



STATE BIOSOLIDS SURVEY

2018 data
conducted 2020-2021
biosolidsdata.org

New Jersey

Infrastructure & Wastewater

	2004 Data	2018 Data	
Total Number of WWTPs:	391 (survey), 156 CWNS	237	
WWTP & Biosolids Infrastructure Totals			
Number of Separate Preparers (in- or out-of-state, receiving solids from your state):	8	8	-----
Total number of your state's WWTPs sending to those Separate Preparers:	327	42	-----
Number of operating sludge incinerators in your state (total):	9	6	-----
Fluidized bed:	5	4	-----
Multiple hearth:	4	2	-----
Number of Part 258 landfills in your state accepting sewage sludge:	data not requested for 2004	0	-----
Number of WWTPs in your state with industrial pre-treatment programs:	data not requested for 2004	18	-----
Number of WWTPs in your state with sludge lagoons:	data not requested for 2004	0	-----
Wastewater Flow Totals			
Total statewide average daily wastewater flow (MGD):	data not requested for 2004	1,018	-----
Total statewide WWTP design capacity for wastewater flow (MGD):	data not requested for 2004	1,485	-----
Total statewide average daily dry weather flow (MGD):	data not requested for 2004	no data	-----
Other Totals			
Number of documented odor & nuisance complaints received by state in 2018 related to biosolids transportation and use or disposal outside of the gates of the WWTP:	data not requested for 2004	no data	-----
Number of WWTPs involved in those complaints:	data not requested for 2004	no data	-----
Percent of population served by on-site systems (e.g. septic systems):	no data	no data	-----

For total number of WWTPs, since 2004 NJ DEP changed its reporting requirements. The 237 number includes only generators with a wastewater flow over 20,000 gpd. For generators under 20,000 gpd (there are 210 of them, NJ DEP collects information only on gallons removed. These types of facilities are mostly small regulated community facilities (could have small treatment plants or just septic systems). • The 8 separate preparers produce Class A or Class B biosolids. 42 in-state generators (WRRFs) send solids/sludge to those 8 preparers. Of those 8 preparers, one is a regional county facility; the other 7 preparers are at WRRFs. 2 additional WRRFs prepare sludge for ADC. • Landfills are restricted from accepting wastewater solids/sewage sludge for disposal by Statute since March 15, 1985. • NJ has zero active sludge lagoons. There are 2 facilities with old sludge lagoons that have not been used since 1993.

Biosolids Use and Disposal

UNITS:	Dry metric tons	Dry metric tons	
BIOSOLIDS USED OR DISPOSED, 2018 (adjusted total):		155,000	
Summary			
	Number of Entities (WWTPs & Sep. Preparers) Going To...	Quantity of Biosolids	Number of Entities (WWTPs & Sep. Preparers) Going To... Quantity of Biosolids
Beneficial Use (applied to soils, not including ADC)	83	36,635	48 30,869
Disposal & Alternative Dispositions	299	199,981	193 124,226
Other	9	344	10 0
TOTAL	391	236,960	251 155,095
Beneficial Use			
	Number of Entities (WWTPs & Sep. Preparers) Going To...	Quantity of Biosolids	Number of Entities (WWTPs & Sep. Preparers) Going To... Quantity of Biosolids
Agricultural (EQ, Class A, & Class B)	17	5,952	6 1,402
Forestland (EQ, Class A, & Class B)	1	72	1 80
Reclamation (EQ, Class A, & Class B)	8	4,102	0 0
Class A EQ Distribution (bagged or bulk, public distribution, or unsure where it went)	57	26,510	42 29,387
Beneficial Use Subtotal	83	36,636	49 30,869
Long-term storage	9	344	10 0
Number of acres to which biosolids were applied:		92	852
Disposal & Alternative Dispositions			
	Number of Entities (WWTPs & Sep. Preparers) Going To...	Quantity of Biosolids	Number of Entities (WWTPs & Sep. Preparers) Going To... Quantity of Biosolids

NOTE: Quantity of sewage sludge or biosolids used or disposed means the quantity that goes out the gate of the WWTPs. Use the units (the form of measurement) you chose above.

Total number of generators is greater than actual number of facilities because several use more than one alternative use or disposal method. • The total solids used or disposed reported here (155,000 dry metric tons) is considerably lower than the total in the 2018 data in U. S. EPA's ECHO biosolids database (191,000 dmt). This is likely because the ECHO data includes solids from out of state that were managed at Passaic Valley (PVSC) and maybe other NJ facilities. Such out-of-state solids were specifically excluded in the state coordinator's totals shown in this spreadsheet, because they will be counted in the totals for those other states.

The one facility that uses forestland also uses agricultural land, so they are counted twice. • The 10 generators under 'long-term storage' did not remove sludge in 2018. • The number for Class A distribution includes those generators which go to out-of-state preparers.

