

DASHBOARD

Vermont 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 HIGH <i>State biosolids coordinators track wastewater solids management closely & compile data based on reports from WRRFs.</i> 29% % 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://epa.gov/facilities/facility-search?mediaSelected=biaAnnual
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):	 626,299 5,898,880 68 72 (survey), 88 POTWs 87 7 3,060 42 46 20 58% 33	 U. S. Census estimate for July 1, 2018 https://www.census.gov/newsroom/releases/kits/2018/pop-estimates-national-state.html calculated survey response by state expert Seiple et al., 2020; state experts, etc. https://epa.gov/facilities/facility-search?mediaSelected=biaAnnual calculated survey response by state expert 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 survey response by state expert calculated
Biosolids Application Agricultural land cropland (acres): % of state area in cropland: Number of farms with that cropland: % cropland to which biosolids were applied (Class B only; Class A not tracked): 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):	 479,680 8% 4,810 0.03% 0.02 0.7%	 https://quickstats.nass.usda.gov/results/07B0A084-6032-3776-AB9B-6740B8875822 calculated calculated https://quickstats.nass.usda.gov/results/F56563D1-C9CD-30FF-9274-291CC06406C 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): P in this state's animal manures (metric tonnes): P in this state's purchased fertilizer (metric tonnes, 2011):	 451 15,934 8,176 1.8% 188 3,047 806	 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 https://www.epa.gov/nutrient-policy-data/estimated-animal-agriculture-nitrogen-and-phosphorus-manure https://www.epa.gov/nutrient-policy-data/commercial-fertilizer-purchased

<p>If all state's biosolids applied, what % of state's applied P would come from biosolids?</p>	<p>4.7%</p>	<p>calculated</p>
<p>State Regulatory Involvement Biosolids oversight agency / division: Permitting.... of biosolids programs: ...of land application sites: FTEs: state biosolids regulatory program: Biosolids program FTEs per million population: Enforcement: Inspections of biosolids facilities & field sites in 2018: Formal violations issued: Amount of state regulations beyond Part 503: Amount of state regulation of nutrient management & phosphorus: Accessibility of biosolids data to public: State encouragement of biosolids recycling to soils: Voluntary additional protections by land appliers known & reported by state coordinator:</p>	<p>Dept. of Environmental Conservation - Waste Management & Prevention</p> <p>solid waste license/permit Disposal involves a Sludge Mgmt Plan Approval issued as separate site-specific permits</p> <p>1</p> <p>1.60</p> <p>several</p> <p>1</p> <p>Moderately High Moderately High Moderately Low Moderate</p> <p>Low</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 New land application activity, 2018 - new permits & acreage, acres applied: acres applied in 2018: Local regulations & their impacts?: details... Legislative & state regulatory actions in 2018 & their impacts?: details... Biosolids beneficial use increasing... ..in 2018?: in 2020?: details...</p>	<p>Low</p> <p>129 Class B sites only; Class A sites are not tracked</p> <p>None have no significant affect on beneficial use</p> <p>Some PFAS concerns began in 2018, causing reductions in biosolids & septage use in 2019 & 2020, plus ongoing uncertainty</p> <p>Yes</p> <p>No As far as facilities with a Vermont Solid Waste Management Facility Certification, there was a decrease of one program that chose not to renew certification.</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, 2004 - 2018</p> <p>Change* in solids reported used or disposed (in units used by state): Beneficial Use - percentage point increase or decrease (-): Landfill & surface disposal - % point increase or decrease (-): Incineration - percentage point increase or decrease (-): Class A - percentage point increase or decrease (-): Class B - percentage point increase or decrease (-): No class or not known - percentage point increase or decrease (-):</p>	<p>1,391 dry U.S. tons</p> <p>-11%</p> <p>15%</p> <p>-4%</p> <p>-6%</p> <p>-3%</p> <p>10%</p>	<p>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>