

Status of the Current Biosolids Ordinance

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COUNTY OF SAN LUIS OBISPO HEALTH AGENCY
PUBLIC HEALTH DEPARTMENT

What are Biosolids?

Oxford Dictionary: Organic matter recycled from sewage

USEPA: sewage sludge that has been treated to meet EPA requirements

The Guardian: 'the most pollutant-rich man-made substance on Earth'

A polarizing topic, perhaps?

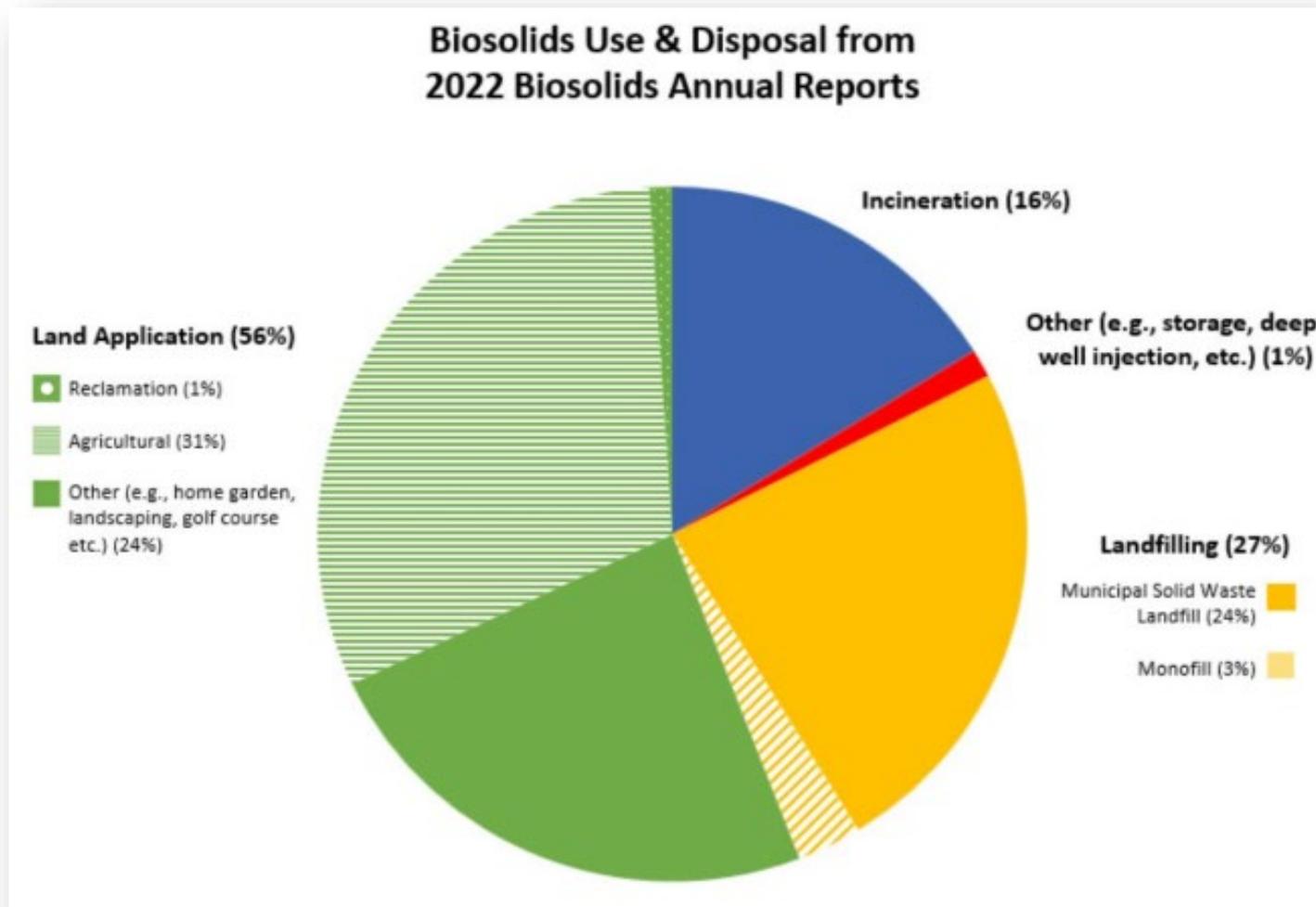


“Sewage plants operating in the United States today generate about 0.16 pounds (dry weight basis) of sewage sludge each day for every person.”

