

## Fracking Waste in New York: What is Fracking Waste?

The term fracking waste refers to waste produced by the extraction of oil and/or natural gas using hydraulic fracturing (fracking), either high-volume fracking or conventional, low-volume fracking. Waste from both is a concern in New York, despite its ban on high-volume fracking.

### Types of Fracking Waste:

- Flowback fluid (or flowback water)
  - Wastewater that returns to the surface soon after a well is fracked, consisting mostly of water, injection fluids, and chemicals.
- Production brine (or produced water)
  - Wastewater that flows to the surface during oil and gas well production.
- Solid waste (for example, drill cuttings, drilling muds, and sand)
  - Soil, rock, and other solid materials that are removed when a well is drilled, and sand that returns to the surface after a well is fracked.



*Brine Storage Tank in Pennsylvania,  
Photo by Nadia Steinzor*

### Sources of Fracking Waste in New York:

- Fracking waste from Pennsylvania that is sent to New York for disposal.
  - More than 510,000 tons of solid waste and 23,000 barrels of liquid waste, and counting.
- Waste from conventional, low-volume oil and gas extraction in New York.
  - Though high-volume fracking is banned, New York must dispose of waste from more than 12,000 conventional, low volume wells.

### Common Contaminants in Fracking Waste:

- Chemical additives, such as ethylene glycol, naphthalene, and sulfuric acid
  - Toxic to human health.
- Metals and organic compounds
  - For example, barium is linked to gastrointestinal disturbances, muscle weakness, and paralysis.
- BTEX – benzene, toluene, ethylbenzene, xylene
  - For example, benzene is a carcinogen, and linked to blood disorders such as anemia.
  - For example, toluene is linked to nervous system, kidney, and liver problems.
- Salts or total dissolved solids
  - Corrodes infrastructure, harms aquatic life and vegetation.
- NORM – naturally occurring radioactive materials, such as radium-226 and radium-228
  - Carcinogen, linked to blood disorders.

Learn more at [www.riverkeeper.org/fracking-waste-in-new-york](http://www.riverkeeper.org/fracking-waste-in-new-york)

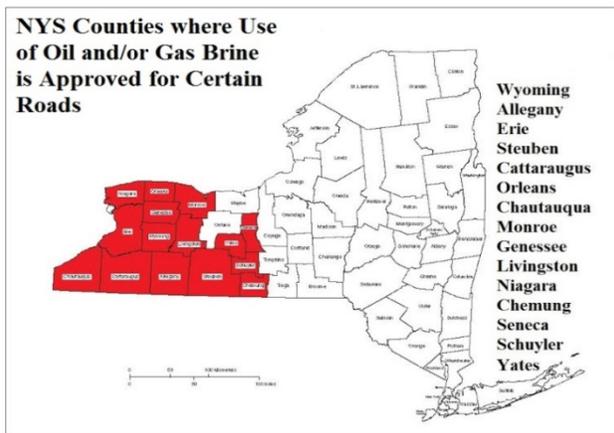
## Fracking Waste in NY: Road Spreading

New York allows the use of production brine from conventional, low-volume oil and gas wells and natural gas storage to be used on roads for de-icing, dust control, and road stabilization. Once applied, this waste can run off into adjoining property and ultimately could contaminate rivers, streams, and underground aquifers. Riverkeeper obtained information from the NYS Department of Environmental Conservation regarding approval of oil and gas brine for road spreading from 2011 to 2014.

### Brine Sources

The brine comes from conventional, low-volume oil and gas extraction and natural gas storage operations in New York State. Brine from conventional oil and gas extraction in Pennsylvania has also been sent to New York for use on roads.

**NYS Counties where Use of Oil and/or Gas Brine is Approved for Certain Roads**



### Road Spreading Quick Facts:

- Approved in portions of 41 municipalities in western New York.
- The NYS Department of Transportation also received approval to spread this brine in portions of 10 counties.
- Cumulatively, road-spreading of oil and/or gas brine has been approved in portions of at least 15 New York counties.
- Counties where road spreading has been approved on certain roads can be seen in the map to the left.

