NATIONAL BIOSOLIDS DATA PROJECT

biosolidsdata.org

DISTRICT OF COLUMBIA (Washington, DC)

BIOSOLIDS MANAGEMENT 2018 – SUMMARY

This summary, a dashboard of statistics, & further data are at www.biosolidsdata.org

In the District of Columbia...

- *DC Water provides wastewater treatment services for the nation's capitol and surrounding Maryland and Virginia suburbs at the Blue Plains Water Resource Recovery Facility (WRRF).*
- *All of the biosolids produced are beneficially used as soil amendments and fertilizers that are marketed and distributed under the brand name "Bloom," most to agricultural fields in neighboring states, predominantly Virginia.*

Biosolids Management in DC

Washington, DC, biosolids treatment processes are some of the most advanced in the U.S. As DC Water explains:

> In 2015, DC Water started anaerobic digestion, converting over half the organic matter from the water treatment process to methane to generate electricity to help power operations at Blue Plains. The remaining half of the solids are processed into Class A biosolids. DC Water's Class A biosolids can be applied to gardens and farms as a soil amendment.

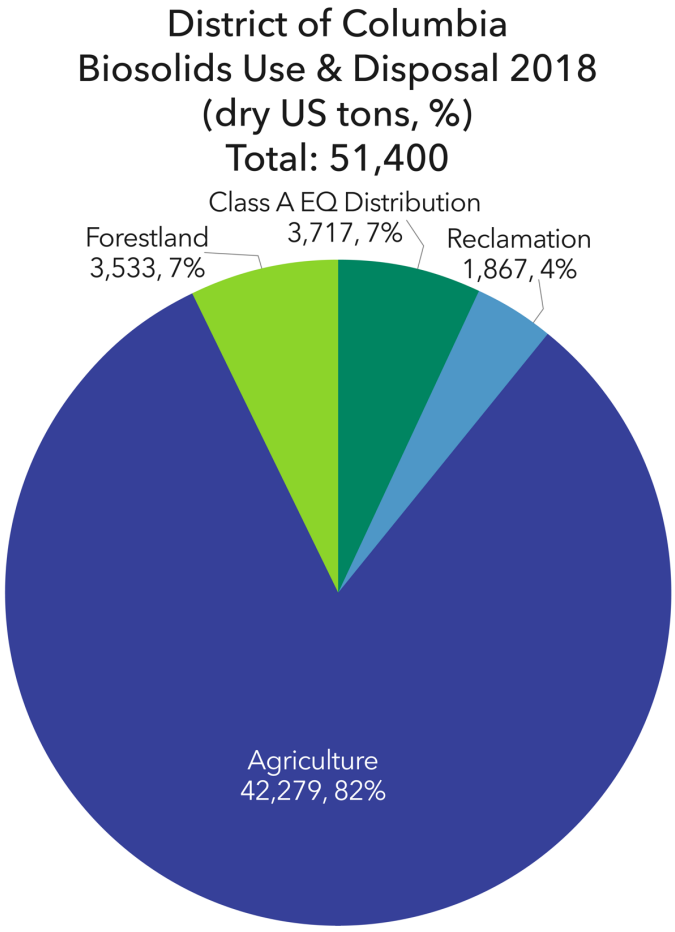
Part of the new treatment process is thermal hydrolysis of the solids before they undergo the anaerobic digestion; this enhances and increases solids conversion to methane, allowing for greater green energy production. Blue Plains uses biogas-fueled turbines to generate ongoing ~10 MW of electricity. This green energy replaces about 1/3 of the purchased electricity required to run the Blue Plains facility, which is the largest single consumer of electricity in DC.

Before entering the thermal hydrolysis process, Blue Plains primary solids (primary sludge) are thickened with gravity; secondary solids are thickened with dissoved air flotation (DAF). They are then blended, screened, and dewatered to 16 – 18 % solids for the thermal hydrolysis process.

After digestion, the biosolids are dewatered with belt filter presses, at which point they are considered "Bloom," the product name for the finished Class A EQ biosolids.

> The Class A biosolids product is loaded onto trucks and hauled to farmlands, forests and reclamation projects as well as to local soil blenders. The biosolids are land-applied, recycling the carbon and nutrients – nitrogen and phosphorus – back to the soil. Because the biosolids meet Class A standards, they can be used in both rural and urban settings. (DC Water)

In the 2000s, DC Water (formerly DC Water & Sewer Authority – DC WASA) was land applying Class B biosolids on farms in neighboring states and had been doing so for many years. The program was effective and provided valuable nutrients and organic matter to many farms, some forest sites, and sites in need of soil restoration (e.g. mined sites). But the alkaline-stabilized Class B biosolids had malodor and created nuisance challenges, leading to increasing public opposition in some of the communities where they were land applied. Since the new thermal hydrolysis and anaerobic digestion treatment system became operational, such issues have been eliminated; the Class A "Bloom" biosolids product is far more pleasing to handle and use, either in bulk on farms or in urban and suburban gardens and landscapes. Because DC has little industry, the biosolids are – and always have been – low in potential pollutants of concern, such as metals and chemicals. DC biosolids are ideal for recycling to soil, and 100% of them are and will be for the foreseeable future.



Agency/Department Oversight

Bloom biosolids products meet U.S. EPA regulatory standards for Exceptional Quality (EQ) biosolids. They are also regulated and permitted by the environment and agriculture agencies in the states where they are used, predominantly Maryland and Virginia.

Pressures on Biosolids Management and Land Application

As of 2018, the beneficial use of DC Water's Bloom biosolids was publicly-supported and increasingly popular and successful. The quality of the Bloom products (e.g. low odor) and the outreach and education by the Bloom program have resulted in positive media coverage and endorsements by some leading soil, garden, and landscaping experts.

However, the nature of biosolids continues to naturally raise concerns and questions, and there are citizens and groups who challenge the beneficial use of biosolids. Since the 2000s, DC Water has been a leader in the Mid-Atlantic region in addressing questions by continuing to invest in research and development to ensure continued improvement of Bloom products and best management practices.

Septage Management

Only a small number of DC houses and businesses rely on septic systems for wastewater treatment – an estimated 1% or less. The limited amount of septage from within DC is disposed of at the Blue Plains WWTP or other area WRRFs. Additional septage comes to Blue Plains from homes and businesses outside of DC. In 2021, DC Water charged $0.03 to $0.07 per gallon for septage disposal, depending on the strength of the hauled-in waste.

References

DC Water and its Bloom biosolids program provided most of the information in this summary report. Additional information was obtained from DC Water's website:

https://www.dcwater.com/blue-plains
https://www.dcwater.com/biosolids
http://dcwater.com/sites/default/files/documents/blue_plains_plant_brochure_2020_final_0.pdf