



STATE BIOSOLIDS SURVEY

2018 data
conducted 2020-2021
biosolidsdata.org

South Dakota

Infrastructure & Wastewater

	2004 Data	2018 Data	
Total Number of WWTPs:	30 (survey), 18 CWNS	19	
WWTP & Biosolids Infrastructure Totals			
Number of Separate Preparers (in- or out-of-state, receiving solids from your state):	0	no data	-----
Total number of your state's WWTPs sending to those Separate Preparers:	0	no data	-----
Number of operating sludge incinerators in your state (total):	0	0	-----
Fluidized bed:	0	0	-----
Multiple hearth:	0	0	-----
Number of Part 258 landfills in your state accepting sewage sludge:	data not requested for 2004	no data	-----
Number of WWTPs in your state with industrial pre-treatment programs:	data not requested for 2004	no data	-----
Number of WWTPs in your state with <i>sludge</i> lagoons:	data not requested for 2004	no data	-----
Wastewater Flow Totals			
Total statewide average daily wastewater flow (MGD):	data not requested for 2004	61	-----
Total statewide WWTP <i>design</i> capacity for wastewater flow (MGD):	data not requested for 2004	no data	-----
Total statewide average daily <i>dry weather</i> 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):	25%	25%	-----

Data presented here come from U.S. EPA's ECHO database, with some additional data from South Dakota's biosolids coordinator. • The 19 water resource recovery facilities (WRRFs) for which NBDP acquired data collectively treat 95% of South Dakota's wastewater flow (NBDP's goal is to present data for at least 75% of a state's wastewater flow). This percentage was calculated from wastewater flow data from Seiple et al. 2020. All of these data come from mechanical plants, so any use or disposal of solids from lagoon cleanouts in 2018 is not included here. • Population served by onsite septic systems is estimated by NBDP.

Biosolids Use and Disposal

UNITS:	Dry metric tons	Dry metric tons	
BIOSOLIDS USED OR DISPOSED, 2018 (adjusted total): 5,900			
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)	18	5,832	11 2,985
Disposal & Alternative Dispositions	7	1,259	7 2,868
Other	5	2,328	5 261
TOTAL	30	9,419	18 5,853
Beneficial Use			
	Sep. Preparers Going To...	Quantity of Biosolids	Sep. Preparers Going To... Quantity of Biosolids
Agricultural (EQ, Class A, & Class B)	16	5,169	9 2,699
Forestland (EQ, Class A, & Class B)	0	0	0 0
Reclamation (EQ, Class A, & Class B)	1	156	1 145
Class A EQ Distribution (bagged or bulk, public distribution, or unsure where it went)	1	507	1 141
Beneficial Use Subtotal	18	5,832	11 2,985
Long-term storage	5	2,328	5 261
Number of acres to which biosolids were applied:	no data		no data
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
Landfill (total)	5	614	7 2,868
Burial	data not requested for 2004	data not requested for 2004	6 2,865

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.

Many small communities in SD have solids storage lagoons that are only cleaned out every few years. The total biosolids used or disposed in 2018 does not include biosolids stored - only biosolids that left the gates of a WRRF in 2018.

Most biosolids land applied in South Dakota are Class B, injected into farm soils in liquid form. • Deadwood land applied biosolids on a mine reclamation site in 2018. • Rapid City has a biosolids composting program.

Alternative daily (ADC), intermediate, or final cover	data not requested for 2004	data not requested for 2004	1	3
Surface Disposal	2	645	0	0
Incineration	0	0	0	0
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	7	1,259	7	2,868
TOTAL	30	9,419	23	5,853

Landfill disposal of wastewater solids is led by Sioux Falls (1,169 dry metric tons, dmt in 2018), Rapid City (1,056 dmt), and Spearfish (479 dmt).

Biosolids Quality Summary

	Number of Entities (WWTPs & Sep. Preparers) Producing...	Quantity of Biosolids	Number of Entities (WWTPs & Sep. Preparers) Producing...	Quantity of Biosolids	NOTE: For "number of entities," the total may not match because some entities go to more than one use or disposal.
Class A EQ	1	507	1	141	These data do not include the biosolids that were stored in 2018.
Other Class A	0	0	0	0	
Class B	17	5,325	13	4,515	
Other (no data, etc.)	no data	3,587	4	1,197	
TOTAL	18	9,419	18	5,853	

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)	7	649	9	994
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	9	994
Anaerobic digestion (AD) (total)	11	2,987	5	4,098
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	5	4,098
WWTPs co-digesting (FOG, food, glycol, etc.)	data not requested for 2004	data not requested for 2004	1	N/A
Bogas used (heating, electricity, fuel, etc.;scf/year)	data not requested for 2004	data not requested for 2004	several	N/A
Lime/Alkaline (total)	0	0	no data	no data
Class A lime/alkaline	data not requested for 2004	data not requested for 2004	no data	no data
Class B lime/alkaline	data not requested for 2004	data not requested for 2004	no data	no data
Composting	1	507	1	141
Thermal (e.g. heat drying, not incineration/gasificatn/pyrol)	0	0	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
Hydrolysis (thermal, chemical, etc.)	data not requested for 2004	data not requested for 2004	0	N/A
Long-term (lagoons, reed beds, etc.)	4	239	many	N/A
Oxidation ditch / extended aeration	data not requested for 2004	data not requested for 2004	no data	N/A
Other stabilization technology	0	0	0	0
Dewatering				
Belt Filter Press	2	233	no data	no data
Plate & Frame Press	0	0	no data	no data
Screw Press	0	0	no data	no data
Centrifuge	3	665	no data	no data
Vacuum Filter	0	0	no data	no data
Drying beds (open-air)	9	239	5	1,082
Solar drying (e.g. in greenhouse)	data not requested for 2004	data not requested for 2004	no data	no data
Other dewatering technology	0	0	no data	no data
Thickening				
Gravity thickener	data not requested for 2004	data not requested for 2004	no data	no data
Gravity belt thickener (GBT)	data not requested for 2004	data not requested for 2004	no data	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	no data	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	0	0

Data here are from U.S. EPA's ECHO database and are partial. • Sioux Falls is the one WRRF that is starting co-digestion of FOG, increasing its renewable electricity generation.