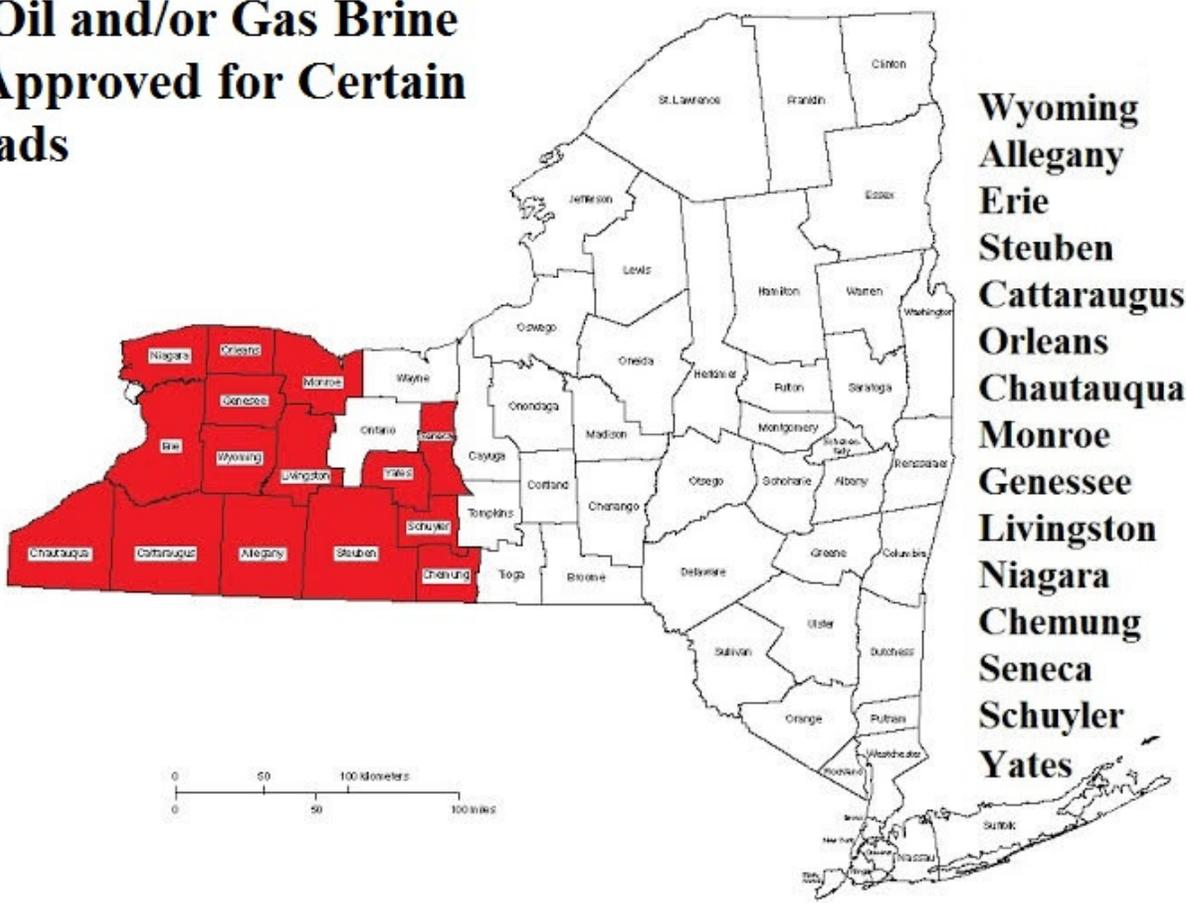
Riverkeeper also received associated test results that showed excessive levels of chloride (salts) in brine from both natural gas production and storage facilities. Sample results for brine from natural gas storage facilities revealed the presence of benzene, a carcinogen, and toluene, which has been linked to nervous system, kidney, and liver problems. The results from oil production wells also indicated the presence of benzene and toluene.

