abandonment_Paper.pdf.

[7] Id. at 1.

[8] Pennsylvania DEP, "Summary of the Regulation" at 3.

[9] National Petroleum Council, at p. 16.

[10] Id.

Further, plugging identified abandoned or orphaned wells is in the best interest of drilling companies, as it contributes to the assurance that the integrity of their wells is protected.

The proposed provisions in Chapter 78 fail to solve the agreed-upon problem of thousands of abandoned and orphaned wells in Pennsylvania. Requiring operators to plug all such wells identified within 1,000 feet of the well bore should be required, and then evaluated after implementation, as the next step to ensure that these wells will no longer pose a threat of contamination.

Setback Increase

NPCA is most concerned with protecting parks and public spaces – and those who visit them – from the harmful results of oil and gas production. Though each of Pennsylvania's 18 national parks has distinct borders, they are part of their surrounding landscapes. The air quality, water quality, water quantity and wildlife habitat of our parks can be seriously harmed by industrial development, including oil and gas drilling, on their borders. Additionally, the visitor experience of these places is threatened by the noise, lights and pollution of industrial facilities, jeopardizing the robust tourist economies parks support. The need for setbacks from national parks and public lands is evident, and the proposed two hundred feet setback is simply not enough to protect the outstanding natural and cultural values, and the visitor experience at Pennsylvania's national parks and other public lands.

Studies in Wyoming, Utah and Colorado have repeatedly shown that health risks from hydraulic fracturing activities are greatest for those living within a half-mile of wells.[11] Health impacts, including cancer, were found to be higher in those living within a half-mile of wells, resulting from exposure to trimethylbenzenes, aliaphatic hydrocarbons, xylenes, benzene, and other chemicals.[12] Though these studies were conducted on residents, the same impacts should be considered for visitors to our national parks and public lands. The threats of the pollutants produced by oil and gas operations are too great to risk on those enjoying the outdoors – and supporting an existing tourism economy. With no doubt that harmful air impacts extend far beyond the 200-foot setback proposed in the Chapter 78 draft, he setback should be extended.

The noise associated with oil and gas production activities are louder than at typical construction sites, and operate longer hours. From 2,000 feet away, noises associated with oil production activities can be as high as 57 bDa – nearly as loud as a highway.[13] At 200 feet, as proposed in PA's Chapter 78, some of these noises can approach levels as loud as a motorcycle at 25 feet.[14] Noise impacts are most apparent during well-pad construction, which involves bulldozers, dump trucks, road scrapers and cement trucks, but is a constant at operational wells and comes from a variety of sources including air compressors and

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[11] Mark Jaffe, "Like Wyoming, Utah finds high wintertime ozone pollution near oil, gas wells," Denver Post, 2/26/2012, http://www.denverpost.com/business/ci_20042330.

[12] David Kelly, "Study Shows Air Emissions Near Fracking Sites May Pose Health Risk," Colorado University Newsroom, 3/19/2012, http://www.ucdenver.edu/about/newsroom/newsreleases/Pages/health-impacts-of-fracking-emissions.aspx.

[13] La Plata County Oil & Gas Impact Report (2003), 3-99 – 3-100, *available at:* http://www.co.laplata.co.us/sites/default/files/departments/planning/documents/final_ir7.pdf.

[14] Id.

water trucks. Noise impacts to visitors of Pennsylvania's national parks will not be mitigated with a 200 foot setback.

Similarly, visual impacts are not mitigated at 200 feet. Depending on surrounding environmental conditions, well pads can be seen for miles.[15] The problems are exacerbated at night, when pads are lit with bright floodlights that can be seen for miles. Where excess natural gas is flared off, the visual impacts – as well as air quality impacts - are even greater, both night and day. For tourists, nothing dampens a visit to a national park quite like the sight of industrial development on its borders, and increasing the setback from 200 feet would help achieve a better balance between resource development and tourism.

Finally, an increase in the setback of wells from national parks and other public lands will help mitigate other harmful results of the production of oil and natural gas, such as the increase in large truck traffic. The Pennsylvania DOT estimates that the average Marcellus well requires an average of 1,400 truck visits.[16] These trucks have air quality and noise impacts of their own, and can also cause major damage to rural roads and traffic problems for park visitors.

The combined impacts created by the close proximity of oil and gas wells to national parks and park visitors are such that 200 feet is simply not enough of a setback. In order to protect tourists, their experience, and the economies they support, NPCA recommends expanding the Pennsylvania setback requirement from national parks and public spaces from 200 feet to one-half mile.

Between the drinking water of 15 million people, and a tourism economy that draws some 5 million visitors annually who spend $500 in local communities, too much is at risk to act otherwise.

Sincerely,

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[15] Sarita Rose Upadhyay and Min Bu, "Visual Impacts of Natural Gas Drilling in the Marcellus Shale Region" Cornell University, Dept. of City and Regional Planning: CRP 3072 Land Use, Environmental Planning, and Urban Design Workshop, Fall 2010. *Available at:* http://cce100.cornell.edu/EnergyClimateChange/NaturalGasDev/Documents/City%20and%20Regional%20Planning%20Student%20Papers/CRP5072_Visual%20Impact_Final%20Report.pdf.

[16] Presentation given by Scott Christie, P.E., Deputy Secretary of Highway Administration, PA Department of Transportation to the Marcellus Shale Advisory Commission, May 9, 2011, *available at:* http://files.dep.state.pa.us/PublicParticipation/Public%20Participation%20Center/PubPartCenterPortalFiles/Marcellus%20Shale/Highway_System_Impacts.pdf.