DASHBOARD

Arkansas 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:	*Data are from the 37 U.S. EPA ECHO reports for 2018, with estimates for 12 additional WRRFs, resulting in representation of 78% of total statewide average flow*		
State biosolids included in 2018 EPA ECHO data	84%	% in ECHO vs. the total presented here	https://echo.epa.gov/facilities/facility-search?mediaSelected=bioAnnual
Demographics & Wastewater			
State population:	3,013,825		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):	33,302,400		
Population density (persons/square mile):	57.9		calculated
Total number of WRRFs reported in state survey:	54		survey response by state expert
total number of WRRFs permitted/reported elsewhere:	363		Seiple et al., 2020; state experts, etc.
number of WRRFs in EPA ECHO reports for 2018:	37		https://echo.epa.gov/facilities/facility-search?mediaSelected=bioAnnual
Average population served per WRRF:	**5,563**		calculated
Average wastewater flow statewide (MGD, NBDP):	**294**		survey response by state expert
avg.wastewater flow statewide (MGD, Seiple):	294		Seiple et al., 2020 https://doi.org/10.1016/j.jenvman.2020.110852
Number of WRRFs that treat >75% of state flow:	**45**		Seiple et al., 2020 https://doi.org/10.1016/j.jenvman.2020.110853
% of population served by on-site (septic) systems:	**33%**		survey response by state expert
Biosolids used or disposed / person in 2018 (lbs):	**47**		calculated
Biosolids Application			
Agricultural land cropland (acres):	7,825,947		https://quickstats.nass.usda.gov/results/0CBBADB4-6032-3776-AFBB-624DB8825822
% of state area in cropland:	**23%**		calculated
Number of farms with that cropland:	27,080		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.):	**0.01**		calculated
% cropland needed if all state biosolids were applied at typical rate (~3 dt/ac):	**0.2%**		calculated
Nutrient Sources - Comparison			
Nitrogen (N) in all this state's biosolids (metric tonnes, 2018):	3,425		calculated assuming avg. 4.8% biosolids N
N in this state's animal manures (metric tonnes):	179,024		https://www.epa.gov/nutrient-policy-data/estimated-animal-agriculture-nitrogen-and-phosphorus-manure
N in this state's purchased fertilizer (metric tonnes, 2011):	223,361		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?	**0.8%**		calculated
Phosphorus (P) in this state's biosolids (metric tonnes, 2018):	1,427		calculated assuming avg. 2% biosolids P
P in this state's animal manures (metric tonnes):	56,005		https://www.epa.gov/nutrient-policy-data/estimated-animal-agriculture-nitrogen-and-phosphorus-manure

P in this state's purchased fertilizer (metric tonnes, 2011):	28,913		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?	**1.7%**		calculated

State Regulatory Involvement

Biosolids oversight agency / division:		**Environment agency - water / wastewater program**	
Permitting.... of biosolids programs:		AR DEQ regulates solids management through facility permits, and...	
...of land application sites:		AR DEQ requires no-discharge permits and many requirements for land app sites	
FTEs: state biosolids regulatory program:	1.5		survey response by state expert
Biosolids program FTEs per million population:	**0.50**		calculated
Enforcement: Inspections of biosolids facilities & field sites in 2018:		**some, mostly complaint-driven**	survey response by state expert
Formal violations issued:		**no data**	survey response by state expert
Amount of state regulations beyond Part 503:		**Moderately High**	
Amount of state regulation of nutrient management & phosphorus:		**Moderately High**	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:		**Moderate**	
Voluntary additional protections by land appliers known & reported by state coordinator:		Low	

Trends

New land application activity, 2018 - new permits & acreage, acres applied:		**Moderate**	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:			
Local regulations & their impacts?:		**None**	
details...		no activity in 2018	
Legislative & state regulatory actions in 2018 & their impacts?:		**None**	
details...		in the early 2020s, a new Rule 34 is being developed as a new state regulation	
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* in solids reported used or disposed (in units used by state):	19,170	dry metric tons	*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 (-):	13%		calculated comparing these 2018 data to 2004 data compiled by the same survey team (NEBRA, 2007)
Landfill & surface disposal - % point increase or decrease (-):	-13%		
Incineration - percentage point increase or decrease (-):	0%		
Class A - percentage point increase or decrease (-):	34%		
Class B - percentage point increase or decrease (-):	2%		
No class or not known - percentage point increase or decrease (-):	-36%		