### Additional Concerns about the Approval Process

- Approvals authorize multiple applications of oil or gas brine per roadway, and do not appear to have an expiration date.
- The specific batch of oil or gas brine used for road spreading does not have to be tested. Rather, applicants need only submit testing results for representative samples, even though the level of contaminants may vary according to the specific well source.
- Testing for naturally-occurring radioactive materials is not required.
- There are no provisions for follow up monitoring or enforcement.
- New York State does not publish numerical testing criteria.

Learn more at [www.riverkeeper.org/fracking-waste-in-new-york](http://www.riverkeeper.org/fracking-waste-in-new-york)

# NYS Counties where Use of Oil and/or Gas Brine is Approved for Certain Roads



## Fracking Waste in NY: Reuse and Disposal

More than 510,000 tons of solid waste and 23,000 barrels of liquid waste – and counting – from oil and gas extraction operations in neighboring Pennsylvania have been shipped to New York landfills for disposal. Liquid that drains from the landfills, or leachate, is then sent to nearby wastewater treatment facilities.

New York State also continues to allow the use of certain kinds of waste – production brine and storage brine – from conventional, low-volume oil and gas extraction and natural gas storage on our roads.

### Disposal & Reuse Methods:

#### **Landfill disposal**

Due to a loophole in state law, solid waste management facilities in New York State may accept fracking waste, regardless of whether it would meet the definition of hazardous waste.

#### **Wastewater treatment facilities**

Landfill leachate can be sent to wastewater treatment facilities unequipped to handle contaminants in fracking waste, which may then be discharged into receiving waters.

#### **Road spreading**

New York State allows the use of conventional, low-volume oil and gas extraction waste and natural gas storage waste on roads for de-icing, dust control, and road stabilization. Waste spread on roads can run off into adjoining property and receiving waters.

#### **New York landfills accepting fracking waste from Pennsylvania:**

- Hakes C&D Landfill, Painted Post, NY (2010 – present)
- Chemung County Landfill, Lowman, NY (2010 – present)
- Hyland Facility Association, Angelica, NY (2010 – 2013)
- Allied Waste Systems, Niagara Falls, NY (2010 – 2013)
- Seneca Meadows Landfill, Waterloo, NY (2010 – 2011)
- PA waste also sent to Environmental Products and Services storage facility in Syracuse, NY (2013 – 2014)



*Marcellus Shale drill waste tanker.  
Photo: Bill Hughes.*

Learn more at [www.riverkeeper.org/fracking-waste-in-new-york](http://www.riverkeeper.org/fracking-waste-in-new-york)

## Fracking Waste in New York: County Bans

At least 15 New York counties have enacted fracking waste bans. These bans prohibit the use of oil and/or gas waste on roads, disposal at landfills, and/or discharge into wastewater treatment facilities.

### NYS Counties with Fracking Waste Bans

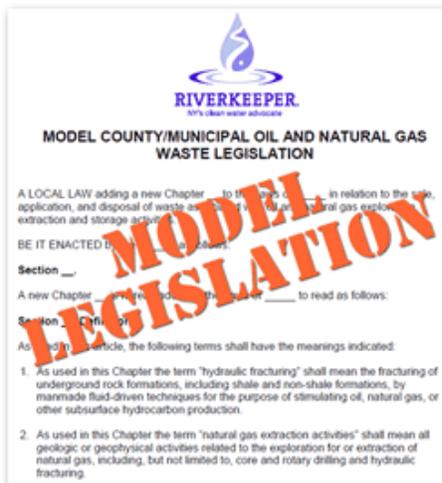
Albany	Rockland	Cayuga	Nassau
Putnam	Westchester	Schoharie	Erie
Orange	Ulster	Clinton	Suffolk
Oneida	Tompkins	Onondaga	

### Case Study: Clinton County

In August 2014, Clinton County passed one of the most rigorous fracking waste bans in New York State, based on Riverkeeper's model legislation.

