

Joan L Farb

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Why a ban? Fracking and its related activities exacerbate climate change and in turn detrimentally effect the Delaware River Watershed.

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Even though, the Pennsylvania Department of Environmental Protection has stated that drilling companies will use technology on new well sites to curb leakage in 2018, the regulations for old sites have not been created because its deadline was missed and the Pa DEP has not issued a new date. Also, in the Harmony Compressor situation, the compressor operator did not notify the County Emergency Management Agency since it was considered "a small leak and there was no state investigation because a permit for compressor station does not cover methane emissions.

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"Local climate change impacts for the Delaware River Basin include increased temperature, changes in precipitation patterns, and sea level rise. DRBC's State of the Basin Report (2008) included a feature on climate change (in the hydrology section), which highlighted the need for more localized studies, mapping, monitoring, and modeling, as well as for planning initiatives that integrate the reality of a changing climate. Basin water resource managers must seriously look at how climate change will affect the watershed and how to best adapt."

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In addition, the City of Philadelphia has taken the initiative in the report, Growing Stronger: Toward a Climate- Ready Philadelphia 2015 by the Mayor's Office of Sustainability and ICF International p.9

<https://beta.phila.gov/media/20160504162056/Growing-Stronger-Toward-a-Climate-Ready-Philadelphia.pdf>) :

"Between the 2009 release of the Greenworks plan and the beginning of the City of Philadelphia's climate adaptation planning process in 2012, extreme weather events increasingly convinced cities that—as the entities responsible for emergency services, storm water management, and street plowing—municipal governments are the first responders to the results of climate change."

One of the effects of climate change on the watershed is the Salt Line. As the atmospheric temperatures rise, the warming waters expand and the glaciers in melt into the Atlantic Ocean thus causing a sea level rise. Since the Atlantic Ocean flows into the Delaware Bay and hence the Delaware River, it will impact the salt line- where the Atlantic saltwater meets the fresh water in the Delaware River by pushing it north near water treatment plants. These facilities do not have the technology to remove salt. Thus, water from a reservoir has to be discharged to force the salt line back. "The further upstream the salt makes it, the more water has to be released to repel it, Amy Shallcross, manager of water resource operations for the Delaware River Basin Commission said in the 3/1/2018 article Cape Town Water Crisis Reminds Me How Philly Has Been Able to Avoid Its Own Drought Disaster <http://www.phillyvoice.com/philadelphia-delaware-river-drought-drinking-water-salt-line-cape-town/>

Warming waters also increase the growth of bacteria and thus killing aquatic life. For example, in 2015, "The water temperature at the Willamette Falls counting station hit 80 degrees Fahrenheit a week ago, July 3, and continues to hover around 81 degrees this week.

As a result, hundreds of salmon and steelhead have succumbed to a bacteria exacerbated by warmer than normal water in the Willamette River, as well as in other Northwest rivers." (p.9)

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Additional bacteria growth will cause water treatment plants to take additional measures to purify our drinking water as well. Also, the withdrawal of water from the basin for fracking and drilling processes and discharge of fracking waste into the watershed will place an extra burden on those facilities preparing for climate change. Fracking has used 5-10 million gallons of water per well and presently there is an increase trend to 10-20 million.

Climate change also generates extreme weather such as intense storms and increased precipitation causing flooding and hurricane winds creating structural damage. For example, " Hurricane Sandy merged with two other weather systems into an unusual storm that devastated the New Jersey oceanfront coastline and caused catastrophic flooding in New York City and cities in New Jersey on Oct. 29, 2012." (500-year storm could recur soon, a study warns- Philadelphia Inquirer- October 24, 2017 By Frank Eltman ASSOCIATED PRESS)

Philadelphia is also at risk even though it is ninety miles from Atlantic Ocean because of the Delaware and Schuylkill rivers are tidal. It is predicted that sea level will rise two feet by 2050. Thus, like Hurricane Sandy's damage in NYC and the Jersey Coast, one such extreme storm and the sea level rise could cause over two billion dollars of destruction in the Philadelphia area.

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Banning fracking and its related activities will eliminate methane emissions from such processes. Thus the Delaware River Basin Commission will be helping to mitigate the detrimental effects of climate change in the basin. As stated before, "Basin water resource managers must seriously look at how climate change will affect the watershed and how to best adapt."

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Just as Autumn Peltier, a 13-year-old Canadian of the Wikwemikom First Nation told the UN Council on Water Day, March 22, 2018, to "Warrior Up", " stop polluting the planet and give water the same rights and protections as human beings",

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