



Analysis of the Annual EPA Biosolids Reports

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Analysis of Annual EPA Biosolids Reports

- **General Overview of the Annual EPA Biosolids Reporting Program**
- **Deep Dive into Massachusetts 2021 Data**
(reported in February 2022)
- **Conclusions, Suggestions, and Recent News**

What is the Annual Biosolids Report About?

EPA collects annual biosolids reports from roughly 2,500 larger facilities in the U.S. These annual biosolids reports are required by Part 503 for the larger public facilities that land apply, incinerate, or dispose of their biosolids via surface disposal

What is the Annual Biosolids Report About?

Biosolids annual reports are collected from the 41 states where EPA implements the Biosolids Program. There are currently nine states (Arizona, Idaho, Michigan, Ohio, Oklahoma, South Dakota, Texas, Utah, and Wisconsin) which are authorized through the NPDES Program to be the permitting authority for biosolids.

Who Must File The Annual Reports?

- Class I sludge management facilities
- Publicly Owned Treatment Works (POTW) with a design flow rate equal to or greater than 1 MGD
- Publicly Owned Treatment Works (POTW) that serve 10,000 people or more

Class 1 sludge management facility

- Publicly Owned Treatment Works (POTW) that must have an approved pretreatment program.
- Treatment works classified as such because its sludge use or disposal practices could adversely affect public health or the environment.

How Must and When Must Reports be filed?

- All facilities that are regulated by EPA for the Federal biosolids program (40 CFR part 503) **must** use NeT Biosolids to electronically submit this annual report.
- Electronic reporting started in 2017 (reporting 2016 data)
- NeT Biosolids is accessed via EPA's Central Data Exchange (CDX)
- The 9 delegated States must electronically report by 2025
- Reports due February 19th of each year

CFR 503 Reporting Language

§ 503.18, § 503.28, § 503.48

“Class I sludge management facilities, POTWs (as defined in [§ 501.2 of this chapter](#)) with a design flow rate equal to or greater than one million gallons per day, and POTWs that serve a population of 10,000 people or greater shall submit a report on February 19 of each year. As of December 21, 2016, all reports submitted in compliance with this section **must be submitted electronically** by the operator to EPA when the Regional Administrator is the Director in compliance with this section and [40 CFR part 3](#) (including, in all cases, subpart D to [40 CFR part 3](#)), [40 CFR 122.22](#), and [40 CFR part 127](#).”

Newer NPDES Permit Language

Typically Section 8 under “Sludge Conditions”

“The permittee **shall submit an annual report** containing the information specified in the 40 CFR Part 503 requirements (§ 503.18 (land application), § 503.28 (surface disposal), or § 503.48 (incineration)) **by February 19th** (see also “EPA Region 1 - NPDES Permit Sludge Compliance Guidance”). The permittee shall submit an annual report containing the information specified in the 40 CFR Part 503 requirements (§ 503.18 (land application), § 503.28 (surface disposal), or § 503.48 (incineration)) by February 19 (see also “EPA Region 1 - NPDES Permit Sludge Compliance Guidance”). **Reports shall be submitted electronically** using EPA’s Electronic Reporting tool (“NeT”) (see “Monitoring and Reporting” section below).”

Older NPDES Permit Language

Typically Section 8 under “Sludge Conditions”

