# THE 2<sup>ND</sup> NATIONAL BIOSOLIDS SURVEY PRELIMINARY RESULTS, TRENDS AND INTERESTING DEVELOPMENTS





North East Biosolids & Residuals Association

Residuals & Biosolids Annual Conference

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## AGENDA

- Project BackgroundSurvey Topics
- Preliminary Results
- Next Steps



#### BACKGROUND

## NATIONAL BIOSOLIDS REGULATION, QUALITY, END USE & DISPOSAL PROJECT

- Reason for 2nd Survey
  - 1<sup>st</sup> Survey 2004 data outdated



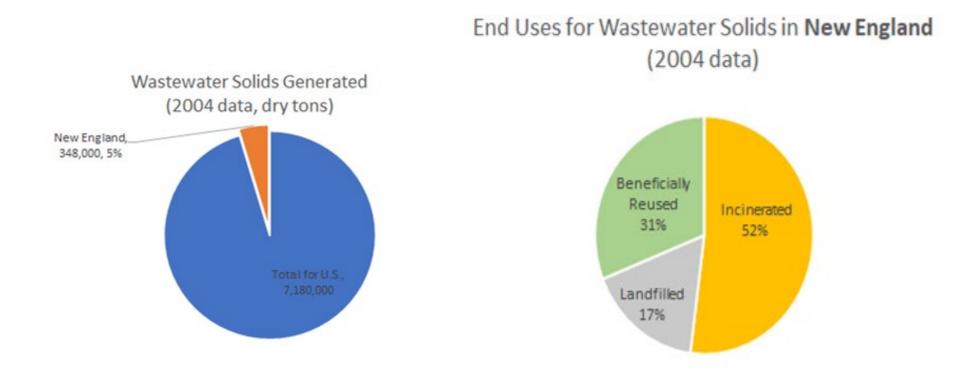


- Comprehensive Biosolids Update Needed
  - Regulation
  - Quality
  - End Use and Disposal Data





## SUMMARY OF FINDINGS FROM 1<sup>ST</sup> REPORT







#### BACKGROUND

#### NORTHEAST REGIONAL SLUDGE GENERATION PROJECT

- Stressors on Sludge Management
  - Pandemic
  - Aging Infrastructure
  - Emerging Contaminants



- Northeast Region Sludge Disposal Options
  - Incinerators
  - Landfills
  - Beneficial Reuse





#### BACKGROUND

#### NORTHEAST REGIONAL SLUDGE GENERATION PROJECT

- Issues
  - Local Capacity
  - Regional Capacity
  - Wastewater Treatment Plant Operations
  - State Requests



- Coordinating with National Biosolids Survey #2
  - Administer National Biosolids Survey in NEIWPCC Member States
  - Case Studies
- Funded Cooperatively States and EPA



NATIONAL BIOSOLIDS QUALITY 8 END USE SURVEY

## NATIONAL BIOSOLIDS DATA PROJECT

- Biosolids Coordinators Survey 2018 Data\*
  - Spreadsheet
  - Online Survey
- WWTP Survey 2018 Data\*
  - Online Survey



#### Georgia? There were GAWF

#### NEIWPCC's WWTP Biosolids Survey - 2018 Data

Welcome

If you are filling out this survey on behalf of a WWTP located in CT, ME, NH, NY, RI, or VT, then you're in the right placel Please check <u>here</u> to see if anyone else at your facility has already filled out the survey to avoid uplicates.

This is the second time this survey has been completed; the initial survey, based on 2004 data, was published in 2007. The results of this year's survey will benefit all stakeholders in the management of wastewater and bisolidis in the U.S.

You will need your 2018 EPA Part 503 Sludge Report (filed in February 2019) and/or your 2018 report to your state. You can download the FOE version of this survey, to use as a reference, but fill it out online here. You might need information from colleagues. We suggest you copy the applicable questions from the PDF into an email for them, and then enter the data they provide.

The data requested are about servage sludge and biosolids from public and private wastewater treatment plants (WVPP) treating domestic servage, who used or disposed of servage sludgebiosolids in 2018. If your facility firs this description, please proceed. The quantity of biosolids used or disposed means the quantity that goes out the gate of your WVTP(s), even if it goes to another WVTP.

The Core Survey is ~52 questions. It should take ~30 minutes to complete if you have your 2018 data readily available. If firm data are not available, estimates are fine. Leave blank any questions that don't apply to your WVTP or that you are unable to answer.

After the core survey, we'll ask you to complete additional questions about operations, economics, and energy.

