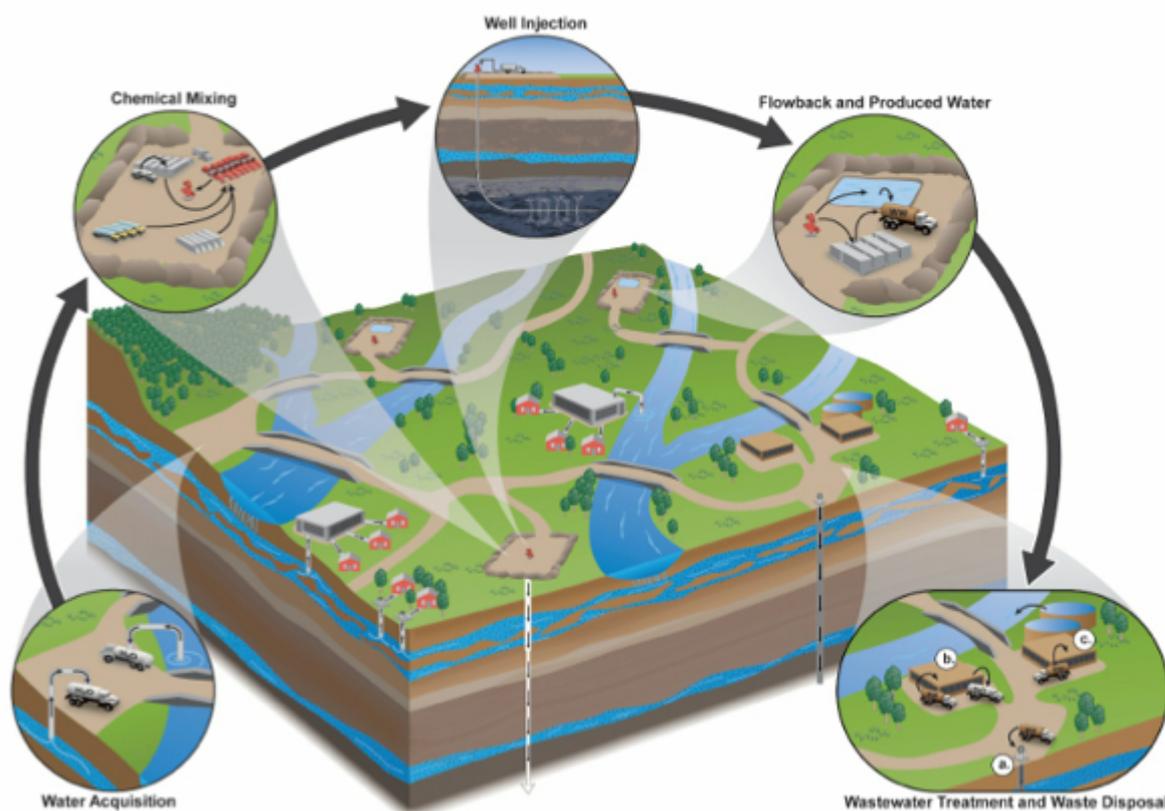


Fracking Pollutes Drinking Water, Says EPA Study

Refuting its own 2004 study, the EPA found that toxic fracking fluids that leak into the water table can contaminate drinking water.

By **Anastasia Pantsios** / **EcoWatch** June 5, 2015

In 2010, Congress commissioned the U.S. Environmental Protection Agency (EPA) to study the impact of **fracking** on drinking water. Yesterday, the EPA released the long-awaited **final draft of its report**, assessing how **fracking for oil and gas can impact access to safe drinking water**. The report refuted the conclusion arrived at by the **EPA's 2004 study** that fracking poses no threat to drinking water, a conclusion used to exempt the fracking process from the Safe Drinking Water Act.



The stages of the hydraulic fracturing water cycle. Shown here is a generalized landscape depicting the activities of the hydraulic fracturing water cycle and their relationship to each other, as well as their relationship to drinking water resources. Image credit: EPA

The report found that fracking for shale oil and gas has not led to “widespread, systemic impacts on drinking water resources in the United States,” but said fracking could contaminate drinking water under certain conditions, such as when fluids used in the process leaked into the water table, and found isolated cases of water contamination.

The report looked at water use at five stages of the water-intensive process: use of the available water supply for fracking; the mixing of chemicals with water to create fracking fluid; the flow-back of the fluid after it has been injected underground to fracture shale deposits to release oil or gas; treatment of the wastewater by-product of fracking; and the injection wells frequently used to dispose of fracking wastewater when the process is complete.

“Hydraulic fracturing in combination with advanced directional drilling techniques has made it possible to economically extract oil and gas from unconventional resources, such as shale, tight formations and coalbeds,” the report says. “The growth in domestic oil and gas exploration and production made possible by the expanded use of hydraulic fracturing, has raised concerns about its potential for impacts to human health and the environment. Specific concerns have been raised by the public about the effects of hydraulic fracturing on the quality and quantity of drinking water resources.”

