

## Oregon

### Infrastructure & Wastewater

	2004 Data	2018 Data	
<b>Total Number of WWTPs:</b>	<b>213 (CWNS), 42 (survey)</b>	<b>161 reported, 370 permitted</b>	
<b>WWTP &amp; Biosolids Infrastructure Totals</b>			
Number of Separate Preparers (in- or out-of-state, receiving solids from your state):	0	1	-----
Total number of your state's WWTPs sending to those Separate Preparers:	0	11	-----
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	8	-----
Number of WWTPs in your state with industrial pre-treatment programs:	data not requested for 2004	22	-----
Number of WWTPs in your state with <i>sludge</i> lagoons:	data not requested for 2004	68	-----
<b>Wastewater Flow Totals</b>			
Total statewide average daily wastewater flow (MGD):	data not requested for 2004	416	Seiple et al., 2020
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	19	-----
Number of WWTPs involved in those complaints:	data not requested for 2004	11	-----
Percent of population served by on-site systems (e.g. septic systems):	29%	30%	-----

Percent of population served by onsite systems is an approximation based on adjustments from 1999 census data collected on this subject. • Daily wastewater flow data not collected in 2018. • Total statewide design capacity for wastewater flow not collected in 2018. • Average daily dry weather flow data not collected in 2018.

### Biosolids Use and Disposal

UNITS:	Dry U.S. tons	Dry U.S. tons	
<b>BIOSOLIDS USED OR DISPOSED, 2018 (adjusted total): 47,100</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
<b>Beneficial Use (applied to soils, not including ADC)</b>	38	57,103	64 40,783
<b>Disposal &amp; Alternative Dispositions</b>	4	3,574	22 6,316
<b>Other</b>	0	0	75 --
<b>TOTAL</b>	<b>42</b>	<b>60,677</b>	<b>161</b> <b>47,099</b>
<b>Beneficial Use</b>			
	Sep. Preparers Going To...	Quantity of Biosolids	Preparers Going To... Quantity of Biosolids
Agricultural (EQ, Class A, & Class B)	35	55,000	69 35,430
Forestland (EQ, Class A, & Class B)	0	0	4 304
Reclamation (EQ, Class A, & Class B)	0	0	1 236
Class A EQ Distribution (bagged or bulk, public distribution, or unsure where it went)	3	2,103	12 4,813
<b>Beneficial Use Subtotal</b>	<b>38</b>	<b>57,103</b>	<b>86</b> <b>40,783</b>
Long-term storage	0	0	<75 (see notes at right)
Number of <i>acres</i> to which biosolids were applied:	data not provided		20,662
<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
<b>Landfill (total)</b>	<b>4</b>	<b>3,574</b>	<b>21</b> <b>6,316</b>

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.

Some WWTPs land apply solids and haul to landfill what does not meet Class B, so some WWTP are double counted here. • We have identified 75 facilities that hold their solids in a lagoon or long-term storage, or haul their solids to a different WWTP, but we do not track solids in lagoons or other long-term storage.

We do not track the volume of solids held in lagoons or other long term storage.

Burial	data not requested for 2004	data not requested for 2004	21	6,316
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	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
<b>Disposal &amp; Alternative Dispositions Subtotal</b>	<b>4</b>	<b>3,574</b>	<b>21</b>	<b>6,316</b>
<b>TOTAL</b>	<b>42</b>	<b>60,677</b>	<b>107</b>	<b>47,099</b>

### 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	3	2,103	12	4,494	
Other Class A	0	0	0	0	
Class B	35	55,000	58	36,289	
Other (no data, etc.)	0	3,574	78	6,316	
<b>TOTAL</b>	<b>38</b>	<b>60,677</b>	<b>148</b>	<b>47,099</b>	