Instructions

he survey support page provides descriptions and definitions for terms and acronyms for both the NEIWPCC



1. Welcom

#### This survey is still open (Sept 2021)! Thanks for completing it!

Contractor manage your sludge? Send them this survey link & have them complete the Core Survey (6 pages) for just your sludge. BUT you can continue the survey now, skipping over the Core Survey (5 pages) - just enter a few required answers & your name & contact into when asked - and go on & complete the rest of the survey.

#### Are you in New York or New England (CT, MA, ME, NH, RI, VT)?

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If you are with a WWTP in one of these states, please complete the parallel NEIWPCC Biosolids Survey - <u>click here</u>. Both that survey and the one below are essentially the same, and the data from both will be combined for our national data set.

Georgia? There were GAWP, etc. surveys for 2018. We will use those compiled data. But this survey asks additional

od 2018? Please provide 2017 data if it is more representative of your WWTP's biosolids a comments.

done this survey? Please check, to avoid duplicates. Click the green button here: definitions

#### e National Biosolids Survey - 2018 Data

questions; many are quick to answer. It should take about 30 minutes to complete (if you please complete the additional sections.

\*2019 Data for Massachusetts and 2018 & 2019 data for Maine





#### NATIONAL BIOSOLIDS DATA PROJECT

- WWTP Survey Topics
  - General
  - Sewage Sludge and Biosolids
  - Septage Received
  - Energy
  - Economic Data
  - Trends
  - Top 5 Pressures on Biosolids Management Program





## TRENDS FROM THE NATIONAL DATA SET FROM 2004 TO 2018

- More Class A
  biosolids being
  produced
- Decrease in biosolids being incinerated
- More pressures and incentives to divert from landfills
- Decrease in State FTEs



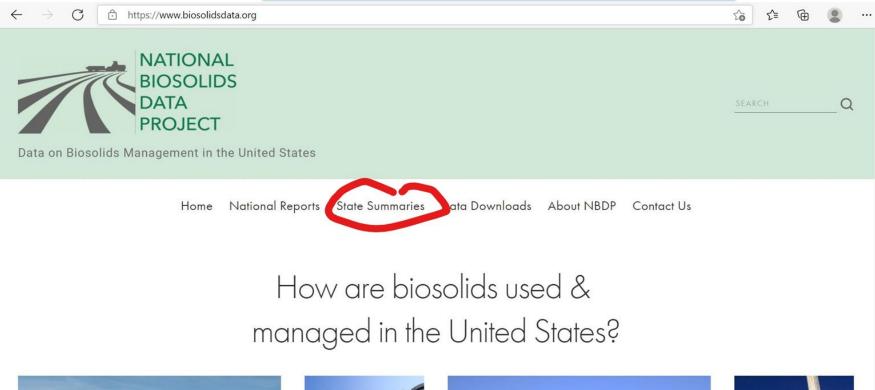
Data on Biosolids Management in the United States







#### **RESULTS AT WWW.BIOSOLIDSDATA.ORG**

















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Data Use Policy NBDP Partners Biosofids Resources Definition



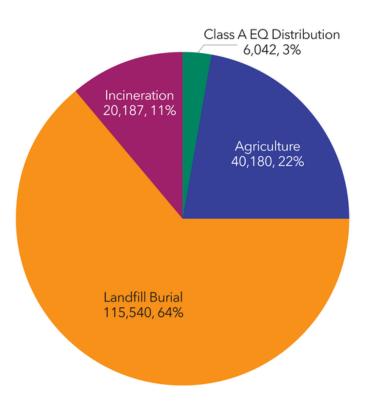


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## GEORGIA

#### Georgia Biosolids Use & Disposal 2018 (dry US tons, %) Total: 181,900

"Atlanta's biosolids management story exemplifies how quickly the landscape and economics of biosolids management can change. Utilities that can be flexible and adapt their biosolids management plans will be well prepared to navigate what circumstance throws at them..." (Knight et al., 2020).