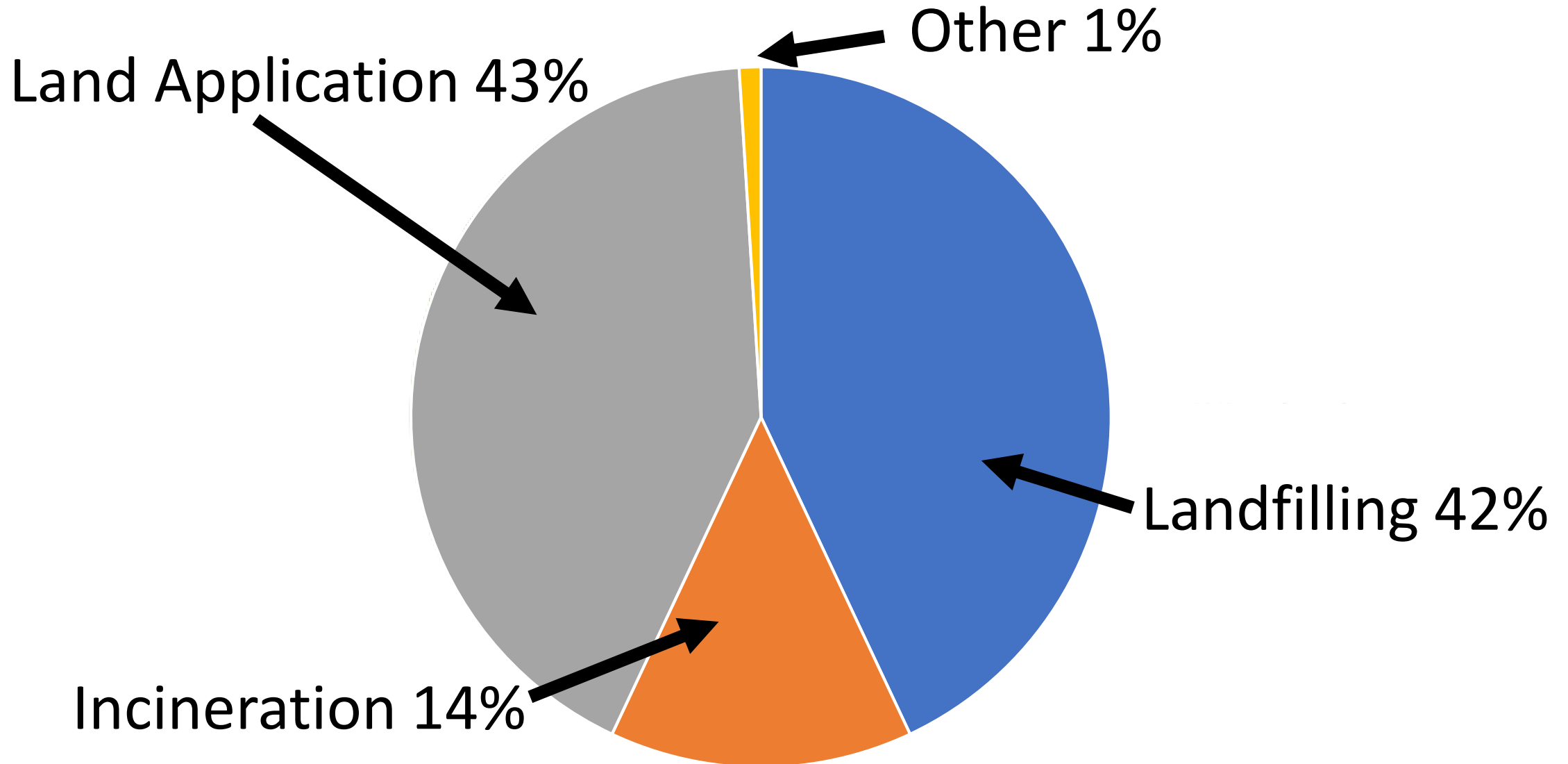
“The permittee shall submit an annual report containing the information specified in the 40 CFR Part 503 requirements (§ 503.18 (land application), § 503.28 (surface disposal), or § 503.48 (incineration)) by February 19 (see also “EPA Region 1 - NPDES Permit Sludge Compliance Guidance”). Reports shall be submitted to the address contained in the reporting section of the permit.

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An Important Note

- These Federal reporting requirements do not include biosolids that are disposed in a municipal solid waste (MSW) landfill (covered under CFR 258).
- But POTWs that send biosolids to a MSW landfill are asked to report and have the option to select "Other Management Practice" to voluntarily provide information on biosolids sent to a MSW landfill for the reporting period.

2021 EPA Biosolids Annual Program Reports





Sounds Great!

