DASHBOARD

Wyoming State Biosolids Statistics

NATIONAL BIOSOLIDS DATA PROJECT
biosolidsdata.org

Data Quality & Methods	2018	explanations & sources
Quality & Confidence in this state's data:	**Moderate**	ranking by survey team based on information provided in survey (options: High, Moderate, Low, None)
Data sources & methods:	*NBDP relied on ECHO data & extrapolations.*	
State biosolids included in 2018 EPA ECHO data	65% % in ECHO vs. the total presented here	https://echo.epa.gov/facilities/facility-search?mediaSelected=bioAnnual
Demographics & Wastewater		
State population:	577,737	U.S. Census estimate for July 1, 2018 https://www.census.gov/newsroom/press-kits/2018/pop-estimates-national-state.html
Total land area in state (acres):	62,139,520	
Population density (persons/square mile):	6.0	calculated
Total number of WRRFs reported in state survey:	96	Seiple et al., 2020
total number of WRRFs permitted/reported elsewhere:	96	Seiple et al., 2020
number of WRRFs in EPA ECHO reports for 2018:	8	https://echo.epa.gov/facilities/facility-search?mediaSelected=bioAnnual
Average population served per WRRF:	**4,213**	calculated
Average wastewater flow statewide (MGD, NBDP):	**52**	Seiple et al., 2020 https://doi.org/10.1016/j.jenvman.2020.110851
avg.wastewater flow statewide (MGD, Seiple):	52	Seiple et al., 2020 https://doi.org/10.1016/j.jenvman.2020.110852
Number of WRRFs that treat >75% of state flow:	**13**	Seiple et al., 2020 https://doi.org/10.1016/j.jenvman.2020.110853
% of population served by on-site (septic) systems:	**30%**	estimate reported in 2004 survey
Biosolids used or disposed / person in 2018 (lbs):	**23**	calculated
Biosolids Application		
Agricultural land cropland (acres):	2,587,456	https://quickstats.nass.usda.gov/results/0CBBAD84-6032-3776-AFBB-624DB8825822
% of state area in cropland:	**4%**	calculated
Number of farms with that cropland:	7,130	https://quickstats.nass.usda.gov/results/F56563D1-C9CD-30EF-9774-2F91CC0640EC
% cropland to which biosolids were applied:	**no data**	calculated
Application rate if all state biosolids were applied to cropland (dry U.S. tons/ac.):	**0.003**	calculated
% cropland needed if all state biosolids were applied at typical rate (~3 dt/ac):	**0.1%**	calculated
Nutrient Sources - Comparison		
Nitrogen (N) in all this state's biosolids (metric tonnes, 2018):	320	calculated assuming avg. 4.8% biosolids N
N in this state's animal manures (metric tonnes):	69,123	https://www.epa.gov/nutrient-policy-data/estimated-animal-agriculture-nitrogen-and-phosphorus-manure
N in this state's purchased fertilizer (metric tonnes, 2011):	165,678	https://www.epa.gov/nutrient-policy-data/commercial-fertilizer-purchased
If all state's biosolids applied, what % of state's applied N would come from biosolids?	**0.1%**	calculated
Phosphorus (P) in this state's biosolids (metric tonnes, 2018):	133	calculated assuming avg. 2% biosolids P

P in this state's animal manures (metric tonnes):	21,070		https://www.epa.gov/nutrient-policy-data/estimated-animal-agriculture-nitrogen-and-phosphorus-manure
P in this state's purchased fertilizer (metric tonnes, 2011):	12,139		https://www.epa.gov/nutrient-policy-data/commercial-fertilizer-purchased
If all state's biosolids applied, what % of state's applied P would come from biosolids?	**0.4%**		calculated

State Regulatory Involvement

Biosolids oversight agency / division:		**Environment agency - water / wastewater program**	
		There are no state regulations. WRRFs have biosolids management requirements stipulated in their NPDES permits, which are written by WY DEQ in accordance with EPA requirements.	
Permitting.... of biosolids programs:			
...of land application sites:			
FTEs: state biosolids regulatory program:	0.05		same as reported for 2004
Biosolids program FTEs per million population:	**0.09**		calculated
		Wyoming does not regulate or enforce biosolids management; that is done by U.S. EPA Region 8.	
Enforcement: Inspections of biosolids facilities & field sites in 2018:			survey response by state expert
Formal violations issued:	**0**		NBDP estimate
Amount of state regulations beyond Part 503:		**None**	
Amount of state regulation of nutrient management & phosphorus:		**None (Part 503 requirements only)**	rankings by survey team based on information provided in survey (options: High, Moderate, Low, None)
Accessibility of biosolids data to public:		**Low**	
State encouragement of biosolids recycling to soils:		**None**	
Voluntary additional protections by land appliers known & reported by state coordinator:		None	

Trends

New land application activity, 2018 - new permits & acreage, acres applied:		**Low**	rankings by survey team based on information provided in survey (options: High, Moderate, Low, None)... With quotes of survey responses by state expert(s)
acres applied in 2018:		no data	
Local regulations & their impacts?:		**None**	
details...		no activity in 2018	
Legislative & state regulatory actions in 2018 & their impacts?:		**None**	
details...			
Biosolids beneficial use increasing... ...in 2018?:		**It's staying the same.**	survey response by state expert
....in 2020?:		**It's staying the same.**	survey response by state expert
details...			

Changes in Biosolids Use & Disposal, 2004 - 2018

			*Change may be due to population increase/decrease, change in treatment at a large WWTP, and/or different systems of data tracking and reporting.
Change* in solids reported used or disposed (in units used by state):	(7,825)	dry metric tons	
Beneficial Use - percentage point increase or decrease (-):	-27%		
Landfill & surface disposal - % point increase or decrease (-):	27%		
Incineration - percentage point increase or decrease (-):	0%		calculated comparing these 2018 data to 2004 data compiled by the same survey team (NEBRA, 2007)
Class A - percentage point increase or decrease (-):	58%		
Class B - percentage point increase or decrease (-):	19%		
No class or not known - percentage point increase or decrease (-	-77%		