Landfill (total)		142	133,151	122	91,145
Burial		data not requested for 2004	data not requested for 2004	25	8,600
Alternative daily (ADC), intermediate, or final cover		data not requested for 2004	data not requested for 2004	97	82,545
Surface Disposal		0	0	0	0
Incineration		157	66,830	71	33,081
Cement kiln or industrial furnace		data not requested for 2004	data not requested for 2004	0	0
Deep well injection		data not requested for 2004	data not requested for 2004	0	0
Gasification		data not requested for 2004	data not requested for 2004	0	0
Pyrolysis		data not requested for 2004	data not requested for 2004	0	0
Disposal & Alternative Dispositions Subtotal		299	199,981	193	124,226
TOTAL		391	236,961	252	155,095

The 25 WWTPs that take sludge to a landfill for burial go out-of-state. • The other numbers include those generators that do that mode out-of-state. • NJ considers ADC as beneficial use, but it is not seen as beneficial use in this survey and in these data. Therefore, Passaic Valley (Newark) solids that are used for ADC in state or out-of state (~43,500 mt) are included here in the 82,545 metric tons. • The 6 incinerators are Atlantic City, NW Bergen County, Gloucester County Utility Authority (GCUA), Stony Brook, Bayshore Regional, and Somerset Raritan Valley. The GCUA incinerator closed due to new MACT standards in 2019 (but was running some of 2018) – so the number of incinerators reported here includes GCUA.

Biosolids Quality Summary

	Number of Entities (WWTPs & Sep. Preparers) Producing...	Quantity of Biosolids	Number of Entities (WWTPs & Sep. Preparers) Producing...	Quantity of Biosolids	
Class A EQ	57	26,510	5	17,887	
Other Class A	0	0	0	0	
Class B	18	6,024	3	1,482	
Other (no data, etc.)	272	204,426	229	135,726	
TOTAL	347	236,960	237	155,095	

NOTE: For "number of entities," the total may not match because some entities go to more than one use or disposal.

NJ DEP has sludge quality data on all 237 generators. All generators are required to monitor at a frequency - from annual to monthly - based on wastewater flow.

Biosolids Treatment Practices

	Estimated Number of WWTPs or Separate Preparers Using...	Estimated Quantity of Biosolids Produced Using...	Estimated Number of WWTPs or Separate Preparers Using...	Estimated Quantity of Biosolids Produced Using...	
Stabilization					
Aerobic Digestion (total)	36	179	37	no data	
Class A (ATAD/Other)	data not requested for 2004	data not requested for 2004	0	0	
Class B	data not requested for 2004	data not requested for 2004	1	150	
Anaerobic digestion (AD) (total)	16	1,592	32	no data	
Class A (e.g. thermophilic)	data not requested for 2004	data not requested for 2004	0	0	
Class B (mesophilic)	data not requested for 2004	data not requested for 2004	2	927	
WWTPs co-digesting (FOG, food, glycol, etc.)	data not requested for 2004	data not requested for 2004	2	N/A	
Biogas used (heating, electricity, fuel, etc./scf/year)	data not requested for 2004	data not requested for 2004	1	N/A	
Lime/Alkaline (total)	2	1,688			
Class A lime/alkaline	data not requested for 2004	data not requested for 2004	1	27,743	
Class B lime/alkaline	data not requested for 2004	data not requested for 2004	1	405	
Composting	5	15,481	3	9,422	
Thermal (e.g. heat drying, not incineration/gasificatn/pyro)	1	9,999	1	8,465	
Gasification	data not requested for 2004	data not requested for 2004	0		
Pyrolysis	data not requested for 2004	data not requested for 2004	0		
Hydrolysis (thermal, chemical, etc.)			0	N/A	
Long-term (lagoons, reed beds, etc.)	9	344	4	N/A	
Oxidation ditch / extended aeration	data not requested for 2004	data not requested for 2004	no data	N/A	
Other stabilization technology	16	no data	0		
Dewatering					
Belt Filter Press	36+	no data	99	no data	
Plate & Frame Press	1	35,987	7	no data	
Screw Press	0	no data	1	no data	
Centrifuge	5+	no data	18	no data	
Vacuum Filter	0	no data	no data	no data	
Drying beds (open-air)	3	no data	12	no data	
Solar drying (e.g. in greenhouse)	data not requested for 2004	data not requested for 2004	no data	no data	
Other dewatering technology	0	no data	no data	no data	
Thickening					
Gravity thickener	data not requested for 2004	data not requested for 2004	48	no data	
Gravity belt thickener (GBT)	data not requested for 2004	data not requested for 2004	45	no data	
Centrifuge	data not requested for 2004	data not requested for 2004	no data	no data	
Dissolved air flotation (DAF)	data not requested for 2004	data not requested for 2004	6	no data	
Other thickening technology	data not requested for 2004	data not requested for 2004	no data	no data	
Other					
Biosolids sold in bags (explain at right what size bags)	data not requested for 2004	data not requested for 2004	1	226	

The equipment numbers are what are in the NJ DEP database. It has not been purged for accuracy. • Bags are 50 pound bags marketed under name OceanGro.

