Protecting Connecticut from Toxic, Radioactive Fracking & Oil & Gas Extraction Wastes

- Fracking and other processes used to produce oil & gas are creating billions of gallons of liquid wastes and hundreds of thousands of tons of solid wastes annually in NY & PA.
- Huge amounts of liquid and solid wastes are coming from over 10,000 wells drilled in PA. This waste is being shipped to at least 8 states. It is estimated an additional 80,000 wells may be drilled in coming years, significantly increasing the amount of waste that will be exported from PA to other states.
- The dangers from chemical and radioactive contamination pose unacceptable risks to health and safety, municipal and private property values and natural resources, including aquifers providing well water and surface waters.
- Chemicals and naturally-occurring toxins in fracking & other extraction wastes are known to cause multiple cancers, multiple organ damage, neurological and developmental problems, birth defects, embryo toxicity and other serious health problems.
- Radium 226 is radioactive for 4,000 years and decays into lead. It is known to cause breast, bone and liver cancers, and is associated with adult and childhood leukemia.
- Radioactive and chemical contamination has spread due to accidents, spills, leaching and discharge into waterways after treatment efforts. Over 6,600 spills have been documented in just 4 states, more than half of them due to moving and transporting fracking waste.
- The CT General Assembly has failed three times in five years to ban all of these wastes. Current state law mandates that DEEP submit regulations for review between now and 7/1/18, and a temporary moratorium only bans some wastes from gas wells, leaving loopholes for other wastes to enter the state.
- Regulations in other states have not stopped accidents, spills and leaks from contaminating soil, waterways, aquifers and drinking water. Over 50% of spills occurring at waste treatment plants occur due to equipment and employee error. There are no good options for bringing this waste to Connecticut to store, treat, dispose or re-use in construction or brownfield remediation fill, or for road spreading.

Local Protection with a Town Ordinance:

Citizen groups and town officials across Connecticut are passing local ordinances banning all oil & gas drilling, extraction and storage wastes. Connecticut municipalities have legal authority to pass these ordinances, pursuant to CT General Statute 7-148. The following waste bans have passed in this region:

- 26 CT towns & cities - Andover, Ashford, Bloomfield, Bolton, Branford, Chaplin, Columbia, Coventry, Eastford, Hampton, Glastonbury, Hartford, Hebron, Lebanon, Litchfield, Mansfield, Middletown, New London, New Milford, Pomfret, Portland, Washington, Willington, Windham/Willimantic, Windsor, Woodstock.

- Over 200 NY municipalities, all 5 boroughs of NYC, and 15 NY counties, including adjacent neighbors in Westchester & Putnam Counties, and Nassau and Suffolk Counties, or all of Long Island. More than 400 NY municipalities are now protected with local & county laws.
- The State of Vermont; Pelham, MA; Dozens of municipalities and counties in New Jersey.

Parents and Grandparents: A radioactive legacy is being left for future generations where spills, accidents and discharge have occurred. Radium 226, commonly found in shale drilling waste, has a radioactive half-life of 1,600 years, takes over 4,000 years to completely decay, decays into other radioactive elements and finally, lead. Areas in other states are now permanently contaminated and being left without clean-up.

Persons on Well Water: Spills and leaks have seeped into the ground and contaminated aquifers in other states. Yale University research found trace amounts of multiple chemicals used for fracking still remaining in well water 5 years after spills and leaching occurred. The costs for repeated testing, legal action and remediation often fall on property owners using well water. Restitution costs falling on the State of CT and municipalities may be exhorbitant.

Watershed: Radioactivity and chemical contamination has already occurred in other states where spills and discharge have occurred after treatment efforts. Bio-accumulation up the food chain with fishing and other recreational activities in contaminated areas may pose health problems, and future flooding may distribute contaminated sediment across large areas. Water intakes for drinking water downstream from treatment discharge may also pose problems. Small amounts of bromide can react synergistically with chlorine added to drinking water used to kill bacteria and create highly carcinogenic brominated trihalomethanes.

Farming: Where spills have occurred on farm land, nothing is growing 5-10 years later. The salt/bromide content is so high, it kills everything in the soil and it is no longer arable. Radioactivity and chemicals can be taken up by crops grown in the area, contaminating produce and animal feed, bio-accumulating up the food chain.

Regarding Re-use: The high risk of contamination makes re-use of wastes and by-products a costly endeavor if remediation is necessary. CT towns or private contractors cannot know if toxins have been removed or if radioactivity has been properly tested for if they source products mixed with fracking waste. Towns reduce risk of contamination by banning this waste and asking contractors to sign a statement that they will not procure materials derived from these wastes.

The West Virginia legislature commissioned an engineering study for re-using solid fracking wastes. The study concluded it was not advised, due to radioactivity levels, high silt content and potential future slippage and costly remediation where used for road base or construction, and high costs for treatment and transport from well sites.

Despite warnings from public health advocates and risks of contamination, the State of Pennsylvania DEP allowed permits for using solid wastes in construction fill and road base material. After five years, PA stopped issuing permits, citing "lack of transparency". It is not likely the State of PA or it’s municipalities will have funding available to test for potential contamination, remediation or restitution.

As example of costs of remediation, Greenwich has spent $5.6 million for testing and partial remediation of PCB and arsenic contaminated soil used to build Greenwich High School sports fields. It is estimated an additional $14 million is needed to

complete the remediation. In addition to many other toxins, arsenic is also found in fracking wastes.

Since New York has permitted the import of wastes from Pennsylvania, 15 NY county legislatures have passed waste ban legislation, protecting over 400 municipalities. Riverkeeper in NY, through Freedom of Information Act requests, found that laboratory tests of wastes permitted for re-use in NY showed extremely high levels of chlorides, and also benzene, toluene and VOC contaminants. Language developed by legal counsel for Riverkeeper has been adopted by 25 of 26 CT municipalities, banning hydraulic fracturing and all other oil and gas extraction wastes.

Oil & Gas Drilling & Extraction Wastes	Local Bans in 25 of 26 CT Towns (Washington, CT passed State of CT language)	Temporary Moratorium Pending CT Regulations
Gas Drilling Muds	X	
Gas Drill Cuttings	X	
Gas Hydraulic Fracturing Flowback	X	X
Gas Flowback & Drill Cuttings Mix	X	X
Gas Flowback & Brine Mix	X	X
Gas Flowback & Used Frac Sand	X	X
Gas Brine Produced During Gas Flow	X	?
Gas Chemicals Used on Pad Surface	X	?
Gas Underground Storage Waste	X	
Gas Liquified Petroleum Gas Waste	X	
Oil Drilling Muds	X	
Oil Drill Cuttings	X	
Oil Hydraulic Fracturing Flowback	X	
Oil Flowback & Drill Cuttings Mix	X	
Oil Flowback & Brine Mix	X	
Oil Flowback & Used Frac Sand	X	
Oil Brine Produced During Oil Flow	X	
Oil Chemicals Used on Pad Surface	X	

- Definitions of wastes in local ordinances are very specific and do not allow loopholes found in CT law.
- Ordinance language specifically prohibits drilling, extraction & some storage wastes.
- Wastes derived from refining petroleum or using refined products, such as tar used for roadway asphalt and used motor oils, are NOT prohibited by ordinance language and will NOT interfere with local/state road paving or disposal of other petroleum products.

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For presentations, materials, legal petitions and help organizing, please contact: Jen Siskind, Local Coordinator, Food & Water Watch at www.foodandwaterwatch.org