The measure prohibits application of oil and gas waste on roads, its sale within county limits, disposal at landfills, and acceptance at wastewater treatment facilities.

The legislation also provides for a fine of up to \$25,000 per violation.



Riverkeeper model legislation is available to help New York localities craft their own bans.

For questions, please contact [info@riverkeeper.org](mailto:info@riverkeeper.org).

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## MODEL COUNTY/MUNICIPAL OIL AND NATURAL GAS WASTE LEGISLATION

A LOCAL LAW adding a new Chapter \_\_ to the Laws of \_\_\_\_\_ in relation to the sale, application, and disposal of waste associated with oil and natural gas exploration, extraction and storage activities.

BE IT ENACTED by the \_\_\_\_\_ as follows:

**Section \_\_.**

A new Chapter \_\_ is hereby added to the Laws of \_\_\_\_\_ to read as follows:

**Section \_\_. Definitions.**

As used in this article, the following terms shall have the meanings indicated:

1. As used in this Chapter the term “hydraulic fracturing” shall mean the fracturing of underground rock formations, including shale and non-shale formations, by manmade fluid-driven techniques for the purpose of stimulating oil, natural gas, or other subsurface hydrocarbon production.
2. As used in this Chapter the term “natural gas extraction activities” shall mean all geologic or geophysical activities related to the exploration for or extraction of natural gas, including, but not limited to, core and rotary drilling and hydraulic fracturing.
3. As used in this Chapter the term “oil extraction activities” shall mean all geologic or geophysical activities related to the exploration for or extraction of oil, including, but not limited, to, core and rotary drilling and hydraulic fracturing.
4. As used in this Chapter the term “natural gas waste” shall mean:
  - a. any liquid or solid waste or its constituents that is generated as a result of natural gas extraction activities, which may consist of water, brine, chemicals,

- naturally occurring radioactive materials, heavy metals, or other contaminants;
  - b. leachate from solid wastes associated with natural gas extraction activities;
  - c. any waste that is generated as a result of or in association with the underground storage of natural gas;
  - d. any waste that is generated as a result of or in association with liquefied petroleum gas well storage operations; and
  - e. any products or byproducts resulting from the treatment, processing, or modification of any of the above wastes.
5. As used in this Chapter the term “oil waste” shall mean:
- a. any liquid or solid waste or its constituents that is generated as a result of oil extraction activities, which may consist of water, brine, chemicals, naturally occurring radioactive materials, heavy metals, or other contaminants;
  - b. leachate from solid wastes associated with oil extraction activities; and
  - c. any products or byproducts resulting from the treatment, processing, or modification of any of the above wastes.
6. As used in this Chapter the term “application” shall mean the physical act of placing or spreading natural gas waste or oil waste on any road or real property located within the [County/City/Town/Village] of \_\_\_\_\_.
7. As used in this Chapter the term [County/City/Town/Village] shall mean the [County/City/Town/Village] of \_\_\_\_\_.

**Section \_\_. Prohibitions.**

1. The application of natural gas waste or oil waste, whether or not such waste has received a Beneficial Use Determination pursuant to 6 NYCRR Part 360, on any road or real property located within the [County/City/Town/Village] for any purpose is prohibited.
2. The introduction of natural gas waste or oil waste into any wastewater treatment facility within or operated by the [County/City/Town/Village] is prohibited.
3. The introduction of natural gas waste or oil waste into any solid waste management facility within or operated by the [County/City/Town/Village] is prohibited.
4. The sale, acquisition, storage, handling, treatment and/or processing of natural gas waste or oil waste within the [County/City/Town/Village] is prohibited.<sup>1</sup>

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<sup>1</sup> Please Note: While banning acquisition, handling, etc. is an important concern for many localities, it may not be practical in all areas and may therefore be considered on a case by case basis.