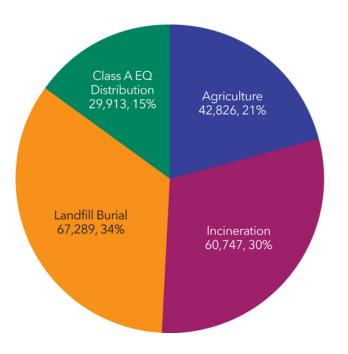






### **INDIANA**

Indiana Biosolids Use & Disposal 2018 (dry US tons, %) Total: 200,000





Injection of liquid biosolids from the Richmond, IN WRRF increase corn, oats, & soybean yields. *Photo used with permission, courtesy Richmond Sanitary District.* 





## OREGON

#### **Demographics & Wastewater**

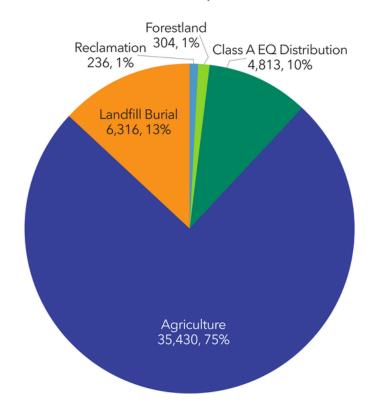
Avg population served per WRRF	7,928
Avg wastewater flow statewide (MGD, Seiple)	416
WRRFs treating >75% WW flow	16
% of population served by on-site (septic) systems	30
Biosolids used or disposed / person in 2018 (lbs)	22

#### **Biosolids** Application

% of state area in cropland	8.00
% cropland to which biosolids were applied	0.44
application rate if all state biosolids were applied to cropland (dt/acre)	0.01
% cropland needed if all biosolids were applied at typical rate of ~3dt/acre	0.33
If all state's biosolids applied, what % of state's applied N would come from biosolids?	0.80
If all state's biosolids applied, what % of state's applied P would come from biosolids?	2.10



#### Oregon Biosolids Use & Disposal 2018 (dry US tons, %) Total: 47,100

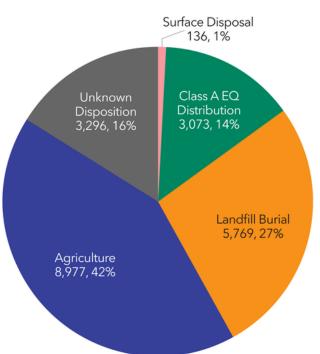


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## **IDAHO**

Idaho Biosolids Use & Disposal 2018 (dry US tons, %) Total: 21,300



## Idaho Septage Management 2018 (% estimated) Total: 6,600,000 gallons Land applied directly Landfilled 5% 5% Hauled to WRRFs 90%

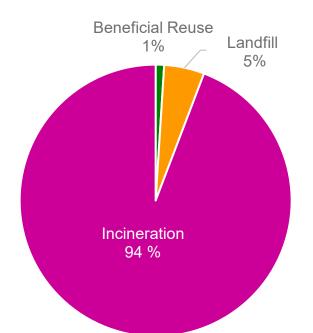




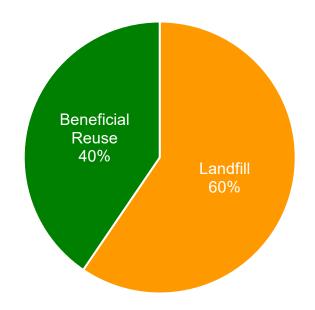
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## **RHODE ISLAND AND VERMONT**

#### Rhode Island Biosolids Use & Disposal 2018 Total = 33,100 Dry US Tons



Vermont Biosolids Use & Disposal 2018 Total = 10,400 Dry US Tons







## **INTERESTING FACTS & FIGURES**

- Average per capita biosolids generation is 42 pounds per year!
- Less than 1% of U.S. cropland needed for land application of all biosolids
- Septage management Still Not a lot of Data...

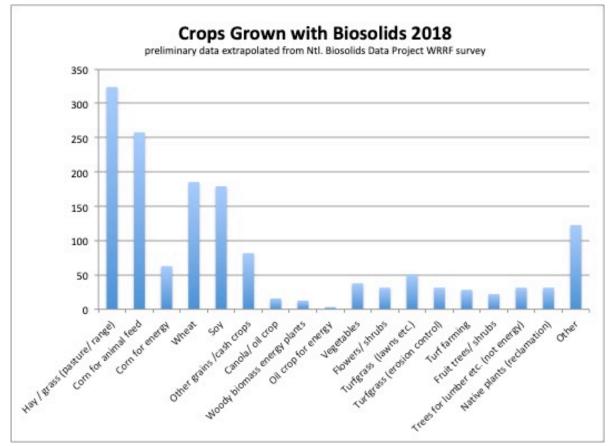




Data on Biosolids Management in the United States



## **INTERESTING FACTS & FIGURES**







## **APPLYING THE DATA**

Assess Capacity Issues



Data on Biosolids Management in the United States

- Understand Local and Regional Markets
- Regional Planning
- Develop recommendations for short-term and long-term actions





## **QUESTIONS?**

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