By February 19th of each year POTW's report data electronically on biosolids quantities and management practices and everyone has access to the data through the EPA's Enforcement and Compliance History Online (ECHO) website.

Now let's look at Massachusetts 2021 data (submitted February 2022)


Analysis of Annual EPA Biosolids Reports

EPA's Enforcement and Compliance History Online (ECHO) website

— Collapse All + Expand All  Related Tools  Help

Search Media Program

Choose a Media Program

Choose a Water Program Area 

Annual Report

Facility ID Number

EPA Region

State

- MD - Maryland
- MA - Massachusetts**
- MI - Michigan
- MM - Midwestern States

Biosolids Annual Reporter

Annual Amount of Biosolids Generated No Restrictions Within

Search Criteria Selected

Media Program

Biosolids Annual Report

Annual Report

Biosolids Annual Reporter
2021

State

Massachusetts

Results View

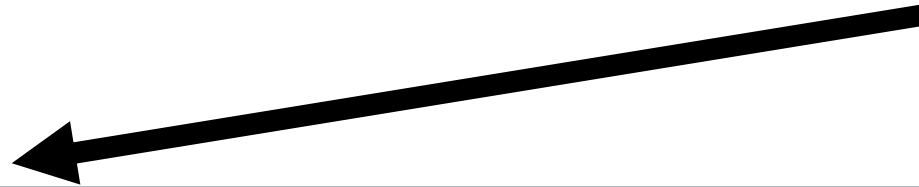
Interactive Map


Data Table

Search

Facility Search Results

Download all of the State data as an Excel compatible file



CSV Download 									
Facility Name	NPDES ID	City	State	EPA Region	Reporting Year	Certified Date	Reporting Obligation(s)	Amount of Biosolids Generated	Violation Count
AMESBURY W W T P	MAL101745	AMESBURY	MA	1	2021	02/16/2022	View	415	0
AMHERST W W T P	MAL100218	HADLEY	MA	1	2021	02/11/2022	View	750.36	0
ATHOL W W T P	MAL100005	ATHOL	MA	1	2021	02/18/2022	A POTW with a design flow rate equal to or greater than one million gallons per day	335.83	0
ATTLEBORO W P C F	MAL100595	ATTLEBORO	MA	1	2021	02/11/2022	A POTW with a design flow rate equal to or greater than one million gallons per day	3055	0

MA 2021 Biosolids Summary for Massachusetts

Download Reports on 4 Management Practices

- Incineration
- Land Application
- Surface Disposal
- Other Management Practice (Usually Disposal in a Municipal Solid Waste (MSW) Landfill)
- Reported in Dry Metric Tons

MA 2021 Biosolids Summary for Massachusetts

Of the 120 POTW's in Mass

- 79 Facilities Reported
- 36 Facilities < 1 MGD (were exempt but 13 did report)
- 17 Facilities > 1 MGD did not report

