

Watershed Wednesdays Week 4: US Environmental Protection Agency Report on Hydraulic Fracturing – what it really said and why its findings support a COMPLETE frack ban in the Delaware River Watershed

— In December 2016, the U.S. Environmental Protection Agency finalized a 7-year study of the impacts of hydraulic fracturing and related activities, especially waste disposal, on drinking water resources. The report found that contamination from fracking and related activities is happening on a regular basis, and industry has succeeded in keeping the details from public scrutiny. The findings support the DRBC’s proposed ban on fracking in the basin. The findings also support a ban on treatment and disposal of fracking wastes.

— The EPA study summarizes that fracking wastewater consists of varied mixes of the ancient brines brought to the surface with shale gas, together with the fracking chemicals used, and the by-products of chemical reactions during the process. So, in varied amounts, the waste includes highly harmful chemicals such as BTEX (benzene, toluene, ethylbenzene, and xylenes) as well as radioactive material (including Radium-226). Bringing these wastes into the basin will never be consistent with the DRBC’s comprehensive plan.

— Not all spills and releases of oil, or fracking chemicals and wastes, are reported to authorities, but the EPA’s study found “over 36,000” reported spills from the oil and gas industry from January 2006 through April 2012. That amounts to over 15 spills per day in the United States. For about a third of these spills —about 12,000 — EPA had insufficient information to determine anything about them. Spills from transporting wastes, and toxic chemicals in effluent from treatment facilities, were not included in the analysis.

February 28, 2018

Thank you for commenting on the DRBC’s proposed rules on fracking rules!

We HIGHLY encourage you to personalize your comments, so if you’ve got a few minutes and are interested in additional information and crafting your own comment, read on. There’s also a sample letter below to get you started.

To that end, below is more info on the EPA’s December 2016 report on fracking, “fracking-related activities,” and the resulting impacts on drinking water resources. Here’s the [google form for comments](#).

Thank you again!

SAMPLE LETTER:

To the Delaware River Basin Commissioners -

Thank you for your attention to the Delaware River Basin, and to the quality of our drinking water. I'm writing to urge you to ban fracking wastewater and produced water importation, transportation, storage, processing, and discharge in the Delaware River Basin.

Please take seriously the findings of the EPA's study of fracking's impacts on drinking water resources. In essence, industry control over data and information meant that after years of study, EPA was still unable to determine how often fracking and related activities lead to water contamination, and what that contamination looks like.

The agency was only able to verify that contamination is happening.

It's striking that of the "over 36,000" reported spills from the oil and gas industry from January 2006 through April 2012, almost all the spills occurred beyond well sites. Of course many were oil spills from pipelines, but I was shocked to learn that spills from transporting wastes were not included in the analysis. Wastes from well sites where fracking is not banned will continue to threaten the Delaware River Basin.

Look no farther than the Susquehanna River Basin, where wastes are being sent to at least 15 different facilities. The EPA's takeaway? The "data necessary to detect changes in surface water or groundwater due to hydraulic fracturing activities do not currently exist for the Susquehanna River Basin." Meanwhile, we know that waste treatment facilities have contaminated stream beds with effluent.

The EPA study summarizes that fracking wastewater consists of varied mixes of the ancient brines brought to the surface with shale gas, together with the fracking chemicals used, and the by-products of chemical reactions during the process. So, in varied amounts, the waste includes highly harmful chemicals such as BTEX (benzene, toluene, ethylbenzene, and xylenes) as well as radioactive material (including Radium-226).

Bringing these wastes into the basin will never be consistent with the DRBC's comprehensive plan, and ought to be likewise banned. Jeopardizing water quality by allowing wastewater to be imported, stored, transported, processed, or discharged in the basin makes no sense.

ADDITIONAL INFORMATION

Please feel free to take this additional information into account as you write your comments. We highly encourage personalizing comments as much as possible. Thank you!!

1. EPA's final study from December 2016:

<https://cfpub.epa.gov/ncea/hfstudy/recordisplay.cfm?deid=332990>

Excerpts:

