



# STATE BIOSOLIDS SURVEY

2018 data  
conducted 2020-2021  
biosolidsdata.org

## Wyoming

Sheet 1 of 2 - Biosolids Infrastructure & Quantities

### WWTP Totals

	2004 Data	2018 Data	
<b>Total Number of WWTPs:</b>	<b>21 (survey), 123 CWNS</b>	<b>96</b>	
<b>WWTP &amp; Biosolids Infrastructure Totals</b>			
Number of Separate Preparers (in- or out-of-state, receiving solids from your state):	0	0	-----
Total number of your state's WWTPs sending to those Separate Preparers:	0	0	-----
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	~3	-----
Number of WWTPs in your state with <i>sludge</i> lagoons:	data not requested for 2004	many	-----
<b>Wastewater Flow Totals</b>			
Total statewide average daily wastewater flow (MGD):	data not requested for 2004	52	-----
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	-----
<b>Other Totals</b>			
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	0	-----
Number of WWTPs involved in those complaints:	data not requested for 2004	0	-----
Percent of population served by on-site systems (e.g. septic systems):	30%	30%	-----

The total number of WRRFs reported here is from Seiple et al. 2020. • NBDP acquired data on biosolids for the following 9 facilities from EPA's ECHO database and/or NBDP's WWTP survey: Cheyenne (2 WRRFs), Casper, Laramie, Sheridan, Evanston, Kemmerer, Riverton, Rock Springs. Together, these 9 facilities represent ~55% of the state's average daily wastewater flow. NBDP's project team chose the standard of reporting ~75% of state MGD, and so solids production has been calculated for an additional 12 facilities to reach that standard, ultimately accounting for 81% of Wyoming's daily wastewater flow. These calculations were made using the average quantity (dmt) of solids used or disposed per MGD derived from the state data available in ECHO and the NBDP WWTP survey: 169.48 dry metric tons (dmt)/MGD. Of those additional 12 facilities, 9 are lagoon systems, which only dredge and handle solids every 10-30 years. Solids managed at these 9 facilities were calculated assuming that 5% of lagoons are cleaned out each year (average of 20 years between cleanouts). One lagoon facility (Green River) responded to the NBDP survey and reported no clean out of solids in 2018. • The percentage of population on septic systems is assumed to be the same as estimated for 2004.

### Biosolids Use and Disposal

UNITS:	Dry metric tons	Dry metric tons	
<b>BIOSOLIDS USED OR DISPOSED, 2018 (adjusted total): 6,700</b>			
<b>Summary</b>			
	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)	10	13,792	6 4,535
Disposal & Alternative Dispositions	5	698	5 2,130
Other	6	9,734	
<b>TOTAL</b>	<b>21</b>	<b>24,224</b>	<b>11</b> <b>6,665</b>
<b>Beneficial Use</b>			
	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)	7	12,890	2 3,633
Forestland (EQ, Class A, & Class B)	0	0	0 0
Reclamation (EQ, Class A, & Class B)	1	37	1 320
Class A EQ Distribution (bagged or bulk, public distribution, or unsure where it went)	2	865	3 582
Beneficial Use Subtotal	10	13,792	6 4,535
Long-term storage	6	9,734	1 928
Number of acres to which biosolids were applied:	data not collected		no data
<b>Disposal &amp; Alternative Dispositions</b>			
	Number of Entities (WWTPs & Sep. Preparers) Going To...	Quantity of Biosolids	Number of Entities (WWTPs & Sep. Preparers) Going To... Quantity of Biosolids
Landfill (total)	3	308	3 1,804
Burial	data not requested for 2004	data not requested for 2004	

**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.

The small estimated amount of solids from lagoon cleanouts was split between landfill ADC and land application (agriculture), based on trends in the state. (See note above regarding calculations of lagoon solids used or disposed in 2018.)

Cheyenne land applied 3,182 dmt of Class A biosolids in 2018, which is more than in a normal year, and more than what was generated in 2018. (NBDP is tracking solids that left WRRFs for use or disposal, which is not always the same amount as is produced.) • NBDP estimated that 30% of Gillette's biosolids compost went to public distribution, and 70% to landfill reclamation (final cover). • NBDP estimated half of calculated lagoon cleanout quantity went to land application (42 dmt) and half to landfill. • NBDP assumed that land applied biosolids were mostly applied to agricultural lands (including rangeland), but some may have gone to reclamation (e.g. on former mines). • In 2018, Rock Springs stored 928 dmt of biosolids; usually Rock Springs biosolids go to landfill ADC. • The Class A EQ biosolids are from facilities that compost biosolids and sell or give away to the local public.

