



# BIOSOLIDS Annual Report

## Working to Return Carbon and Nutrients Back to Soil



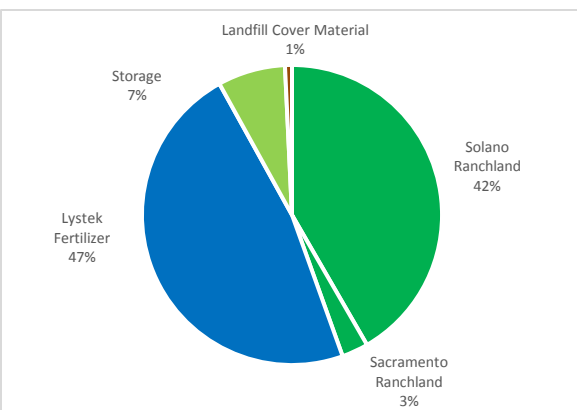
SFPUC process engineer, holding biosolids produced at the Oceanside Treatment Plant

### 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?

**2021 Beneficial Distribution from Southeast and Oceanside Treatment Plants (55,930 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 at [the SSIP homepage](#).
- The San Francisco Public Utilities Commission (SFPUC) **worked with University of California researchers** to better understand how much additional carbon is stored in soils from using biosolids as a soil amendment. This research is now [published](#) and will help inform how we can best use biosolids to sequester carbon and help 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 2021, 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 through improvements to its treatment processes, training of its operators, and communications and outreach strategies to ensure open and transparent communication with its customers and San Franciscans at large about the program and biosolids practices. Our goals for 2021 included optimization of processes that remove water from the biosolids, training programs for staff, and looking at ways to reclaim degraded lands using biosolids. Learn more about our goals at [sfpuc.org/biosolids](#).

## 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@sfpuc.org](mailto:info@sfpuc.org).



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