- “The available data and information allowed us to qualitatively describe factors that affect the frequency or severity of impacts at the local level. However, significant data gaps and uncertainties in the available data prevented us from calculating or estimating the national frequency of impacts on drinking water resources from activities in the hydraulic fracturing water cycle. The data gaps and uncertainties described in this report also precluded a full characterization of the severity of impacts.” [page ES-5]
- “Because of the significant data gaps and uncertainties in the available data, it was not possible to fully characterize the severity of impacts, nor was it possible to calculate or estimate the national frequency of impacts on drinking water resources from activities in the hydraulic fracturing water cycle.” [page ES-46]
- “The EPA used data gathered from state and industry sources to characterize hydraulic fracturing-related spills between January 2006 and April 2012 (2015m) (see Text Box 5-10 for additional information). In this study, the sources had data on over 36,000 spills. Of these spills, the EPA identified 457 spills that occurred on or near the well pad and definitively related to hydraulic fracturing.” [page 5-41]
- “Water soluble forms of [radioactive material] are present in most produced water from unconventional reservoirs, but particularly so in Marcellus Shale produced water.” [page 7-20]
- “...impacts on drinking water resources have included increased suspended solids and chloride concentrations downstream of discharging facilities that were accepting hydraulic fracturing wastewater and elevated bromide concentrations and radium concentrations in [Centralized Waste Treatment] CWT effluent.” [page 8-33]
- “...spills and leaks can occur in pits or impoundments associated with the storage of treated wastewater at CWTs.” [page 8-33]
- “Wastewater being transported by truck or pipeline to and from a CWT can also present a vulnerability for spills or leaks.” [page 8-33]
- “a given stream or waterbody may have a number of CWTs upstream, potentially contributing to combined impacts on surface water if there are spills or inadequately treated discharges. Note that the upstream catchment areas are large for the major rivers. Therefore, some rivers, such as the Ohio or Susquehanna, have as many as 15 or 16 upstream CWTs, although most are located far away.” [page 8-33]
- Referencing a USGS study, EPA concluded “data necessary to detect changes in surface water or groundwater due to hydraulic fracturing activities do not currently exist for the Susquehanna River Basin.” [page 8-75]

2. EPA analysis of oil and gas industry spills:

https://www.epa.gov/sites/production/files/2015-05/documents/hf_spills_report_final_5-12-15_508_km_sb.pdf

3. November 30, 2016, Marketplace and APM Reports publish news that last minute changes to draft fracking study in 2015 explain the unsupported and controversial line that would, days later, be dropped for the final study:

<https://www.apmreports.org/story/2016/11/30/epa-changes-fracking-study>

See this Food & Water Watch timeline on the EPA fracking study for more:

<https://www.foodandwaterwatch.org/insight/timeline-epas-fracking-study>

Also, this letter re the controversial and ultimately reversed top line of the draft study:

https://www.foodandwaterwatch.org/sites/default/files/september_27_group_letter_to_e_pa.pdf

4. CWT and Pennsylvania's river basins

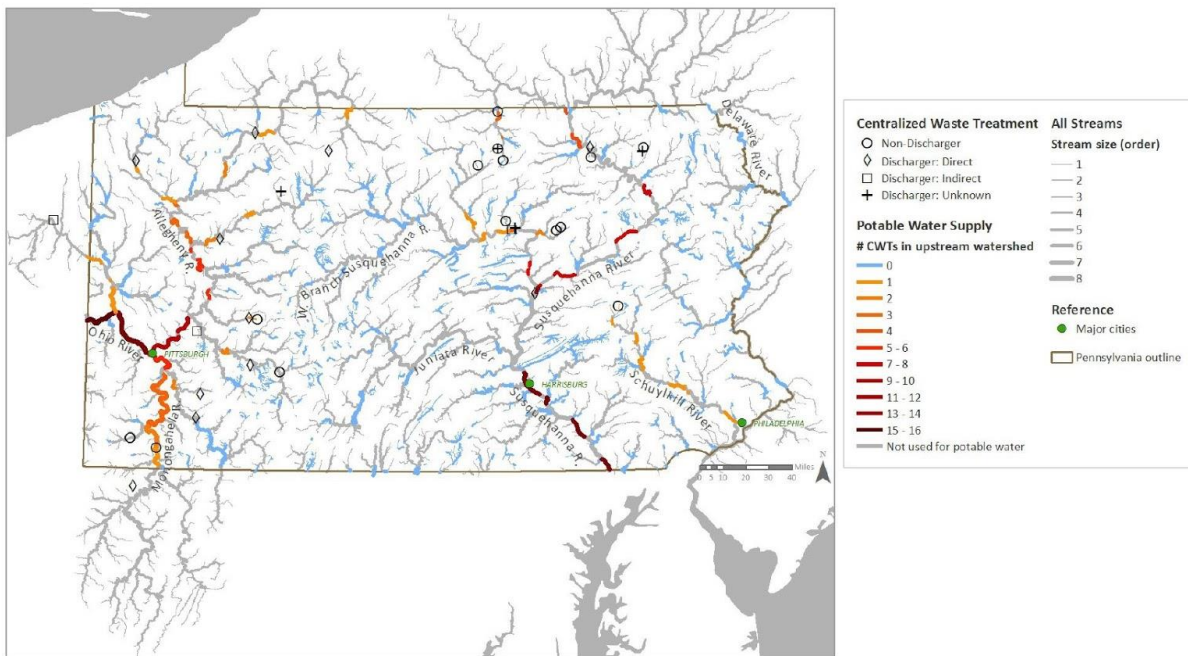


Figure 8-7. Map showing Pennsylvania surface water designated as potable water supplies and upstream CWTs.

Surface waters are colored orange to red to indicate the number of CWTs located in the upstream watershed. Blue surface waters have no upstream CWTs, and light gray lines show those not designated as potable water supplies. Symbols show the locations of CWTs that currently accept or have accepted unconventional oil and gas wastewater. Data sources: [U.S. EPA \(2016d\)](#), [U.S. EPA \(2016f\)](#), and [PA DEP \(2016b\)](#).