Alternative daily (ADC), intermediate, or final cover	data not requested for 2004	data not requested for 2004	3	1,762
<b>Surface Disposal</b>	2	390	2	326
<b>Incineration</b>	0	0	0	0
<b>Cement kiln or industrial furnace</b>	data not requested for 2004	data not requested for 2004	0	0
<b>Deep well injection</b>	data not requested for 2004	data not requested for 2004	0	0
<b>Gasification</b>	data not requested for 2004	data not requested for 2004	0	0
<b>Pyrolysis</b>	data not requested for 2004	data not requested for 2004	0	0
<b>Disposal &amp; Alternative Dispositions Subtotal</b>	5	698	5	2,130
<b>TOTAL</b>	21	24,224	12	6,665

Landfill total includes confirmed ADC quantity plus half of the estimated lagoon cleanout quantity (42 drmt), which might have gone to ADC or burial.

### Biosolids Quality Summary

	Number of Entities (WWTPs & Sep. Preparers) Producing...	Quantity of Biosolids	Number of Entities (WWTPs & Sep. Preparers) Producing...	Quantity of Biosolids
<b>Class A EQ</b>	2	920	3	1,024
<b>Other Class A</b>	0	0	2	3,276
<b>Class B</b>	0	0	5	1,254
<b>Other (no data, etc.)</b>	0	0	0	1,111
<b>TOTAL</b>	2	920	10	6,665

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

### 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...
<b>Stabilization</b>				
<b>Aerobic Digestion (total)</b>	4	1,218	6+	
Class A (ATAD/Other)	data not requested for 2004	data not requested for 2004		
Class B	data not requested for 2004	data not requested for 2004		
<b>Anaerobic digestion (AD) (total)</b>	5	5,226	4+	
Class A (e.g. thermophilic)	data not requested for 2004	data not requested for 2004		
Class B (mesophilic)	data not requested for 2004	data not requested for 2004		
WWTPs co-digesting (FOG, food, glycol, etc.)	data not requested for 2004	data not requested for 2004		N/A
Biogas used (heating, electricity, fuel, etc., scf/year)	data not requested for 2004	data not requested for 2004		N/A
<b>Lime/Alkaline (total)</b>	0	0		
Class A lime/alkaline	data not requested for 2004	data not requested for 2004		
Class B lime/alkaline	data not requested for 2004	data not requested for 2004		
<b>Composting</b>	1	481	3	903
<b>Thermal (e.g. heat drying, not incineration/gasification/pyroly)</b>	0	0		
<b>Gasification</b>	data not requested for 2004	data not requested for 2004		
<b>Pyrolysis</b>	data not requested for 2004	data not requested for 2004		
<b>Hydrolysis (thermal, chemical, etc.)</b>	data not requested for 2004	data not requested for 2004		N/A
<b>Long-term (lagoons, reed beds, etc.)</b>	0	0		N/A
<b>Oxidation ditch / extended aeration</b>	data not requested for 2004	data not requested for 2004		N/A
<b>Other stabilization technology</b>	1	439		
<b>Dewatering</b>				
<b>Belt Filter Press</b>	3	1,015		
<b>Plate &amp; Frame Press</b>	0	0		
<b>Screw Press</b>	0	0		
<b>Centrifuge</b>	0	0	4+	
<b>Vacuum Filter</b>	0	0		
<b>Drying beds (open-air)</b>	9	6,551	5+	
<b>Solar drying (e.g. in greenhouse)</b>	data not requested for 2004	data not requested for 2004		
<b>Other dewatering technology</b>	1	439		
<b>Thickening</b>				
<b>Gravity thickener</b>	data not requested for 2004	data not requested for 2004		
<b>Gravity belt thickener (GBT)</b>	data not requested for 2004	data not requested for 2004		
<b>Centrifuge</b>	data not requested for 2004	data not requested for 2004		
<b>Dissolved air flotation (DAF)</b>	data not requested for 2004	data not requested for 2004		
<b>Other thickening technology</b>	data not requested for 2004	data not requested for 2004		
<b>Other</b>				
<b>Biosolids sold in bags (explain at right what size bags)</b>	data not requested for 2004	data not requested for 2004		

Numbers here are based on the 17 WRRFs for which NBDP acquired or calculated data.