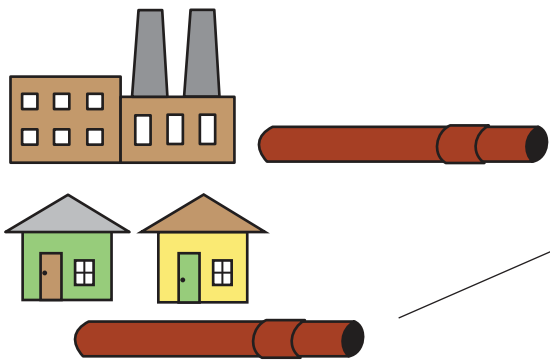


PFAS and Biosolids in Vermont

PFAS (per- and polyfluoroalkyl substances) are a class of chemical used in many products. They have become ubiquitous to our modern life and are found in food packaging, furniture, water repellent products, dental floss, non-stick cookware, and many other consumer products. A growing body of science has found that there are potential adverse health impacts associated with PFAS exposure, including liver damage, thyroid disease, decreased fertility, high cholesterol, obesity, hormone suppression, and cancer.

Biosolids are the nutrient-rich organic byproducts of wastewater treatment. Biosolids have been treated and tested and meet strict federal and state standards for use as fertilizers and soil amendments. Biosolids were once considered a waste product, but are now a recycling success story. They can be beneficially reused on farms.



The "raw materials" for biosolids come from everything that we **send down the drain and flush down the toilet**. In urban and suburban areas, these materials typically flow to a wastewater treatment facility via an underground pipe network.

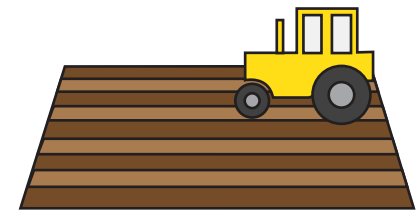
In rural areas, where homes have on-site **septic systems**, septic tanks are pumped out by a vacuum truck. The collected materials are transported to a wastewater treatment facility.

Any PFAS-containing products that go down the drain will flow to a wastewater treatment facility.

At the **wastewater treatment facility**, materials undergo processes designed to clean the wastewater. These processes are designed to remove pathogens and nutrients from the wastewater. Typical treatment practices are not designed to effectively remove PFAS. WWTFs do not use or add any chemicals that contain PFAS.

During these treatment processes, solids settle out of the wastewater. This "sludge" is referred to as a biosolid after it has undergone additional treatment.

Treated water leaves the wastewater treatment facility and is discharged to surface waters.



Biosolids generated in Vermont are used as **fertilizer** for animal feed crops or are mixed into a manufactured top soil for a variety of uses.



If sludge is not converted to biosolids and used as a soil amendment, it is hauled to a **landfill** for disposal.

Leachate from lined landfills is collected and sent to a wastewater treatment facility for processing.

Landfill leachate can have increased levels of PFAS. If PFAS-containing leachate is sent to a WWTF, it becomes a source of PFAS at the WWTF.



Green Mountain
Water Environment
Association