<https://extension.psu.edu/what-is-sewage-sludge-and-what-can-be-done-with-it>



Nationwide, ~ 3.76 million tons of dry biosolids produced in 2022



SLO County Current Ordinance:

Chapter 8.13 - LAND APPLICATION OF TREATED SEWAGE SLUDGE/BIOSOLIDS

8.13.030 - Interim moratorium

Except as otherwise provided herein, there shall be an interim moratorium on the application or distribution of biosolids and exceptional quality biosolids on any land within the unincorporated areas of San Luis Obispo County. The moratorium established by this ordinance shall remain in effect until such time as a permanent ordinance regulating the land application of biosolids and exceptional quality biosolids is enacted by the board of supervisors, or until March 31, 2026, whichever first occurs.



SLO County Ordinance

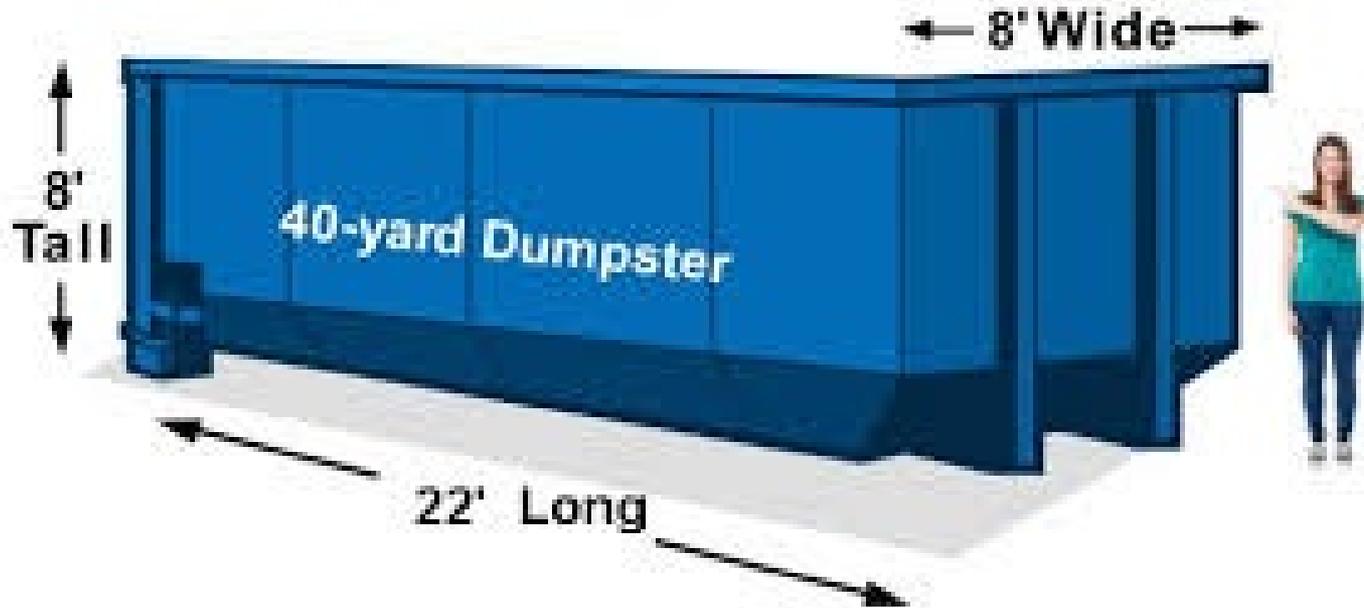
There is a “moratorium”, however:

- Can apply up to 1,500 cubic feet per year
- If less than 1,500 cu. ft., can apply the carryover the next year
- Must be documented Class A EQ (more on this later)
- Must notify EHS at least 30 days prior

No notices have been received by EHS since the initial moratorium in 2004.



