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Testimony of Nisha Swinton
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In Support of S.B. 237
An act prohibiting the storage or disposal of fracking waste in Connecticut
Presented to Connecticut Environment Committee
March 1st,February 28th 2014

Good afternoon, Senator Meyer and Representative Gentile and members of this committee. Thank you for the opportunity to submit my testimony. My name is Nisha Swinton. I am the New England Region Senior Organizer at Food & Water Watch. I am submitting this today on behalf of our more than 14,000 members and activists across Connecticut to ask you to support S.B. 237.

Our work on hydraulic fracturing, or fracking, began out of concern over the numerous ways in which shale oil and shale gas development negatively impact public water resources – specifically, contamination from the drilling and fracking process itself, contamination from the toxic waste that is generated in the process, and degradation of lands essential to the provision of clean drinking water.

At Food & Water Watch, the scope of our work on fracking has expanded to beyond fracking's impact on water. We have addressed the dubious claims the oil and gas industry is making to justify expanding the practice. Specifically, we've revealed flaws and hidden assumptions in the mistaken but popular claims that shale gas offers the trifecta: American energy security, broad-based economic growth, and clean energy.

The reality is that shale gas is a false solution, and the generation of vast amounts of drilling and fracking waste is just one of many reasons why.

S.B. 237 addresses the very real threat that drilling and fracking waste poses to Connecticut. This threat is urgent given Connecticut's close proximity to the Marcellus Shale, a 600-mile stretch of natural gas reservoirs buried thousands of feet underground, and the lack of fracking regulations currently in the state. While Connecticut's geological composition make fracking itself unlikely, Connecticut stands the risk of being the last state in the Marcellus Shale region to accept fracking wastewater, allowing natural gas companies to dispose of their toxic waste within the state's borders.

Indeed, Connecticut is in a position to see an influx of fracking waste. Connecticut should however continue its leadership in clean energy solutions, and not serve as a dumping ground for drilling and

fracking waste. Banning the treatment, discharge, disposal, and storage of such waste in the state is a must.

On a fundamental level, the oil and gas industry has a waste problem. Drilling and fracking each new shale well can produce millions of gallons of potentially toxic wastewater and hundreds of tons of potentially radioactive solid waste. Disposal of these wastes poses serious environmental and public health risks.

Currently, most fracking wastewater is injected into deep underground wells in West Virginia and Ohio. However, Ohio's increasing inability to handle all of Pennsylvania's fracking wastewater – due to earthquakes associated with wastewater disposal as well as increased drilling and fracking in the state – underlines the threat to Connecticut.

Fracking waste can contain not only the chemicals used in fracking fluid, but also harmful natural contaminants from deep underground that are carried to the surface after fracking.

- Numerous known chemical additives to fracking fluid are of public health concern, including benzene, xylene, ethylene glycol, and 2-butoxyethanol. Long-term exposure to these environmental toxins can result in nervous system, kidney, and/or liver problems, as well as cancer. Unknown additives may likewise present public health risks, but because these additives are not disclosed it is impossible to know the full threat posed by fracking wastewater.

- Among the highly-variable levels of naturally occurring contaminants present in fracking waste are dissolved solids (including barium, strontium, cadmium, arsenic and various salts), organic pollutants (such as the cancer-causing compounds benzene and benzo(a)pyrene) and radioactive material, such as Radium-226. Low -level exposure to radioactive material results in cellular damage and DNA damage that increase cancer risk.

A 2011 New York Times investigative report examined data on more than 240 Pennsylvania and West Virginia gas wells and found that at least 116 of these wells produced wastewater with radiation levels that were hundreds of times the U.S. EPA's drinking water standard, and that at least 15 wells had wastewater with radiation levels thousands of times the standard.

In addition to fracking wastewater, there is the waste from drilling. Shale drilling waste includes "drill cuttings", which are about the size of coarse grains of sand and are coated in used drilling fluids that can contain contaminants such as benzene, cadmium, arsenic, mercury and radium-226. Dumping fracking waste in landfills could expose workers to harmful levels of some of these environmental toxins. Radium-226 contamination, for example, would persist for more than a thousand years after the landfill closed, ruining the productivity of the land for many generations. Dumping loads of drill cuttings in landfills can also lead to operational problems. Layers of drill cuttings could plug up the flow of landfill fluids, causing spills out the sides of the landfill. Also, landfill linings could be degraded by chemicals in the wastes, likewise resulting a loss in landfill integrity, meaning leaks of radioactive material and of other harmful contaminants.

Treating fracking wastewater in municipal wastewater plants in Connecticut poses its own set of dangers. Researchers at the University of Pittsburgh tested water being discharged, after treatment, into a creek from a facility in Pennsylvania and found average concentrations of benzene at twice the U.S. EPA's drinking water standard, barium at 14 times the standard, total dissolved solids at 373 times the standard, strontium at 746 times the EPA's recommended level for drinking water and bromide at 2,138 times the level that triggers regulatory reporting requirements under the treatment plant's permit in Pennsylvania.

Connecticut can avoid such costly water pollution with your support for this bill.

Connecticut's wastewater treatment facilities are not equipped with technologies to handle such extreme and variable levels of radioactive material and other contaminants in fracking wastewater. Many of these contaminants simply flow through conventional treatment facilities and get discharged into public rivers and streams. This could contaminate drinking water supplies for downstream Connecticut communities, as well as harm aquatic life in estuaries essential to sustaining Connecticut's recreational and commercial fisheries.

Neither are Connecticut's facilities equipped to handle wastewaters highly contaminated with bromides. During the disinfection (or chlorination) stage of wastewater treatment, bromides can react with organic material to form brominated trihalomethanes (THM). Once formed, THM are difficult and costly to remove from the water supply, and human exposure to THM is implicated in cancer and birth defects.

Finally, the corrosive salts in fracking wastewater – particularly high levels of sodium and chloride – would harm industrial equipment at Connecticut wastewater facilities. Allowing public facilities to accept this waste would add to the already pressing need for costly improvements to public wastewater infrastructure. Citizens of Connecticut cannot afford such added costs.

Banning the storage, treatment, disposal and discharge of drilling and fracking waste would eliminate the risks and costs to Connecticut's public health, public infrastructure and the environment that such waste presents.

On behalf of the more than 14,000 Connecticut supporters of Food & Water Watch, I urge you to support S.B. 237.

Nisha Swinton
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