

DASHBOARD

Indiana State Biosolids Statistics

Data Quality & Methods	2018	explanations & sources
<p>Quality & Confidence in this state's data:</p> <p>Data sources & methods:</p> <p>State biosolids included in 2018 EPA ECHO data</p> <p>Demographics & Wastewater</p> <p>State population:</p> <p>Total land area in state (acres):</p> <p>Population density (persons/square mile):</p> <p>Total number of WRRFs reported in state survey:</p> <p>total number of WRRFs permitted/reported elsewhere:</p> <p>number of WRRFs in EPA ECHO reports for 2018:</p> <p>Average population served per WRRF:</p> <p>Average wastewater flow statewide (MGD, NBDP):</p> <p>avg.wastewater flow statewide (MGD, Seiple):</p> <p>Number of WRRFs that treat >75% of state flow:</p> <p>% of population served by on-site (septic) systems:</p> <p>Biosolids used or disposed / person in 2018 (lbs):</p>	<p>Moderate</p> <p>State biosolids coordinator tracks land application closely & compiles data annually from annual reports submitted by WWTPs to IDEM. Uncertain is the amount of solids disposed in landfills by WWTPs with no land application permit. Data presented here were reviewed by a 2nd IN expert.</p> <p>81% % in ECHO vs. the total presented here</p> <p>6,691,878</p> <p>22,928,640</p> <p>186.8</p> <p>769</p> <p>479</p> <p>80</p> <p>6,962 based on default estimate by NBDP</p> <p>~1050</p> <p>966.122</p> <p>45</p> <p>20% default estimate by NBDP</p> <p>60</p>	<p>ranking by survey team based on information provided in survey (options: High, Moderate, Low, None)</p> <p>https://echo.epa.gov/facilities/facility-search?mediaSelected=binAnnual</p> <p>U. S. Census estimate for July 1, 2018 https://www.census.gov/newsroom/press-kits/2018/pop-estimates-national-state.html</p> <p>calculated</p> <p>survey response by state expert</p> <p>Seiple et al., 2020; state experts, etc. https://echo.epa.gov/facilities/facility-search?mediaSelected=binAnnual</p> <p>calculated</p> <p>survey response by state expert</p> <p>Seiple et al., 2020 https://doi.org/10.1016/j.jenvman.2020.110852</p> <p>Seiple et al., 2020 https://doi.org/10.1016/j.jenvman.2020.110853</p> <p>survey response by state expert</p> <p>calculated</p>
<p>Biosolids Application</p> <p>Agricultural land cropland (acres):</p> <p>% of state area in cropland:</p> <p>Number of farms with that cropland:</p> <p>% cropland to which biosolids were applied:</p> <p>Application rate if all state biosolids were applied to cropland (dry U.S. tons/ac.):</p> <p>% cropland needed if all state biosolids were applied at typical rate (~3 dt/ac):</p>	<p>12,909,673</p> <p>56%</p> <p>47,127</p> <p>0.14%</p> <p>0.02</p> <p>0.5%</p>	<p>https://quickstats.nass.usda.gov/results/0CRBAD84-6032-3776-AFB-674D88825872</p> <p>calculated</p> <p>https://quickstats.nass.usda.gov/results/F56563D1-C9CD-30FF-9774-2F91CC0640FC</p> <p>calculated</p> <p>calculated</p> <p>calculated</p>
<p>Nutrient Sources - Comparison</p> <p>Nitrogen (N) in all this state's biosolids (metric tonnes, 2018):</p> <p>N in this state's animal manures (metric tonnes):</p> <p>N in this state's purchased fertilizer (metric tonnes, 2011):</p> <p>If all state's biosolids applied, what % of state's applied N would come from biosolids?</p> <p>Phosphorus (P) in this state's biosolids (metric tonnes, 2018):</p> <p>P in this state's animal manures (metric tonnes):</p>	<p>8,741</p> <p>103,411</p> <p>516,263</p> <p>1%</p> <p>3,642</p> <p>35,432</p>	<p>calculated assuming avg. 4.8% biosolids N 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>calculated assuming avg. 2% biosolids P https://www.epa.gov/nutrient-policy-data/estimated-animal-agriculture-nitrogen-and-phosphorus-manure</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>85,984</p> <p>3%</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: Permitting.... of biosolids programs:</p> <p>...of land application sites: 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 appliers known & reported by state coordinator:</p>	<p>Environment agency - solid waste program solid waste license/permit</p> <p>Issuance of land application permits and marketing and distribution permits; Indiana rules allow for permitted site-specific permits and for nonsite-specific permit. A site permit is formally reviewed & approved only after the site is first applied to.</p> <p>2.5 0.37</p> <p>0</p> <p>0</p> <p>Moderate</p> <p>None (Part 503 requirements only)</p> <p>Moderate</p> <p>Moderate</p> <p>None</p>	<p>survey response by state expert calculated survey response by state expert survey response by state expert</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: acres applied in 2018:</p> <p>Local regulations & their impacts?: details...</p> <p>Legislative & state regulatory actions in 2018 & their impacts?: details...</p> <p>Biosolids beneficial use increasing... ..in 2018?:in 2020?: details...</p>	<p>18,178</p> <p>High</p> <p>Some no activity in 2018</p> <p>None</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 survey response by state expert</p>
<p>Changes in Biosolids Use & Disposal</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>3,775</p> <p>-18%</p> <p>14%</p> <p>4%</p> <p>-5%</p> <p>15%</p> <p>-10%</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>