

DASHBOARD

Pennsylvania State Biosolids Statistics

Data Quality & Methods Quality & Confidence in this state's data: Data sources & methods: State biosolids included in 2018 EPA ECHO data	2018 Moderate <i>PA DEP, nor anyone else, compiles all applicable data. U.S. EPA ECHO 2018 data includes 155 PA WRRFs, & the NBDP survey of WRRFs received 21 responses. These, along with estimates & landfill data from PA DEP, were analyzed & compiled for the best estimates presented here by NBDP. Because of involvement of separate preparers & abundant solids from out of state, double counting is a concern. Data have been reviewed by several PA experts.</i> 86% % in ECHO vs. the total presented here	explanations & sources ranking by survey team based on information provided in survey (options: High, Moderate, Low, None) https://echo.epa.gov/facilities/facility-search?mediaSelected=biAnnual
Demographics & Wastewater State population: Total land area in state (acres): Population density (persons/square mile): Total number of WRRFs reported in state survey: total number of WRRFs permitted/reported elsewhere: number of WRRFs in EPA ECHO reports for 2018: Average population served per WRRF: Average wastewater flow statewide (MGD, NBDP): avg.wastewater flow statewide (MGD, Seiple): Number of WRRFs that treat >75% of state flow: % of population served by on-site (septic) systems: Biosolids used or disposed / person in 2018 (lbs):	12,807,060 28,635,520 286.2 672 834 155 15,247 no data 1629 65 20% 47	U.S. Census estimate for July 1, 2018 https://www.census.gov/newsroom/press-kits/2018/pop-estimates-national-state.html calculated NBDP estimate Seiple et al., 2020; state experts, etc. https://echo.epa.gov/facilities/facility-search?mediaSelected=biAnnual calculated no data available Seiple et al., 2020 https://doi.org/10.1016/j.jenvman.2020.110852 Seiple et al., 2020 https://doi.org/10.1016/j.jenvman.2020.110853 NBDP default estimate calculated
Biosolids Application Agricultural land cropland (acres): % of state area in cropland: Number of farms with that cropland: % cropland to which biosolids were applied: Application rate if all state biosolids were applied to cropland (dry U.S. tons/ac.): % cropland needed if all state biosolids were applied at typical rate (~3 dt/ac):	4,651,210 16% 44,436 0.04% 0.06 2.2%	https://quickstats.nass.usda.gov/results/0CB8AD84-6032-3776-698B-624D88875822 calculated https://quickstats.nass.usda.gov/results/F56563D1-C9CD-30EE-9774-2891CC0640EC calculated calculated calculated
Nutrient Sources - Comparison Nitrogen (N) in all this state's biosolids (metric tonnes, 2018): N in this state's animal manures (metric tonnes): N in this state's purchased fertilizer (metric tonnes, 2011): If all state's biosolids applied, what % of state's applied N would come from biosolids? Phosphorus (P) in this state's biosolids (metric tonnes, 2018):	13,118 125,555 86,632 5.8% 5,466	calculated assuming avg. 4.8% biosolids N https://www.epa.gov/nutrient-policy-data/estimated-animal-agriculture-nitrogen-and-phosphorus-manure https://www.epa.gov/nutrient-policy-data/commercial-fertilizer-purchased calculated calculated assuming avg. 2% biosolids P

<p>P in this state's animal manures (metric tonnes):</p> <p>P in this state's purchased fertilizer (metric tonnes, 2011):</p> <p>If all state's biosolids applied, what % of state's applied P would come from biosolids?</p>	<p>32,946</p> <p>11,186</p> <p>11.0%</p>	<p>https://www.epa.gov/nutrient-policy-data/estimated-animal-agriculture-nitrogen-and-phosphorus-manure</p> <p>https://www.epa.gov/nutrient-policy-data/commercial-fertilizer-purchased</p> <p>calculated</p>
<p>State Regulatory Involvement</p> <p>Biosolids oversight agency / division:</p> <p>Permitting.... of biosolids programs:</p> <p>...of land application sites:</p> <p>FTEs: state biosolids regulatory program:</p> <p>Biosolids program FTEs per million population:</p> <p>Enforcement: Inspections of biosolids facilities & field sites in 2018:</p> <p>Formal violations issued:</p> <p>Amount of state regulations beyond Part 503:</p> <p>Amount of state regulation of nutrient management & phosphorus:</p> <p>Accessibility of biosolids data to public:</p> <p>State encouragement of biosolids recycling to soils:</p> <p>Voluntary additional protections by land applicers known & reported by state coordinator:</p>	<p>Environment agency - water / wastewater program</p> <p>thru NPDES permits and 3 General Permits governing biosolids products, sites, & septage</p> <p>Class B sites must be permitted & noticed, with many requirements beyond Part 503 5 (NBDP estimate)</p> <p>0.39</p> <p>no data</p> <p>no data</p> <p>High</p> <p>Moderately High</p> <p>Low</p> <p>Low</p> <p>Some</p>	<p>calculated</p> <p>no data available</p> <p>no data available</p> <p>rankings by survey team based on information provided in survey (options: High, Moderate, Low, None)</p>
<p>Trends</p> <p>New land application activity, 2018 - new permits & acreage, acres applied:</p> <p>acres applied in 2018:</p> <p>Local regulations & their impacts?:</p> <p>details...</p> <p>Legislative & state regulatory actions in 2018 & their impacts?:</p> <p>details...</p> <p>Biosolids beneficial use increasing... ..in 2018?:</p> <p>....in 2020?:</p> <p>details...</p>	<p>Moderate</p> <p>1,878</p> <p>Some</p> <p>In the past decade, several biosolids management programs have been restricted by local regulations / public upset.</p> <p>None in 2018</p> <p>It's staying the same.</p> <p>It's staying the same.</p>	<p>rankings by survey team based on information provided in survey (options: High, Moderate, Low, None)... With quotes of survey responses by state expert(s)</p> <p>survey response by state expert</p> <p>survey response by state expert</p>
<p>Changes in Biosolids Use & Disposal, 2004 - 2018</p> <p>Change* in solids reported used or disposed (in units used by state):</p> <p>Beneficial Use - percentage point increase or decrease (-):</p> <p>Landfill & surface disposal - % point increase or decrease (-):</p> <p>Incineration - percentage point increase or decrease (-):</p> <p>Class A - percentage point increase or decrease (-):</p> <p>Class B - percentage point increase or decrease (-):</p> <p>No class or not known - percentage point increase or decrease (-):</p>	<p>(2,676) dry U.S. tons</p> <p>8%</p> <p>-15%</p> <p>7%</p> <p>23%</p> <p>-15%</p> <p>-8%</p>	<p>*Change may be due to population increase/decrease, change in treatment at a large WWTP, and/or different systems of data tracking and reporting.</p> <p>calculated comparing these 2018 data to 2004 data compiled by the same survey team (NEBRA, 2007)</p>