State Pollutant (trace metal, etc.) Concentration Limits in Biosolids Applied to Land, 2018

Enter numbers only where state limits differed in 2018 from U.S. EPA limits.

	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Lead (Pb)	Mercury (Hg)	Molybdenum (Mo)	Nickel (Ni)	Selenium (Se)	Zinc (Zn)
EPA Table 1 (mg/kg)	75	85		4300	840	57	75	420	100	7500
EPA Table 3 (mg/kg) & CPLR (kg/ha)	41	39		1500	300	17		420	36 (CPLR = 100)	2800
State ceiling limit (higher limit) (mg/kg)										
State high quality (lower number) limit (mg/kg)										
State CPLR (kg/ha)										
State APLR (kg/ha/365days)										

TESTING

For each of the following constituents, indicate if testing is required by your state, as of 2018.	Is testing required for all sewage sludge or biosolids?	Or is testing required only for biosolids being beneficially used as fertilizers and soil amendments?	Frequency of testing (indicate how often testing must be done for each parameter):		If frequency depends on wastewater flow or amount of biosolids used or disposed of, please explain:
			In accordance with Part 503 requirements	In accordance with other frequency required by state (if applicable, please specify)	
Part 503 metals (As, Cu, Hg, etc.)	yes	yes	yes	7:14C	7:14C
Other metals (boron, silver...)	yes	yes	(please select)	Annual pp scan	over 5 MGD
Dioxins/furans	no	no	(please select)		
PCBs	yes	yes	(please select)	(arochlors)	over 5 MGD
Priority pollutants (https://www.epa.gov/sites/production/files/2015-09/documents/priority-pollutant-list-epa.pdf)	yes	yes	(please select)	Annual	over 5 MGD
Other organic compounds (e.g. PDBEs, pharmaceutical)	no	no	(please select)		
Radioactive isotopes (alpha, beta, Ra 226, etc.)	yes	yes	(please select)	Every 5 years	More often if expected
Nutrients (NPK)	yes	yes	(please select)		
Pathogen reduction (Class A or B)	no	yes	yes		
Vector attraction reduction (VAR)	no	yes	yes		
PFAS (as of 2018)	no	no	(please select)		
Microplastics (as of 2018)	no	no	(please select)		
TCLP (toxicity characteristic leaching procedure)	no	no	(please select)	if landfill	
Paint Filter Liquids Test	no	no	(please select)	if landfill	

See N.J.A.C. 7:14C for generator testing requirements. Preparer testing frequency follows 503.

REPORTING

For each of the following, indicate what WWTPs and/or biosolids preparers must report to the state:	Is reporting to the state required for these parameters?	Frequency of reporting (indicate how often testing must be done for each parameter):		How are these data stored by the state?	Are data compiled by the state in reports or summaries? Is so, please attach.
		In accordance with Part 503 requirements	In accordance with other frequency required (if applicable, please specify)		
The amounts of biosolids/ sewage sludge used or disposed	yes	no	7:14C	electronic	yes
Part 503 metals (As, Cu, Hg, etc.)	yes	yes	7:14C	electronic	yes
Other metals (boron, silver...)	yes	not applicable (N/A)	7:14C	electronic	yes
Dioxins/furans	no	not applicable (N/A)		not applicable (N/A)	no
PCBs	yes	not applicable (N/A)	7:14C arochlors	electronic	yes
Priority pollutants	yes	not applicable (N/A)	7:14C	electronic	yes
Other organic compounds (e.g. PDBEs, pharmaceutical)	no	not applicable (N/A)		not applicable (N/A)	no
Radioactive isotopes (alpha, beta, Ra 226, etc.)	yes	not applicable (N/A)	7:14C or 7:14A-20	electronic	yes
Nutrients (NPK)	yes	not applicable (N/A)	7:14C or 7:14A-20	electronic	yes
Cumulative Pollutant Loading Rates (CPLR)	no	no		not applicable (N/A)	no
How biosolids achieve Class A or Class B	yes	yes		electronic	yes
How biosolids achieve vector attraction reduction (VAR)	yes	yes		electronic	yes
Solids stabilization process(es) used	yes	not applicable (N/A)		paper	no
Other biosolids treatments	yes	no		paper	no
End use or disposal practice	yes	not applicable (N/A)		electronic	yes
PFAS (as of 2018)	no	not applicable (N/A)		not applicable (N/A)	no
Microplastics (as of 2018)	no	not applicable (N/A)		not applicable (N/A)	no
TCLP (toxicity characteristic leaching procedure)	no	not applicable (N/A)		paper	no
Paint Filter Liquids Test	no	not applicable (N/A)		paper	no

Department maintains a 'Dataminer' website where reports can be run off all data submitted to Department. See <https://www.state.nj.us/dep/dwq/database.htm> and 'click here' under additional dynamic reports.