**Section \_\_. Provision to be included in bids and contracts related to the construction or maintenance of publicly owned and/or maintained roads or real property within the [County/City/Town/Village].**

1. All bids and contracts related to the purchase or acquisition of materials to be used to construct or maintain any publicly owned and/or maintained road or real property within the [County/City/Town/Village] shall include a provision stating that no materials containing natural gas waste or oil waste shall be provided to the [County/City/Town/Village].
2. All bids and contracts related to the retention of services to construct or maintain any publicly owned and/or maintained road or real property within the [County/City/Town/Village] shall include a provision stating that no materials containing natural gas waste or oil waste shall be utilized in providing such a service.
3. The following statement, which shall be a sworn statement under penalty of perjury, shall be included in all bids related to the purchase or acquisition of materials to be used to construct or maintain any publicly owned and/or maintained road or real property within the [County/City/Town/Village] and all bids related to the retention of services to construct or maintain any publicly owned and/or maintained road or real property within the [County/City/Town/Village]:

"We, \_\_\_\_\_ hereby submit a bid for materials, equipment and/or labor for the [County/City/Town/Village] of \_\_\_\_\_. The bid is for bid documents titled \_\_\_\_\_. We hereby certify under penalty of perjury that no natural gas waste or oil waste will be used by the undersigned bidder or any contractor, sub-contractor, agent, or vendor agent in connection with the bid; nor will the undersigned bidder or any sub-contractor, agent or vendor agent thereof apply any natural gas waste or oil waste to any road or real property within the [County/City/Town/Village] of \_\_\_\_\_ as a result of the submittal of this bid if selected."

**Section \_\_. Duty of Employees to be familiar with this Chapter.**

The [County Executive/Mayor/Town Supervisor] or, at the [County Executive's/Mayor's/Town Supervisor's] option, any Department head or commissioner appointed by the [County Executive/Mayor/Town Supervisor] is authorized to develop policies to ensure [County/City/Town/Village] employees are familiar with the provisions of this Chapter and take such steps as are directed by the [County Executive/Mayor/Town Supervisor] or such department head or commissioner to ensure a diligent effort by the [County/City/Town/Village] that materials supplied to the [County/City/Town/Village] or used on [County/City/Town/Village] roads or property comply with this law. This Section shall not excuse non-compliance by a contractor or vendor of the [County/City/Town/Village].

**Section \_\_. Penalties.**

This law shall apply to any and all actions occurring on or after the effective date of this law. Any violation of Section \_\_ of this Chapter shall be an unclassified misdemeanor punishable by a fine not to exceed \$25,000.00 per violation and/or up to thirty days' imprisonment. Each sale, application, and/or acceptance of natural gas waste or oil waste shall constitute a separate and distinct violation.

**Section \_\_. Severability.**

If any clause, sentence, paragraph, subdivision, section or part of this local law or the application thereof to any person, individual, corporation, firm, partnership, entity or circumstance shall be adjudged by any court of competent jurisdiction to be invalid or unconstitutional, such order or judgment shall not affect, impair, effect or invalidate the remainder thereof, but shall be confined in its operation to the clause, sentence, paragraph, subdivision, section or part of this law or in its application to the person, individual, corporation, firm, partnership, entity or circumstance directly involved in the controversy in which such order or judgment shall be rendered. To further this end, the provisions of this Chapter are hereby declared to be severable.

**Section \_\_. Effective date.**

This local law shall take effect sixty days after it is filed with the New York State Department of State.

*Please note that the information provided in this document does not constitute legal advice and is provide solely for reference. Jurisdictions wishing to use this model legislation as the basis for introducing their own legislation should seek the advice of legal counsel.*

*In addition, particular jurisdictions should, with the assistance of legal counsel, determine whether the type of penalty that will be included in any proposed legislation will be in the form of criminal fines and/or imprisonment or civil penalties, given the particular legal framework within which that legislation will be incorporated.*