DASHBOARD

Oklahoma State Biosolids Statistics

NATIONAL BIOSOLIDS DATA PROJECT
biosolidsdata.org

Data Quality & Methods	2018		explanations & sources
Quality & Confidence in this state's data:		**MODERATELY HIGH**	ranking by survey team based on information provided in survey (options: High, Moderate, Low, None)
Data sources & methods:		*State biosolids coordinator tracks land application & compiles data from annual reports from major WRRFs (>1 MGD).*	
State biosolids included in 2018 EPA ECHO data	OK is delegated for Part 503; no 2018 data in ECHO	% in ECHO vs. the total presented here	https://echo.epa.gov/facilities/facility-search?mediaSelected=bioAnnual
Demographics & Wastewater			
State population:	3,943,079		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):	43,900,800		
Population density (persons/square mile):	57.5		calculated
Total number of WRRFs reported in state survey:	65 (survey), 488 (CWNS)		survey response by state expert
total number of WRRFs permitted/reported elsewhere:	486		Seiple et al., 2020; state experts, etc.
number of WRRFs in EPA ECHO reports for 2018:	0		https://echo.epa.gov/facilities/facility-search?mediaSelected=bioAnnual
Average population served per WRRF:	**7,302**		calculated
Average wastewater flow statewide (MGD, NBDP):	**no data**		survey response by state expert
avg.wastewater flow statewide (MGD, Seiple):	370		Seiple et al., 2020 https://doi.org/10.1016/j.jenvman.2020.110852
Number of WRRFs that treat >75% of state flow:	**34**		Seiple et al., 2020 https://doi.org/10.1016/j.jenvman.2020.110853
% of population served by on-site (septic) systems:	**10%**		survey response by state expert
Biosolids used or disposed / person in 2018 (lbs):	**26**		calculated
Biosolids Application			
Agricultural land cropland (acres):	11,715,717		https://quickstats.nass.usda.gov/results/0CBBAD84-6032-3276-AF8B-624DB8825822
% of state area in cropland:	**27%**		calculated
Number of farms with that cropland:	46,801		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.):	**0.004**		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):	2,440		calculated assuming avg. 4.8% biosolids N
N in this state's animal manures (metric tonnes):	283,852		https://www.epa.gov/nutrient-policy-data/estimated-animal-agriculture-nitrogen-and-phosphorus-manure
N in this state's purchased fertilizer (metric tonnes, 2011):	259,305		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?	**0.4%**		calculated
Phosphorus (P) in this state's biosolids (metric tonnes, 2018):	1,017		calculated assuming avg. 2% biosolids P
P in this state's animal manures (metric tonnes):	87,463		https://www.epa.gov/nutrient-policy-data/estimated-animal-agriculture-nitrogen-and-phosphorus-manure

P in this state's purchased fertilizer (metric tonnes, 2011):	25,073		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?	**0.9%**		calculated
State Regulatory Involvement			
Biosolids oversight agency / division:		**Environment agency - water / wastewater program**	
Permitting.... of biosolids programs:		specific NPDES type permit	
...of land application sites:		under the system described in the previous question	
FTEs: state biosolids regulatory program:	1		survey response by state expert
Biosolids program FTEs per million population:	**0.25**		calculated
Enforcement: Inspections of biosolids facilities & field sites in 2018:	**59**		survey response by state expert
Formal violations issued:	**1**		survey response by state expert
Amount of state regulations beyond Part 503:		**Low**	
Amount of state regulation of nutrient management & phosphorus:		**Low**	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:		**High**	
Voluntary additional protections by land appliers known & reported by state coordinator:		None	
Trends			
New land application activity, 2018 - new permits & acreage, acres applied:		**High**	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:		many, but data not available	
Local regulations & their impacts?:		**Some**	
details...		have no significant affect on beneficial use	
Legislative & state regulatory actions in 2018 & their impacts?:		**None**	
details...		0	
Biosolids beneficial use increasing... ...in 2018?:		**Yes**	survey response by state expert
....in 2020?:		**Yes**	survey response by state expert
details...		Gradually, more facilities are moving towards land application from landfill due to landfill costs	
Changes in Biosolids Use & Disposal			
Change* in solids reported used or disposed (in units used by state):	(2,160)		*Change may be due to population increase/decrease, change in treatment at a large WWTP, and/or different systems of data tracking and reporting.
Beneficial Use - percentage point increase or decrease (-):	7%		
Landfill & surface disposal - % point increase or decrease (-):	-7%		
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 (-):	-5%		
Class B - percentage point increase or decrease (-):	29%		
No class or not known - percentage point increase or decrease (-):	-24%	estimated/calculated; no data for 2018	