

# San Francisco Public Utilities Commission

## Biosolids: Beneficial Use and Look into the Future



### What are Biosolids?

Biosolids are the nutrient-rich natural solid materials resulting from the biological and physical treatment of wastewater in a treatment facility. Just like liquids, the solids get treated at one of our two 24-hour wastewater treatment plants.

**San Francisco produces about 200 tons of biosolids per day – that’s equal to the weight of 28 adult elephants!**

### Class A vs. Class B Biosolids

**Class “A” biosolids** contain no detectable levels of pathogens (disease causing organisms) and can be applied without restriction on food crops.

**Class “B” biosolids** are highly treated but may contain small levels of pathogens and low metal concentrations. Class B biosolids meet all regulatory and health requirements and may be applied to non-food crops. San Francisco’s treatment plants currently produce Class B biosolids.

Land-applied biosolids must meet strict Federal (USEPA), State, Regional, and County health department requirements, in addition to local ordinances and permits.

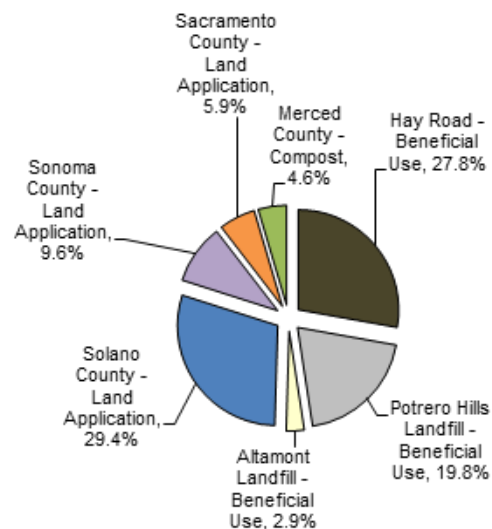
### Land Application of Biosolids – Environmental & Commercial Benefits

- Improved soil quality – land application of biosolids helps absorb and store moisture, and reduces the need to irrigate by providing natural drought resistance.
- Provision of slow-release nutrients – biosolids provide nitrogen, phosphorus, and potassium in a slow-release form that allows nutrients to remain in the soil where they can be taken up by crops gradually over time.
- Higher crop yields and lower fertilizer use – the nutrients found in biosolids act as a fertilizer.
- Greenhouse gas benefits – biosolids, have two key benefits: 1) biosolids can bind carbon in the soil level, providing short term carbon sequestration, 2) anaerobic digestion captures methane gas, which can be beneficially used in onsite energy production.

### Where do San Francisco’s Biosolids Go?

We reuse 100% of the biosolids produced at our wastewater treatment plants.

#### SFPUC 2015 Biosolids Beneficial Use Distribution Southeast and Oceanside Wastewater Treatment Plants



## Challenges with Biosolids Reuse Options

- **Disappearing biosolids management options** – Local, State and Federal regulations are becoming increasingly stringent and restrictive of the current biosolids management practices of soil amendment and landfill cover.
- **Rising biosolids management costs** – Regulatory and land use trends are driving up the costs of biosolids management for the Bay Area. Biosolids treatment and management generally accounts for half the overall costs of wastewater treatment.

## Looking to the Future

- **Biosolids to Energy:** With the challenge of biosolids reuse options, we are part of a coalition of 19 Bay Area wastewater agencies, “Bay Area Biosolids to Energy,” that aims to create a local sustainable solution to biosolids management by utilizing the latent energy in biosolids to produce electricity. The coalition agencies are currently exploring opportunities to diversify biosolids management options. Visit [bayareabiosolids.com](http://bayareabiosolids.com) for more information.
- **The Sewer System Improvement Program (SSIP)** is a 20-year, multi-billion dollar citywide investment to upgrade our aging sewer infrastructure ensure a reliable and seismically safe sewer system now and for generations to come. Under SSIP, we are looking at new Biosolids Digester Facilities at the Southeast Treatment Plant, future alternatives for biosolids reuse, and potentially generating Class A biosolids. Be a part of SSIP at [sfwater.org/SSIP](http://sfwater.org/SSIP).



## You Can Help: Don't flush medications down the toilet

Wastewater treatment plants were not designed to remove pharmaceuticals, and these chemicals remain in the biosolids after treatment. Flushing medicines can also harm aquatic life in the San Francisco Bay and Pacific Ocean. To learn where you can drop off expired unwanted medications in San Francisco, go to [sfwater.org/CleanBay](http://sfwater.org/CleanBay).

## Take a Free Treatment Plant Tour

Do you want to see how the treatment process works? Take a tour of one of our wastewater treatment plants. To sign-up, go to [sfwater.org/tour](http://sfwater.org/tour).



Oceanside Treatment Plant Tour

## Useful Links

- National Biosolids Partnership  
[www.wef.org/biosolids/](http://www.wef.org/biosolids/)
- U.S. EPA  
[www.epa.gov/biosolids/](http://www.epa.gov/biosolids/)
- California State Water Resources Control Board  
[www.swrcb.ca.gov/water\\_issues/programs/biosolids/](http://www.swrcb.ca.gov/water_issues/programs/biosolids/)

## Contact Us

For more information about Biosolids or our other SFPUC projects and programs, contact us at (415) 554-3289 or [info@sfwater.org](mailto:info@sfwater.org).