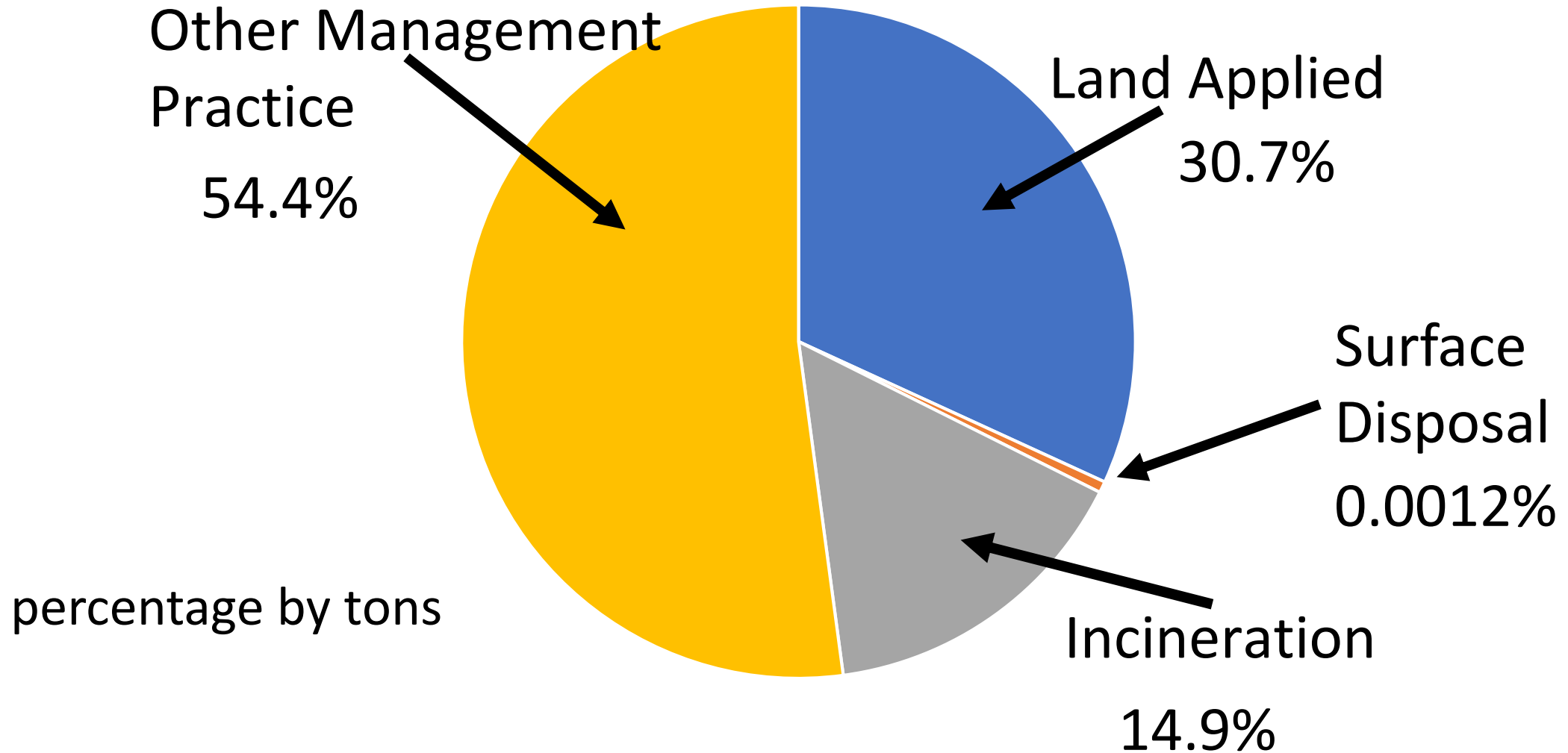
Submittal History

	Design Flow				
Facility #	(MGD)	2018	2019	2020	2021
Facility 1	4.6	No	No	No	No
Facility 2	40	No	No	No	No
Facility 3	3.65	No	No	No	No
Facility 4	3.05	Yes	No	Yes	No
Facility 5	1.8	No	No	No	No
Facility 6	1.52	No	No	No	No
Facility 7	4.2	No	No	No	No
Facility 8	4.61	No	No	No	No
Facility 9	1.1	Yes	No	No	No
Facility 10	17	No	No	No	No
Facility 11	3	Yes	Yes	Yes	No

MA 2021 Management Practices (As Reported)

- Incineration – 3
- Land Application – 7
- Land Application, Other Management Practice – 3
- Other Management Practice – 65
- Surface Disposal - 1

Massachusetts Biosolids Disposal Options 2021 (As Reported)



MA 2021 Management Practices (Corrected)

- 69 Facilities - 145,775 Dry Metric Tons (160,689 US Tons)
- Incineration - 36
- Land Application – 12
- Land Application, Other Management Practice - 2
- Land Application, Incineration - 2
- Land Application, Incineration, OMP - 3
- Incineration, Other Management Practice - 2
- Surface Disposal – 2
- Other Management Practice - 10

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Massachusetts Biosolids Disposal Options 2021 (Corrected)