1,500 cubic feet is 55.5 cubic yards (1.5 of these)



Holds up to 12 Pickup Truck Loads



Short History of the Ordinance

1998: Residents concerned over a proposal to apply biosolids to a ranch near San Miguel

2000: County Health Commission Task Force

2001: second Task Force (establishes local control and oversight)

2004: Interim ordinance enacted

2006, 2010, 2014, 2018, 2021: Interim ordinance extended

2026: Interim Ordinance set to expire



Classes of Biosolids?

Class B: significantly reduced pathogens but still contain detectable levels, leading to more restricted uses like agricultural land application, where specific regulations on crop harvest times apply.

Class A: pathogens are reduced to virtually non-detectable levels through processes like heating, composting, or digestion.

Class A Exceptional Quality (EQ): virtual absence of pathogens, have a reduced level of degradable compounds that attract vectors, and most stringent Part 503 pollutant concentration limits for metals.



Table 3 of Section 503.13 Pollutant Concentration

Pollutant	Monthly Ave. Concentration (mg/kg)
Arsenic	41
Cadmium	39
Copper	1500
Lead	300
Mercury	17
Nickel	420
Selenium	100
Zinc	2800

However, the USEPA's List of Chemicals found in biosolids:

- 726 (2021)
- 739 (2022)

<https://comptox.epa.gov/dashboard/chemical-lists/BIOSOLIDS>



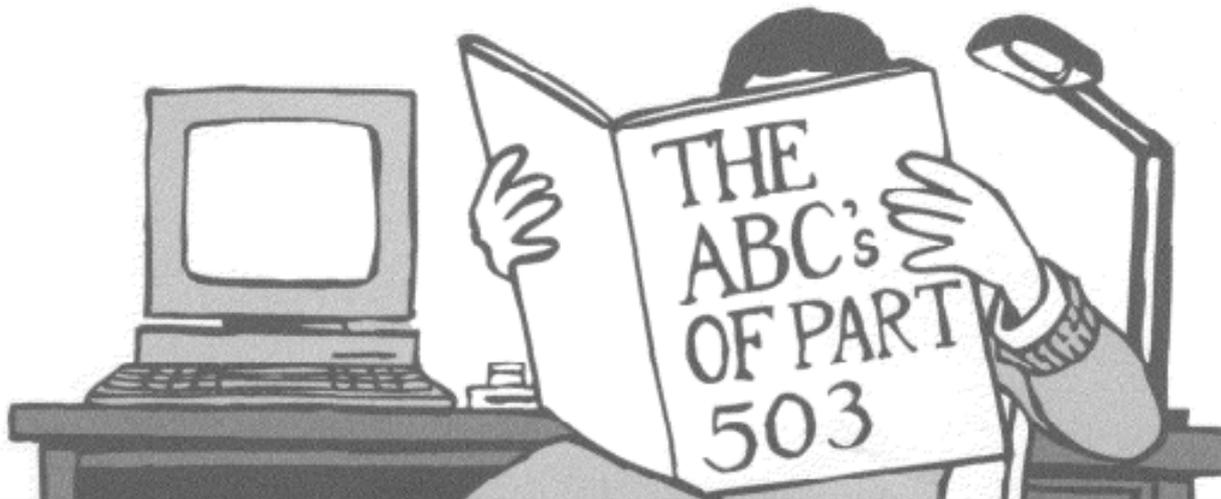
United States
Environmental Protection
Agency

Office of Wastewater
Management
(4204)

EPA/832/R-93/003
September 1994



A Plain English Guide to the EPA Part 503 Biosolids Rule



(183 pages)



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EPA Part 503

The Part 503 rule is designed to protect public health and the environment from any reasonably anticipated adverse effects of certain pollutants and contaminants that may be present in biosolids.

