



STATE BIOSOLIDS SURVEY

2018 data
conducted 2020-2021
biosolidsdata.org

Wisconsin

Infrastructure & Wastewater

	2004 Data	2018 Data	
Total Number of WWTPs:	404 (survey), 597 CWNS	487	
WWTP & Biosolids Infrastructure Totals			
Number of Separate Preparers (in- or out-of-state, receiving solids from your state):	5	~10	-----
Total number of your state's WWTPs sending to those Separate Preparers:	89	65	-----
Number of operating sludge incinerators in your state (total):	2	2	-----
Fluidized bed:	0	1	-----
Multiple hearth:	2	1	-----
Number of Part 258 landfills in your state accepting sewage sludge:	data not requested for 2004	several	-----
Number of WWTPs in your state with industrial pre-treatment programs:	data not requested for 2004	all larger WRRFs	-----
Number of WWTPs in your state with <i>sludge</i> lagoons:	data not requested for 2004	many	-----
Wastewater Flow Totals			
Total statewide average daily wastewater flow (MGD):	data not requested for 2004	613	-----
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):	36%	36%	-----

Data are from 2018 from the WI DNR database, into which annual data are entered from biosolids reporting Forms 3400-52 (EQ is reported on this form) and 3400-55. • Separate preparers and contract haulers managing biosolids by contract with water resource recovery facilities (WRRFs) include A-1 Advanced Pumping, Arcade Pumping, Badger State Waste, Bill's Pumping, Bytech Resource Management, Elite Environmental, Ellsworth, Feyen Pumping, Mussen Brothers, Pat's Services, Paul's Industrial, United Liquid Waste Recycling, Valia Excavating, Veolia, Walter & Son, and West Central Wisconsin Biosolids. Many of the smaller companies listed here do not treat solids further, except perhaps when performing a lagoon dredging followed by land application. • The one incineration facility is at the Green Bay WRRF (consolidated with DuPeer); it has two incinerators. • Average daily flow statewide is estimated by NBDP based on data from the WI DNR database. • The percent of population relying on septic systems was estimated to remain consistent with the percentage in the 2004 data.

Biosolids Use and Disposal

UNITS:	Dry metric tons	Dry metric tons	
BIOSOLIDS USED OR DISPOSED, 2018 (adjusted total): 133,000			
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)	388	134,372	322 111,381
Disposal & Alternative Dispositions	16	28,735	32 21,322
Other	0	0	0 0
TOTAL	404	163,107	354 132,703
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)	386	91,846	276 61,953
Forestland (EQ, Class A, & Class B)	0	0	0 0
Reclamation (EQ, Class A, & Class B)	0	0	0 0
Class A EQ Distribution (bagged or bulk, public distribution, or unsure where it went)	2	42,526	46 49,428
Beneficial Use Subtotal	388	134,372	322 111,381
Long-term storage	0	0	0 0
Number of acres to which biosolids were applied:		37,199	
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)	10	12,153	31 8,876

NOTE: Quantity of sewage sludge or biosolids used or disposed means the quantity that goes out the gate of the WWTPs. Quantities are measured in the units (the form of measurement) indicated above.

Beneficial use of WI biosolids is led by Milwaukee, which land applied some bulk biosolids in 2018 (146 dry metric tons, dmt), but mostly marketed and distributed Milorganite (38,418 dmt). Land application of Class B biosolids, in liquid or dewatered form, is common.

Burial	data not requested for 2004	data not requested for 2004	31	8,876
Alternative daily (ADC), intermediate, or final cover	data not requested for 2004	data not requested for 2004	0	0
Surface Disposal	0	0	0	0
Incineration	6	16,582	1	12,446
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	16	28,735	32	21,322
TOTAL	404	163,107	354	132,703

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	9	47,227	46	49,480	
Other Class A	0	0	0	0	
Class B	294	87,145	332	61,933	
Other (no data, etc.)	no data	28,735	32	21,322	
TOTAL	303	163,107	410	132,735	

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)	209	no data	no data	no data	
Class A (ATAD/Other)	data not requested for 2004	data not requested for 2004	no data	no data	
Class B	data not requested for 2004	data not requested for 2004	no data	no data	
Anaerobic digestion (AD) (total)	109	no data	no data	no data	
Class A (e.g. thermophilic)	data not requested for 2004	data not requested for 2004	no data	no data	
Class B (mesophilic)	data not requested for 2004	data not requested for 2004	no data	no data	
WWTPs co-digesting (FOG, food, glycol, etc.)	data not requested for 2004	data not requested for 2004	no data	N/A	
Biogas used (heating, electricity, fuel, etc. scf/year)	data not requested for 2004	data not requested for 2004	no data	N/A	
Lime/Alkaline (total)	7	no data	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	0	no data	no data	no data	
Thermal (e.g. heat drying, not incineration/gasification/pyroly)	1	no data	no data	no data	
Gasification	data not requested for 2004	data not requested for 2004	no data	no data	
Pyrolysis	data not requested for 2004	data not requested for 2004	no data	no data	
Hydrolysis (thermal, chemical, etc.)	data not requested for 2004	data not requested for 2004	no data	N/A	
Long-term (lagoons, reed beds, etc.)	10	no data	no data	N/A	
Oxidation ditch / extended aeration	data not requested for 2004	data not requested for 2004	no data	N/A	
Other stabilization technology	0	no data	no data	no data	
Dewatering					
Belt Filter Press	38	no data	no data	no data	
Plate & Frame Press	2	no data	no data	no data	
Screw Press	0	no data	no data	no data	
Centrifuge	8	no data	no data	no data	
Vacuum Filter	1	no data	no data	no data	
Drying beds (open-air)	20	no data	no data	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	29	no data	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	1	no data	

Milorganite sells in 32-lb bags, and some is transported and applied in bulk. • Additional data on biosolids treatment practices may be available from WI DNR's database; they are collected from WRRFs with a different reporting form.