Other Management Practice

15.1%

Land Applied

44.2%

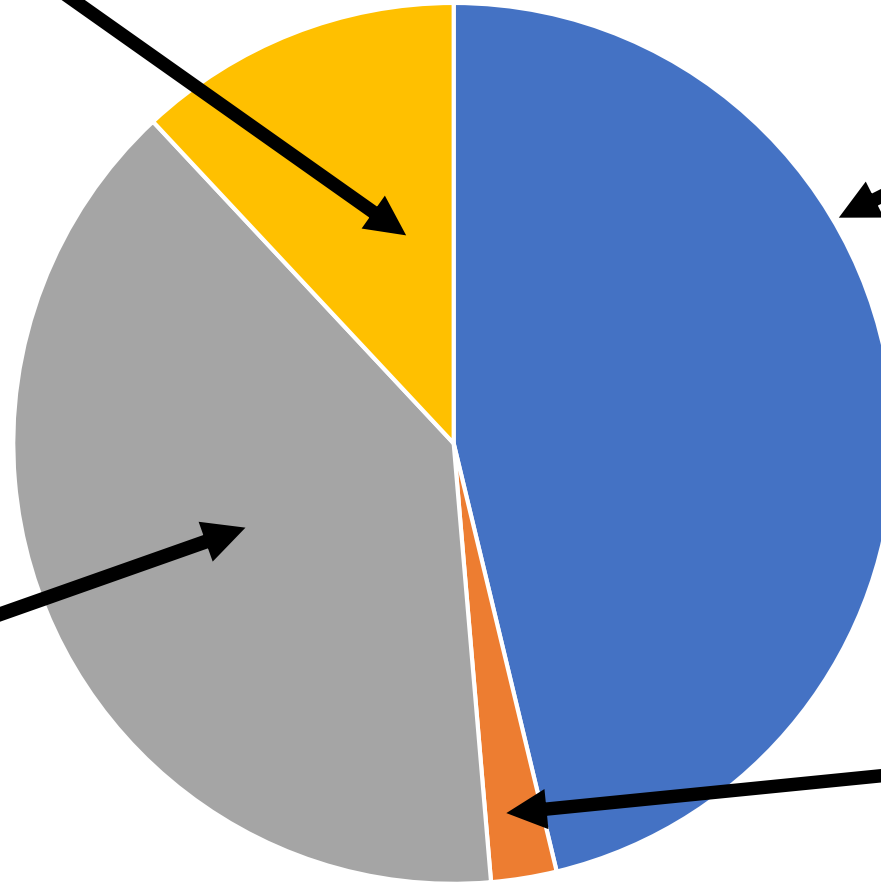
percentage by tons

Incinerated

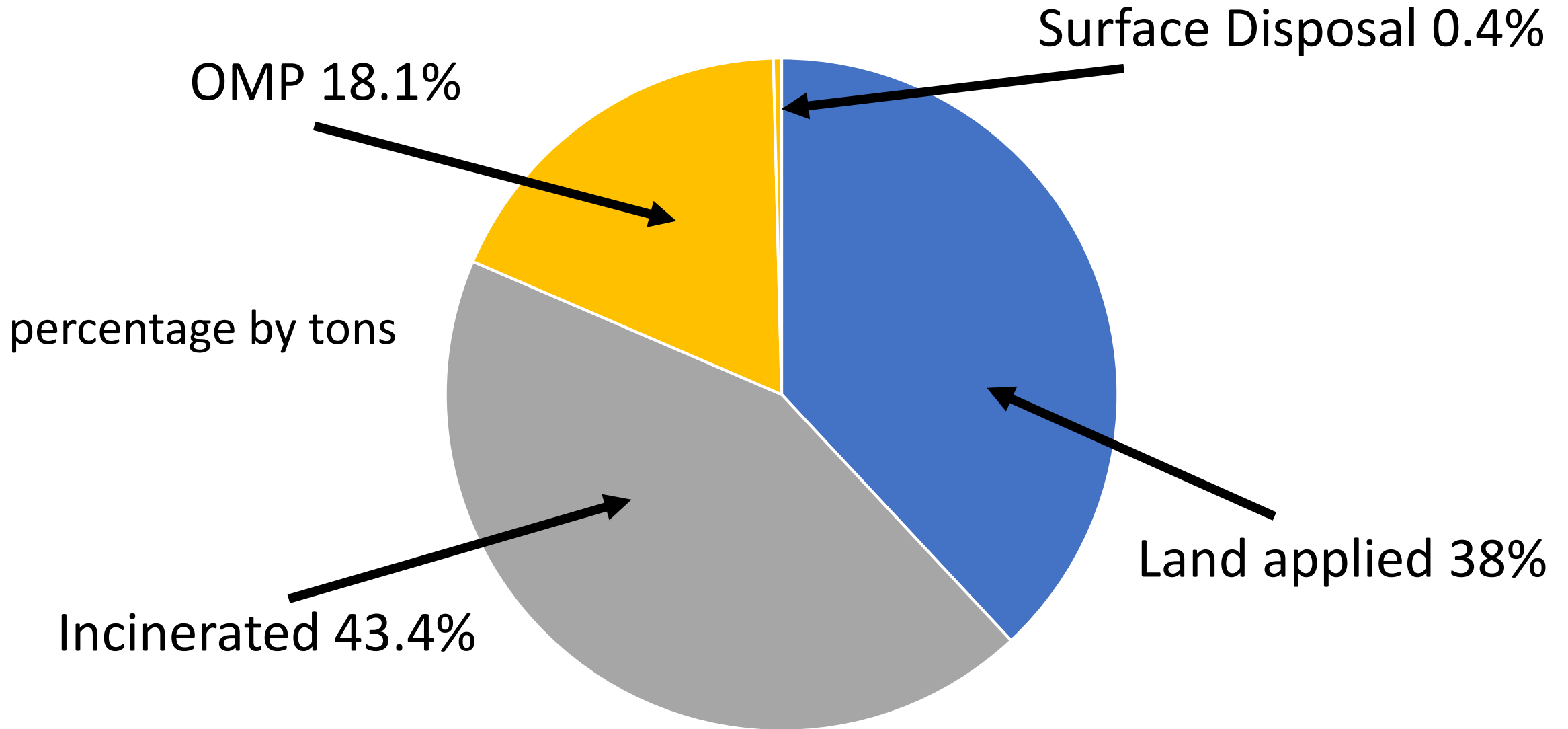
38.3%

Surface Disposal

2.3%



2018 NEBRA Biosolids Survey Data



As Reported versus Corrected Comparison

Management Practice	2021 As Reported	2021 Corrected	2018 NEBRA
Percentage Land Applied	30.7%	44.2%	38.0%
Percentage Surface Disposal	0.0012%	2.3%	0.4%
Percentage Incinerated	14.9%	38.3%	43.4%
Percentage OMP	54.4%	15.1%	18.1%

1 Issue with submitted reports

Use of Other Management Practice when biosolids are Incinerated or Land Applied

Instruction and Permits Contradiction

NeT-Biosolids User's Guide Version 9 – Updated 08/20/2021

“However, current electronic reporting requires a POTW that utilizes a third-party handler, preparer, or applier to report monitoring data. A POTW must collect the sewage sludge monitoring data from the third-party handler, preparer, or applier, which performed the handling, preparing, and ultimate disposition, and then include this data on the annual form. “

Instruction and Permits Contradiction

Typical NPDES Permit Language

“If the permittee engages a contractor or contractors for sludge preparation and ultimate use or disposal, the annual report need contain *only* the following information:

a. Name and address of contractor(s) responsible for sludge preparation, use or disposal

b. Quantity of sludge (in dry metric tons) from the POTW that is transferred to the sludge contractor(s), and the method(s) by which the contractor will prepare and use or dispose of the sewage sludge.”

