



BIOSOLIDS Annual Report

Working to Return Carbon and Nutrients Back to Soil



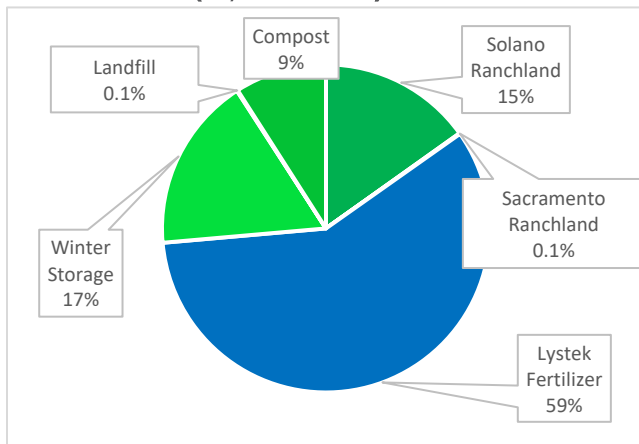
SFPUC process engineer, holding biosolids produced at the Oceanside Treatment Plant

What are Biosolids?

Biosolids are the nutrient-rich soil-like product of the wastewater treatment process that can be used as a synthetic fertilizer-replacement and soil amendment. Decades of research and use by farmers across North America demonstrate that biosolids are an effective way to convert waste to resources by improving soils and enhancing crop growth, and by returning valuable carbon and nutrients back to the land.

Where do San Francisco's Biosolids Go?

2023 Beneficial Distribution from Southeast and Oceanside Treatment Plants (58,128 wet tons)



Environmental and Commercial Benefits of Biosolids

- Improved soil quality:** biosolids are a carbon-based soil amendment that help soils:
 - hold onto moisture better, with less need for irrigation
 - be less compacted and have better structure, which is better for plants and water infiltration
 - support soil microorganisms, which are critical for nutrient cycling in the soil, and
 - resist erosion from water and wind, preserving topsoil for generations to come.
- Slow-release nutrients:** biosolids are high in nitrogen, phosphorus and other nutrients needed for plant growth. As soil microorganisms break down the organic matter in the biosolids, these nutrients are slowly released over the course of the growing season. This means that the nutrients are slowly provided to plants to help them grow and remain in the soil where they can be taken up by crops gradually over time.
- Higher crop yields and lower fertilizer use:** studies where biosolids have been used to replace synthetic fertilizer show that crop yields are as good or better than when synthetic fertilizer is used.
- Greenhouse Gas Benefits:** biosolids increase the amount of carbon that soils store, reversing the effects of high-tillage agriculture. This helps keep carbon in the soil and out of the atmosphere where it can contribute to climate change.

Ongoing Projects

- **The Sewer System Improvement Program (SSIP)** is a multi-billion-dollar citywide investment to upgrade our aging sewer infrastructure to ensure a reliable and seismically safe sewer system now and for generations to come. Under SSIP, we are constructing new biosolids digester facilities at the Southeast Treatment Plant, enhancing future alternatives for biosolids use, and generating Class A biosolids. Be a part of SSIP; visit sfpuc.org/SSIP to learn more.
- The San Francisco Public Utilities Commission (SFPUC) **supported the development of a greenhouse gas emissions model** to better understand how biosolids management practices can be leveraged to reduce our carbon footprint. This [model](#) is now complete and will help inform how we can best use biosolids to address climate change.
- Biosolids producers throughout the Bay Area work together on issues like biosolids research. You can learn more at BayAreaBiosolids.com.



Bay Area ranch where SFPUC biosolids are used as a soil amendment

Biosolids Management System

- The Biosolids Management System is a system for ensuring wastewater utilities produce quality biosolids and maintains a robust biosolids program. The SFPUC has been using this system since 2015. The National Biosolids Partnership audits the SFPUC's Biosolids Management System annually and recommends a certification level. Following the 2020 audit, SFPUC's management system maintained the platinum level certification, achieved by the SFPUC yearly since 2016.
- In 2023, the SFPUC biosolids program met all regulatory requirements including pathogen reduction requirements, metals limits, and vector attraction reduction requirements.
- The SFPUC sets annual goals to continuously improve the Biosolids Program. Our goals for 2023 included optimization of processes that remove water from the biosolids, improved tracking of program management cost savings and an evaluation of emerging technologies for biosolids management, Learn more about our goals [here](#).

You Can Help: Only Flush the Three P's

Wastewater treatment plants and sewer pipes are designed to only collect and treat the 3 Ps: **P**ee, **P**oop and toilet **P**aper. Anything else that goes down the drain could clog pipes or impact the quality of our biosolids and treated water. Help keep trash out of the pipes and make sure to never flush unused medications or wet wipes down the toilet. Learn more about what you can do to prevent pollution at sfpuc.org/pollutionprevention.

Contact Us

For more information about Biosolids or our other SFPUC projects and programs, contact us at (415) 554-3289 or Info@sflower.org.