### 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>	1	698		
Class A (ATAD/Other)	data not requested for 2004	data not requested for 2004	3	694
Class B	data not requested for 2004	data not requested for 2004	7	2,672
<b>Anaerobic digestion (AD) (total)</b>	0	0		
Class A (e.g. thermophilic)	data not requested for 2004	data not requested for 2004	4	2,919
Class B (mesophilic)	data not requested for 2004	data not requested for 2004	19	32,673
WWTPs co-digesting (FOG, food, glycol, etc.)	data not requested for 2004	data not requested for 2004	4	N/A
Biogas used (heating, electricity, fuel, etc.;scf/year)	data not requested for 2004	data not requested for 2004	4	N/A
<b>Lime/Alkaline (total)</b>	0	0		
Class A lime/alkaline	data not requested for 2004	data not requested for 2004	2	599
Class B lime/alkaline	data not requested for 2004	data not requested for 2004	14	1,407
<b>Composting</b>	2	1,405		
<b>Thermal (e.g. heat drying, not incineration/gasification/pyrolysis)</b>	0	0	10	3,724
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.)	no data	no data	45	N/A
Oxidation ditch / extended aeration	data not requested for 2004	data not requested for 2004	0	N/A
Other stabilization technology	no data	no data	0	0
<b>Dewatering</b>				
<b>Belt Filter Press</b>	no data	approx. 21,590	18	24,605
<b>Plate &amp; Frame Press</b>	no data	no data	1	94
<b>Screw Press</b>	no data	no data	8	1,896
<b>Centrifuge</b>	no data	approx. 21,590	10	18,389
<b>Vacuum Filter</b>	no data	no data	0	0
<b>Drying beds (open-air)</b>	no data	7,064	20	7,553
<b>Solar drying (e.g. in greenhouse)</b>	data not requested for 2004	data not requested for 2004	0	0
<b>Other dewatering technology</b>	no data	no data	3	14
<b>Thickening</b>				
<b>Gravity thickener</b>	data not requested for 2004	data not requested for 2004	3	534
<b>Gravity belt thickener (GBT)</b>	data not requested for 2004	data not requested for 2004	8	5,165
<b>Centrifuge</b>	data not requested for 2004	data not requested for 2004	5	12,056
<b>Dissolved air flotation (DAF)</b>	data not requested for 2004	data not requested for 2004	5	2,341
<b>Other thickening technology</b>	data not requested for 2004	data not requested for 2004	3	145
<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	2	35 & 40 lbs

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

Data provided show 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.)	no	yes	yes		
Other metals (boron, silver...)	no	no	not applicable (N/A)		
Dioxins/furans	no	no	not applicable (N/A)	Permit specific	
PCBs	no	no	not applicable (N/A)	Permit specific	
Priority pollutants ( <a href="https://www.epa.gov/sites/production/files/2015-09/documents/priority-pollutant-list-epa.pdf">https://www.epa.gov/sites/production/files/2015-09/documents/priority-pollutant-list-epa.pdf</a> )	no	no	not applicable (N/A)	Permit specific	
Other organic compounds (e.g. PDBEs, pharmaceutical)	no	no	not applicable (N/A)	Permit specific	
Radioactive isotopes (alpha, beta, Ra 226, etc.)	no	yes	not applicable (N/A)		
Nutrients (NPK)	no	yes	yes		
Pathogen reduction (Class A or B)	no	yes	yes		
Vector attraction reduction (VAR)	no	yes	yes		
PFAS (as of 2018)	no	no	not applicable (N/A)		
Microplastics (as of 2018)	no	no	not applicable (N/A)		
TCLP (toxicity characteristic leaching procedure)	no	no	not applicable (N/A)	Permit specific	
Paint Filter Liquids Test	no	no	not applicable (N/A)	Permit specific	

Monitoring for other contaminants (inorganics, organic compounds, priority pollutants, etc.) are only required on individual basis depending on the facility and the potential for these contaminants to be present at high enough concentrations to be of concern.

Testing for TCLP or paint filter liquids is required in the landfill permit (the receiving facility) and is not a requirement in the wastewater treatment facility's (the producers) permit.

### 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	yes		paper	no
Part 503 metals (As, Cu, Hg, etc.)	yes	yes		paper	no
Other metals (boron, silver...)	no	not applicable (N/A)		paper	no
Dioxins/furans	no	not applicable (N/A)	Permit specific	paper	no
PCBs	no	not applicable (N/A)	Permit specific	paper	no
Priority pollutants ( <a href="https://www.epa.gov/sites/production/files/2015-09/documents/priority-pollutant-list-epa.pdf">https://www.epa.gov/sites/production/files/2015-09/documents/priority-pollutant-list-epa.pdf</a> )	no	not applicable (N/A)	Permit specific	paper	no
Other organic compounds (e.g. PDBEs, pharmaceutical)	no	not applicable (N/A)		not applicable (N/A)	no
Radioactive isotopes (alpha, beta, Ra 226, etc.)	no	not applicable (N/A)		not applicable (N/A)	no
Nutrients (NPK)	yes	yes		paper	no
Cumulative Pollutant Loading Rates (CPLR)	yes	yes		paper	no
How biosolids achieve Class A or Class B	yes	yes		paper	no
How biosolids achieve vector attraction reduction (VAR)	yes	yes		paper	no
Solids stabilization process(es) used	yes	yes		paper	no
Other biosolids treatments	yes	yes		paper	no
End use or disposal practice	yes	yes		paper	no
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)		not applicable (N/A)	no
Paint Filter Liquids Test	no	not applicable (N/A)		not applicable (N/A)	no

Reporting of other contaminants (inorganics, organic compounds, priority pollutants, etc.) are only required on individual basis depending on the facility and the potential for these contaminants to be present at high enough concentrations to be of concern.

The official copy of record of the facilities' biosolids report is stored by hard copy (paper files). State program coordinator is building a database to capture pertinent information from these reports. No summary reports have been created at this time.