The provisions of the Part 503 rule are consistent with EPA's policy of promoting beneficial uses of biosolids.

(Promulgated in 1994)

In California: SWRCB General Order NO. 2004 - 0012 - DWQ
Defers to EPA Part 503



National Academy of Sciences (2002)

Biosolids Applied to Land: Advancing Standards and Practices.

Overarching Findings: There is no documented scientific evidence that the Part 503 rule has failed to protect public health.

However, additional scientific work is needed to reduce persistent uncertainty about the potential for adverse human health effects from exposure to biosolids.

National Academies of Sciences, Engineering, and Medicine. 2002.
Washington, DC: The National Academies Press.
<https://doi.org/10.17226/10426>.



Court of Public Opinion

The New York Times

5 Takeaways From Our Reporting on Toxic Sludge Fertilizer

The Times dug into the widespread use of sewage sludge as fertilizer, which is sometimes heavily contaminated by “forever chemicals.”

NY Times, August 31, 2024



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Maine bans land application

STATE OF MAINE

—

IN THE YEAR OF OUR LORD

TWO THOUSAND TWENTY-TWO

—

H.P. 1417 - L.D. 1911

An Act To Prevent the Further Contamination of the Soils and Waters of the State with So-called Forever Chemicals



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Emerging Issues

PFAS chemicals (“Forever chemicals”)

- The SWRCB required a one-time assessment of PFAS in biosolids
- Order WQ 2020-0015-DWQ, 2020
- Results available on https://geotracker.waterboards.ca.gov/map/pfas_map

Microplastics

Pharmaceuticals and Personal Care Products (PPCPs)

Other “Unknowns”

*“There are known knowns, known unknowns,
and unknown unknowns...”*



If not Land Application, then what?

- 1) Underground injection (UIC)
- 2) Landfills (nope – see SB 1383)
- 3) Thermal treatment under certain conditions, which includes incineration.



PFAS, but pretty much applies to Biosolids as well



SB 1383 (2020)

14CCR Chapter 12 – Short-lived Climate Pollutants

By 2020 – 50% organic waste reduction from 2014 baseline

By 2025 – 75% organic waste reduction from 2014 baseline

SB 1383 defers to US EPA Part 503 as to standards for land application



SB 1383

14CCR § 18990.1(b) A jurisdiction shall not implement or enforce an ordinance, policy, procedure, permit condition, or initiative that includes provisions that do any of the following:

(1) Prohibit, or otherwise unreasonably limit or restrict, the lawful processing and recovery of organic waste through a method identified in Article 2 of this chapter.

14CCR § 18983.1(b)(6)(B) Biosolids used for land application shall:1. Have undergone anaerobic digestion or composting, as defined in Part [503](#), Title 40 of the Code of Federal Regulations, Appendix B, sections (A)(1) and (A)(4), as amended August 4, 1999, which is hereby incorporated by reference; and





Elimination of microplastics, PFAS, and PPCPs from biosolids via pyrolysis to produce biochar: Feasibility and techno-economic analysis

Highlights

- Pyrolysis eliminates >99 % of PFAS, microplastics, and PPCPs from biosolids.
- Biochar from biosolids high in Fe and P
- Pyrolysis can generate revenue for wastewater treatment plant.
- Revenue dependent on scale of unit and market for biochar



In closing...

- Not advocating FOR or AGAINST land application of biosolids
- Not advocating FOR or AGAINST any potential treatment options



ARE YOU
EATING
YOUR
OWN
SH*T?

MAMAVATION
CHANGING LIVES ONE MOM AT A TIME



Top 10 Reasons
BIOSOLIDS
Are Dangerous



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There are costs and uncertainties with any biosolids decision

- Current and future costs to truck biosolids elsewhere
- Increasing capital costs of future construction
- Decreasing available landfill space over time
- Discovery of future “unknown” biosolids issues



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