Other Management Practice Misuse Example

Sewage Sludge Unique Identifier 001

Management Practice	Other Management Practice
Other Management Practice Detail	Other
Other Management Practice Detail Description	Incineration at Cranston, RI WPCF
Handler, Preparer, or Applier	Off-Site Third-Party Preparer
Off-Site Permit Number	RIL100013
Off-Site Permit Facility Information	Veolia Water - Cranston WPCF, 140 PETTACONSETT AVENUE, CRANSTON, RI 02910
Bulk or Bag/Container	--
Amount (dry metric tons)	248.36
Pathogen Class	Not Applicable

Other Management Practice Misuse Example

Biosolids Annual Report Additional Information

“Biosolids Comments: The data for dry metric tons is being reported under "Other Management Practice" since information and data about the incinerator operation at Cranston, RI is not known at this time.

An attempt to file under the incineration heading was attempted, but "errors" came up.”

Other Management Practice Misuse Example

Sewage Sludge Unique Identifier 001

Management Practice	Other Management Practice
Other Management Practice Detail	Other
Other Management Practice Detail Description	incineration, landfill and compost
Handler, Preparer, or Applier	Off-Site Third-Party Handler or Applier
Off-Site Permit Number	caella
Off-Site Permit Facility Information	Casella Organics
Bulk or Bag/Container	--
Amount (dry metric tons)	6,691.4

Other Management Practice Misuse Example

Sewage Sludge Unique Identifier 001	
Management Practice	Other Management Practice
Other Management Practice Detail	Other
Other Management Practice Detail Description	sbr
Handler, Preparer, or Applier	Off-Site Third-Party Handler or Applier
Off-Site Permit Number	--
Off-Site Permit Facility Information	j&m sransfer, 315 Nooseneck Hill Rd., Exeter, RI 02822
Bulk or Bag/Container	--
Amount (dry metric tons)	438.3
Pathogen Class	Class A

Large MA Facility – Biosolids go in 9 Directions

- Used Other Management Practice
- 4 Municipal Solid Waste Facilities (MSW)
- 4 Incineration Facilities
- 1 Land Application Facility
- Created 9 SSID's - one for each facility
- Management Practice for each SSID is Identified under Other Management Detail Description

