DASHBOARD

Oregon State Biosolids Statistics

NATIONAL BIOSOLIDS DATA PROJECT
biosolidsdata.org

Data Quality & Methods	2018	explanations & sources
Quality & Confidence in this state's data:	**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 closely & compiles data annually in database. Data & summary report reviewed by additional expert in state.*	
State biosolids included in 2018 EPA ECHO data	101% % in ECHO vs. the total presented here	https://echo.epa.gov/facilities/facility-search?mediaSelected=bioAnnual
Demographics & Wastewater		
State population:	4,190,713	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):	61,432,320	
Population density (persons/square mile):	43.7	calculated
Total number of WRRFs reported in state survey:	161 reported, 370 permitted	survey response by state expert
total number of WRRFs permitted/reported elsewhere:	370	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:	**7,928**	calculated
Average wastewater flow statewide (MGD, NBDP):	**416**	survey response by state expert
avg.wastewater flow statewide (MGD, Seiple):	416	Seiple et al., 2020 https://doi.org/10.1016/j.jenvman.2020.110852
Number of WRRFs that treat >75% of state flow:	**16**	Seiple et al., 2020 https://doi.org/10.1016/j.jenvman.2020.110853
% of population served by on-site (septic) systems:	**30%**	survey response by state expert
Biosolids used or disposed / person in 2018 (lbs):	**22**	calculated
Biosolids Application		
Agricultural land cropland (acres):	4,726,109	https://quickstats.nass.usda.gov/results/0CBBAD84-6032-3776-AF88-624DB8825822
% of state area in cropland:	**8%**	calculated
Number of farms with that cropland:	24,948	https://quickstats.nass.usda.gov/results/F56563D1-C9CD-30EF-9774-2F91CC0640EC
% cropland to which biosolids were applied:	**0.44%**	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):	**0.3%**	calculated
Nutrient Sources - Comparison		
Nitrogen (N) in all this state's biosolids (metric tonnes, 2018):	2,050	calculated assuming avg. 4.8% biosolids N
N in this state's animal manures (metric tonnes):	74,777	https://www.epa.gov/nutrient-policy-data/estimated-animal-agriculture-nitrogen-and-phosphorus-manure
N in this state's purchased fertilizer (metric tonnes, 2011):	176,867	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):	854		calculated assuming avg. 2% biosolids P
P in this state's animal manures (metric tonnes):	21,237		https://www.epa.gov/nutrient-policy-data/estimated-animal-agriculture-nitrogen-and-phosphorus-manure
P in this state's purchased fertilizer (metric tonnes, 2011):	17,815		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?	**2.1%**		calculated

State Regulatory Involvement

Biosolids oversight agency / division:		**Environment agency - water / wastewater program**	
Permitting.... of biosolids programs:		thru WWTP's NPDES permit	
...of land application sites:		plan required by NPDES permit; site authorization required	
FTEs: state biosolids regulatory program:	0.7		survey response by state expert
Biosolids program FTEs per million population:	**0.17**		calculated
Enforcement: Inspections of biosolids facilities & field sites in 2018:	**30**		survey response by state expert
Formal violations issued:	**5**		survey response by state expert
Amount of state regulations beyond Part 503:		**Moderate**	
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:	20,662		
Local regulations & their impacts?:		**Some**	
details...		no activity in 2018	
Legislative & state regulatory actions in 2018 & their impacts?:		**Some**	
details...		Not at this time. A measure was proposed but did not pass.	
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...		It is staying the same or slightly decreasing as more municipalities get tired of dealing with people complaining about land application on neighboring fields or hypothetical environmental concerns.	

Changes in Biosolids Use & Disposal

Change* in solids reported used or disposed (in units used by state):	(13,901)	dry U. S. 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 (-):	-7%		calculated comparing these 2018 data to 2004 data compiled by the same survey team (NEBRA, 2007)
Landfill & surface disposal - % point increase or decrease (-):	8%		
Incineration - percentage point increase or decrease (-):	0%		
Class A - percentage point increase or decrease (-):	6%		
Class B - percentage point increase or decrease (-):	-14%		
No class or not known - percentage point increase or decrease (-):	8%		