

# PA Water Study Shows Spill Concerns Small

Kevin Begos, Associated Press

PITTSBURGH (AP) — Pennsylvania's waterways show little evidence of damage from toxic chemical spills from its fast-growing natural gas industry, according to a study published Monday in the Proceedings of the National Academies of Sciences.

The study examined the impact of gas drilling on surface water from the drilling boom but did not address questions of whether drilling has polluted underground aquifers, a main concern of environmental advocates.

Lead author Sheila Olmstead said the study of almost 5,000 gas drilling sites around the state didn't find evidence in waterways of significant chemical spills from drill sites, but did note a five percent increase in suspended solids — generally dirt, leaves and other materials — downstream. Suspended solids can be the result of runoff from development, although Olmstead conceded the study doesn't pinpoint the source of the dissolved solids pollution.

"It could easily happen with the construction of new shopping malls," pipelines, or roads, she said.

Kathryn Klaber, the CEO of the Marcellus Shale Coalition, an industry group, said that every drilling site in Pennsylvania "has robust erosion and sediment controls in place, as required by the state's Clean Streams Law."

The study also found a 10 percent increase in chloride levels downstream from plants that handle drilling wastewater. Chlorides are a typical drilling wastewater byproduct — although other industrial applications could contribute to the increase — and at high concentrations can damage aquatic life and vegetation.

Alan Krupnick, a co-author of the study by Washington, D.C. nonprofit Resources for the Future, said the good news is that "there don't seem to be systematic leaks and spills" coming from the drilling sites. That's not to say such events don't happen, just that the volume hasn't been enough to register in downstream watersheds. But he said the consistent increase in chloride levels downstream from treatment plants is cause for concern.

Pennsylvania has seen a boom in natural gas drilling over the last five years. Advances in drilling technology have opened up previously inaccessible deep shale deposits, leading to huge increases in production and lower gas prices but also increased concerns about pollution. Large volumes of water, along with sand and hazardous chemicals, are injected underground to break rock apart and free the oil and gas.

The industry and many federal and state officials say the practice is safe when done properly, but environmental groups and some scientists say there hasn't been

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enough research on these issues.

One scientist not involved in the study said that it has value, but the research isn't detailed enough to draw firm conclusions about the impacts of drilling on waterways.

Rob Jackson, a Duke University scientist who has studied groundwater in Pennsylvania, said that neither the downstream increase in chloride or the dissolved solids is dramatic. "But they took a very broad-brush approach," he said, suggesting that more detailed monitoring of well sites and treatment plants is needed.

But the study is reinforcing other observations on how drilling impacts rivers and streams in Pennsylvania.

Andrew Gavin of the Susquehanna River Basin Commission said that they've installed monitoring systems in some watersheds around drill sites, since sedimentation is a key concern. But he noted that biologists need several years of data to determine trends, since different industries contribute to the problem and the readings can depend on the weather: in years with major floods, sediment levels go up.

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