NEW YORK STATE | Department of Environmental Conservation

Biosolids Management

Biosolids, sometimes referred to as sewage sludge, are the solid or semi-solid organic materials resulting from the treatment of wastewater carried through sewer lines from homes and businesses. Following treatment, the liquid effluent is typically discharged to a nearby receiving water (e.g., a stream or river), while the biosolids are removed from the treatment plant for beneficial use or disposal. The department has developed fact sheets (PDF, 330KB) for further information on this waste stream.

Recycling Biosolids

Biosolids are nutrient-rich organic materials that can be recycled and utilized as a soil amendment here in New York State when properly treated and processed. Biosolids treatment and quality standards have been developed to promote the safe use of this material. Public health and the environment are protected by controlling pollutant limits and reducing the pathogenic content of the material that is beneficially used.

Biosolids Recycling Regulations

The primary **New York State regulations** governing the beneficial use of biosolids are found in 6 NYCRR Part 361, *Materials Recovery Facilities*, in the following Subparts:

- 361-2 Land Application and Associated Storage Facilities
- 361-3 Composting and Other Organics Recycling Facilities

Prior to construction and operation, facilities recycling biosolids must apply for a Part 361 permit. Once operating, facilities are required to report annually to the department.

The primary **federal regulations**, implemented by the Environmental Protection Agency (link leaves DEC's website), governing the management practices and final use of biosolids are found in 40 CFR Part 503, *Standards for the Use or Disposal of Sewage Sludge*.

Ways to beneficially reuse biosolids

- Direct land application - The placement of biosolids on or in to the soil to benefit the crop grown and the soil present, and in some cases for land reclamation.
- Composting - The aerobic decomposition of biosolids using controlled temperature, moisture, and oxygen levels to achieve a humus-like material for landscaping or enhancing soil.
- Heat drying or pelletization - A treatment process in which almost all water is removed (typically to over 90% solids content) from the biosolids by exposure to a heat source. The product is typically used

directly as a fertilizer or blended with another material.

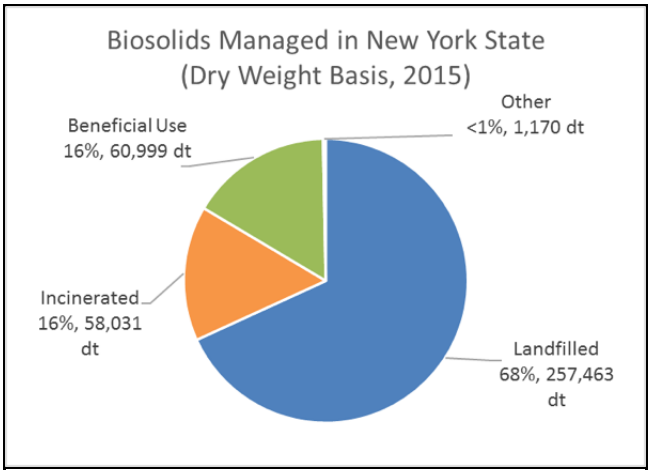
- Chemical stabilization - A process in which chemicals are mixed with biosolids, which react, generate heat, and increase the pH of the material. The resultant product is often used as a lime substitute in agriculture.

Other biosolids management methods

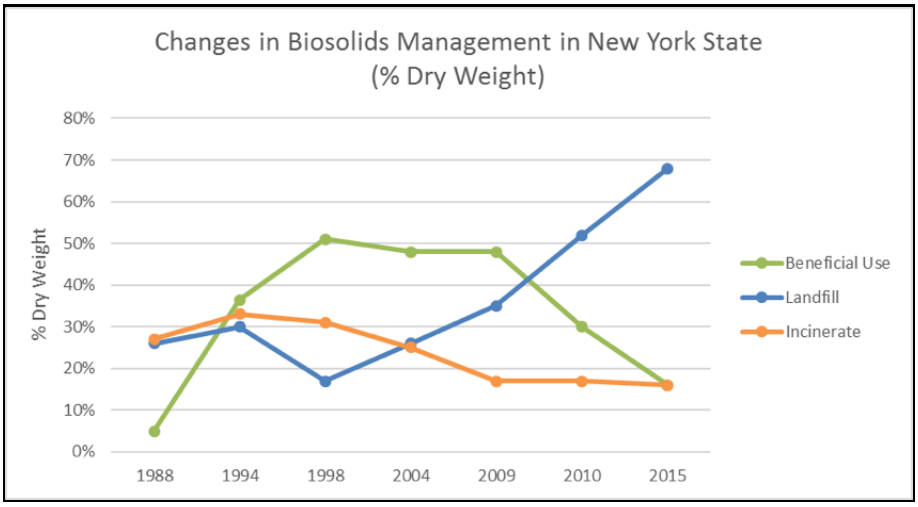
- Landfilling - The disposal of biosolids at municipal waste landfills as well as monofills (sludge-only landfills). Engineered landfills are lined, have groundwater monitoring capabilities, and comply with other regulatory design and operational criteria.
- Incineration - The firing of biosolids at high temperatures in an enclosed device. The resultant ash must be properly disposed of.
- Long term storage - Storage in containers, tanks, lagoons, and treatment beds are common at smaller treatment plants.

Biosolids Management in New York State

As of 2015, there were 612 publicly owned treatment works (POTWs) that generate biosolids in NYS, accounting for approximately 2,400 million gallons per day in actual operating volume at the plants. The total biosolids generation rate is approximately 375,000 dry tons (dt) annually.



As of 2015, landfilling continues to be the most popular biosolids management method, with an estimated 68% of biosolids produced annually going to solid waste landfills. Beneficial use, through methods such as land application, composting, heat drying, and mine reclamation, comprises 16% of biosolids produced annually. Additionally, incineration is used to treat 16%, and other management methods (e.g., lagooning, stockpiling, etc.) are used for less than 1% of the total biosolids produced annually.



Biosolids management practices have changed over the last 30 years. Trends show a steady increase in the use of landfills for biosolids disposal. This is primarily due to relatively low tipping fees in the state and the limited infrastructure required to send biosolids to a landfill. More information can be found in the report *Biosolids Management in New York State* (PDF, 833KB), published in 2018.

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