Other Management Practice Overuse Example

Sewage Sludge Unique Identifier 001

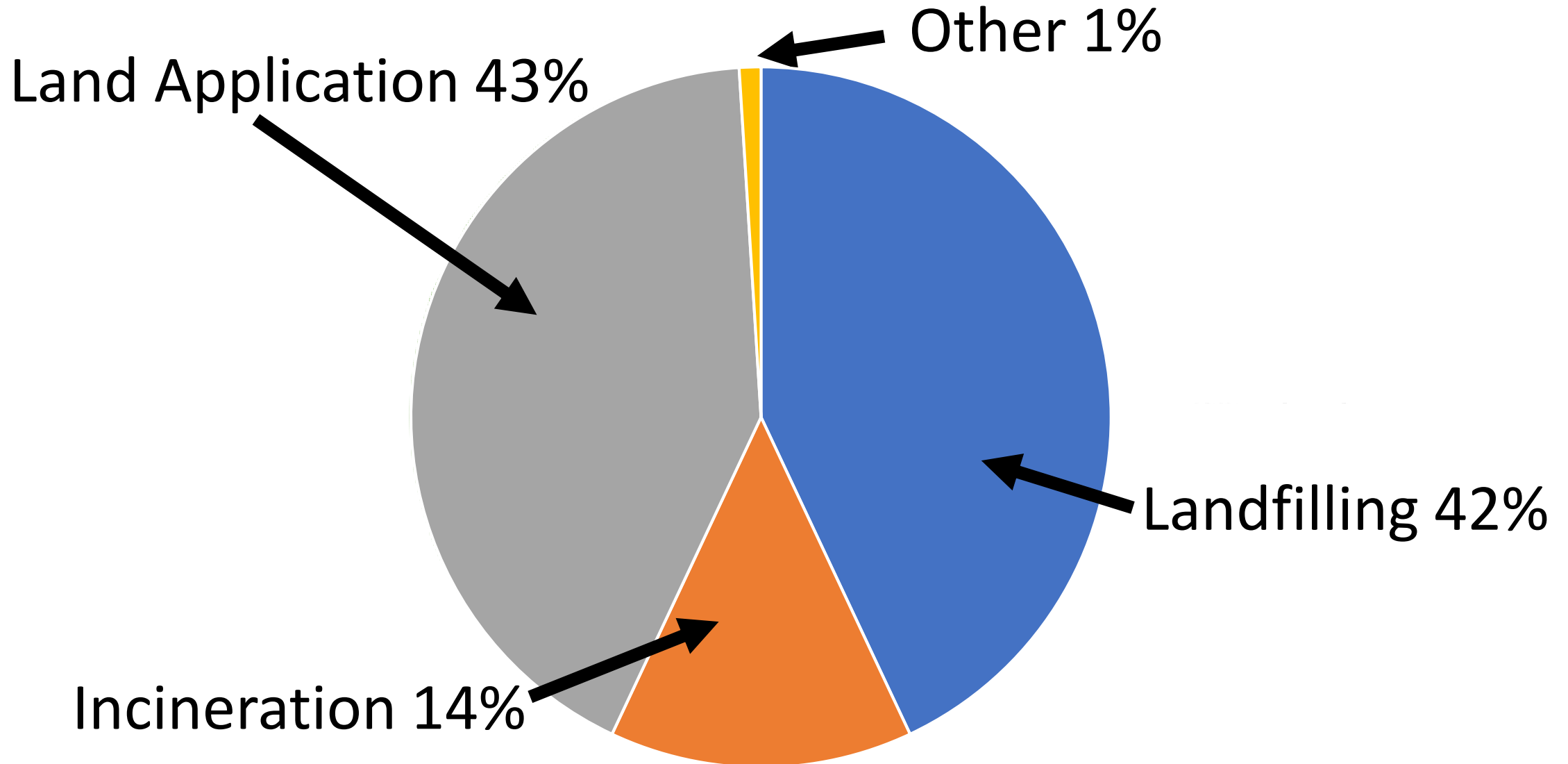
Management Practice	Incineration
Handler, Preparer, or Applier	Off-Site Third-Party Handler or Applier
Off-Site Permit Number	<u>CTL100641</u>
Off-Site Permit Facility Information	Naugatuck WPCF, 500 Cherry Street, Naugatuck, CT 06770
Amount (dry metric tons)	996

Other Management Practice Misuse Example

Sewage Sludge Unique Identifier 001

Management Practice	Other Management Practice
Other Management Practice Detail	Other
Other Management Practice Detail Description	compost by offsite preparer
Handler, Preparer, or Applier	Off-Site Third-Party Handler or Applier
Off-Site Permit Number	--
Off-Site Permit Facility Information	Hawk Ridge Compost Facility, 73 Reynolds Rd, Unity Planation, ME 04988
Bulk or Bag/Container	--
Amount (dry metric tons)	6,793
Pathogen Class	Class A

2021 EPA Biosolids Annual Program Reports



Northeast Facilities Reporting

- Massachusetts – 79
- New Hampshire – 27
- Vermont – 12
- Connecticut – 42
- Maine – 6
- Rhode Island – 16
- New York - 125

Where Do Massachusetts Biosolids Go To?

Massachusetts, Ohio, Pennsylvania, North Carolina, Florida, New Jersey, New York, Indiana, Virginia, Rhode Island, Connecticut, Maine, Alabama, Quebec, New Brunswick, Vermont, New Hampshire

Percentage In State	27.5%
Percentage Out Of State	72.5%

Conclusions / Suggestions

- Reporting software works well but
- Conflict between instructions and permits should be corrected and the software updated so reporting is easier
- Inputted data quality is poor
- QA/QC - ???
- MA specific conclusion – heavy reliance on out of state biosolids management

Recent News From EPA Region 7

- Plans are underway to upgrade the reporting software to eliminate the third party reporting issue – to be completed by 2024
- EPA will engage with State regulators to voluntarily increase compliance by all facilities

QUESTIONS?

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