DASHBOARD

Alaska State Biosolids Statistics

Data Quality & Methods	2018		explanations & sources
			ranking by survey team based on information provided in survey (options: High, Moderate, Low, None)
Quality & Confidence in this state's data:		**Moderate**	
Data sources & methods:		*2018 data from the EPA ECHO database for 3 large WRRFs, plus WRRF websites & NBDP extrapolations provided data for the 10 largest AK WRRFs, representing ~90% of the state's wastewater flow.*	
State biosolids included in 2018 EPA ECHO data	18%	% in ECHO vs. the total presented here	https://echo.epa.gov/facilities/facility-search?mediaSelected=bioAnnual
Demographics & Wastewater			
State population:	737,438		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):	365,210,240		
Population density (persons/square mile):	1.3		calculated
Total number of WRRFs reported in state survey:	11		major WRRFs (>1 MGD)
total number of WRRFs permitted/reported elsewhere:	21		Seiple et al., 2020; state experts, etc.
number of WRRFs in EPA ECHO reports for 2018:	3		https://echo.epa.gov/facilities/facility-search?mediaSelected=bioAnnual
Average population served per WRRF:	**17,558**		calculated
Average wastewater flow statewide (MGD, NBDP):	**-**		no estimate available from the state
avg.wastewater flow statewide (MGD, Seiple):	60		Seiple et al., 2020 https://doi.org/10.1016/j.jenvman.2020.110852
Number of WRRFs that treat >75% of state flow:	**4**		Seiple et al., 2020 https://doi.org/10.1016/j.jenvman.2020.110853
% of population served by on-site (septic) systems:	**50%**		NBDP estimate consistent with 2004 esti
Biosolids used or disposed / person in 2018 (lbs):	**32**		calculated
Biosolids Application			
Agricultural land cropland (acres):	83,732		https://quickstats.nass.usda.gov/results/0CBBAD84-6032-3776-AFBB-624DB8825822
% of state area in cropland:	**0.02%**		calculated
Number of farms with that cropland:	777		https://quickstats.nass.usda.gov/results/F56563D1-C9CD-30EF-9774-2F91CC0640EC
% cropland to which biosolids were applied:	**0.006%**		calculated
Application rate if all state biosolids were applied to cropland (dry U.S. tons/ac.):	**0.14**		calculated
% cropland needed if all state biosolids were applied at typical rate (~3 dt/ac):	**4.7%**		calculated
Nutrient Sources - Comparison			
Nitrogen (N) in all this state's biosolids (metric tonnes, 2018):	564		calculated assuming avg. 4.8% biosolids N
N in this state's animal manures (metric tonnes):	796		https://www.epa.gov/nutrient-policy-data/estimated-animal-agriculture-nitrogen-and-phosphorus-manure
N in this state's purchased fertilizer (metric tonnes, 2011):	2,817		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?	**13%**		calculated

Phosphorus (P) in this state's biosolids (metric tonnes, 2018):	235		calculated assuming avg. 2% biosolids P
P in this state's animal manures (metric tonnes):	225		https://www.epa.gov/nutrient-policy-data/estimated-animal-agriculture-nitrogen-and-phosphorus-manure
P in this state's purchased fertilizer (metric tonnes, 2011):	329		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?	**30%**		calculated
State Regulatory Involvement			
Biosolids oversight agency / division:		**Environment agency - solid waste program**	
Permitting.... of biosolids programs:		solid waste license/permit	survey response by state expert
...of land application sites:		issued as separate site-specific permits	survey response by state expert
FTEs: state biosolids regulatory program:	0.1		survey response by state expert
Biosolids program FTEs per million population:	**0.14**		calculated
Enforcement: Inspections of biosolids facilities & field sites in 2018:	**2**		survey response by state expert
Formal violations issued:	**0**		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:		**Low**	
Voluntary additional protections by land appliers known & reported by state coordinator:		Low	
Trends			
New land application activity, 2018 - new permits & acreage, acres applied:		**Low**	
acres applied in 2018:	5	NBDP estimate	
Local regulations & their impacts?:		**Some**	rankings by survey team based on information provided in survey (options: High, Moderate, Low, None)... With quotes of survey responses by state expert(s)
details...		One Borough discussed a ban & restricted biosolids land application in & around 2017.	
Legislative & state regulatory actions in 2018 & their impacts?:		**None**	
details...			
Biosolids beneficial use increasing... ...in 2018?:		**No**	survey response by state expert
....in 2020?:		**No**	survey response by state expert
details...		In June 2019, the one remaining biosolids beneficial use program - Fairbanks composting - was halted because of PFAS concerns.	
Changes in Biosolids Use & Disposal, 2004 - 2018			
Change* in solids reported used or disposed (in units used by state):	(5,175)	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 (-):	-56%		
Landfill & surface disposal - % point increase or decrease (-):	37%		
Incineration - percentage point increase or decrease (-):	-37%		calculated comparing these 2018 data to 2004 data compiled by the same survey team (NEBRA, 2007)
Class A - percentage point increase or decrease (-):	-30%		
Class B - percentage point increase or decrease (-):	0%		
No class or not known - percentage point increase or decrease (-)	30%		