It noted the reason for that concern: “Millions of people live in areas where their drinking water resources are located near hydraulically fractured wells. While most hydraulic fracturing activity from 2000 to 2013 did not occur in close proximity to public water supplies, a sizeable number of hydraulically fractured wells (21,900) were located within 1 mile of at least one PWS source (e.g., infiltration galleries, intakes, reservoirs, springs and ground water wells). Approximately 6,800 sources of drinking water for public water systems, serving more than 8.6 million people year-round, were located within 1 mile of at least one hydraulically fractured well. An additional 3.6 million people obtain drinking water from private water systems.”

Fracking Has Now Been Linked to Low Birth Weight Babies

Study shows pregnant women who lived close to fracking sites were more likely to have smaller offspring.

By **Reynard Loki** / **AlterNet**

June 18, 2015

Expectant mothers who live near natural gas fracking sites may be at an increased risk of having babies with lower birth weight, according to **anew study of birth rates** in Pennsylvania.

For the study, which was published in the current issue of **PLOS ONE**, researchers at the University of Pittsburgh Graduate School of Public Health analyzed more than 15,000 birth records of babies born between 2007 and 2010 in three of the state's southwestern counties: Butler, Washington and Westmoreland. The study included more than 500 gas wells drilled during the same period.

The scientists found that women who lived close to a high number of fracking sites were 34 percent more likely to have babies who were "small for gestational age" than mothers who did not live near a large number of wells. A baby is deemed "small for gestational age" if his or her birth weight is below the smallest 10 percent when compared to their peers.

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“Our work is a first for our region and supports previous research linking unconventional gas development and adverse health outcomes,” said co-author Bruce Pitt, Ph.D., chair of Pitt Public Health’s Department of Environmental and Occupational Health. “These findings cannot be ignored. There is a clear need for studies in larger populations with better estimates of exposure and **more in-depth medical records.**”

The finding is the latest in a growing body of scientific evidence that suggests **fracking negatively impacts public health**. Exposure to diesel particulate matter

caused by the process, for example, may lead to asthma, headaches, high blood pressure, anemia, congenital heart defects, heart attacks and cancer. In addition, fracking has been linked to **drinking water pollution** and the **release of radon gas**, a known carcinogenic.

Vermont and New York have passed outright bans on fracking, while **Maryland recently imposed a moratorium** on fracking until October 2017 to give time for scientists to complete public health studies. On the other end of spectrum is Texas, which recently **prohibited local bans on fracking**. "Fracking has helped to revive the Texas manufacturing industry...[and] allowed us to produce our own natural resources, which bolsters our nation's energy security {and] keeps energy prices down," writes Todd Staples, the president of the Texas Oil & Gas Association, in a recent opinion piece in the San Antonio Express News. As of March 2012, Texas had listed nearly **6,000 oil and gas fracking wells** on FracFocus, an industry fracking disclosure site, making it by far the state with the most amount of fracking sites in the nation.

RELATED: Fracking Pollutes Drinking Water, Says Long-Awaited EPA Study

But while the U.S. fracking boom has helped drive down the price of natural gas, the health concerns continue to mount, as the process involves a host of toxins and pollutants. "Developing fetuses are particularly sensitive to the effects of environmental pollutants," Dr. Pitt said. "We know that fine particulate air pollution, exposure to heavy metals and benzene, and maternal stress all are **associated with lower birth weight**."

Even when the researchers factored in other possible influences on birth weight, such as smoking, race, education, prenatal care and whether the mother had previous babies, the finding still held up.

Unsurprisingly, the oil and gas industry has dismissed the study. Energy in Depth, a industry group launched in 2009 by the Independent Petroleum Association of America (IPAA), released a statement saying that "**the study has a number of glaring flaws**."

The group states:

Not only do the researchers not know if the wells were actually developed during the pregnancy, they also can't tell from the data the duration the woman actually lived at the address given during her pregnancy. She could have moved in last weekend and had no exposure to any kind of development, but any wells developed that same year would be used to determine her quadrant...What's disconcerting is when studies such as this one, which simply don't have the science to back up their claims, are paraded as credible research, causing undue concern for pregnant women.

In a response, the study's authors released a statement of their own: "Our study used contemporary statistical approaches...that was peer reviewed by scientific experts and that led us to the **carefully described conclusions as stated in the manuscript.**"

RELATED: [How One Photographer Is Protecting Colorado from Fracking](#)

The researchers pointed out that their finding only reveals a correlation between a physical proximity to tracked natural gas wells — it does not prove the gas development activity is causing lower birth weight. The researchers stressed that their study justifies further scientific investigation on the effects of fracking on expectant mothers.

“It is important to stress that our study does not say that these pollutants caused the lower birth weights,” said Dr. Pitt. “Unconventional gas development is dynamic and varies from site to site, changing the potential for human exposure. To draw firm conclusions, we need studies that thoroughly assess the exposure of a very large number of pregnant women to not just the gas wells, but **other potential pollutants.**”

Staples, who resigned as the state's agriculture commissioner last year after the publication of a **controversial op-ed piece** in which he slammed the Meatless Monday initiative adopted by some Texas schools, said that fracking "clearly benefits all Texans." Perhaps he should meet some Texan babies.

Reynard Loki is AlterNet's environment editor.