

# Biosolids Resource Recovery Monthly Report

### NUTRIENTS and CARBON RECYCLING

**FARMING**

Provides carbon and nutrients valued at \$300.00 per acre.

**SILVICULTURE**

Increases yield and improves understorey.

**RECLAMATION**

Restoring mines to their natural state and providing wildlife habitats.

**URBAN RESTORATION**

Grow trees and reduce runoff.

**BLUE PLAINS ADVANCED WASTEWATER TREATMENT PLANT: A RESOURCE RECOVERY FACILITY**

water • nutrients • carbon • energy

**GREEN ENERGY BIORENEWABLES**

POWER FROM THE PEOPLE

**THERMAL HYDROLYSIS PROCESS (THP) AND DIGESTION FACILITY**

DC Water will be the first in North America to use thermal hydrolysis for wastewater treatment. When completed, this facility will be the largest plant of its kind in the world.

**GREEN BENEFITS:**

- Produce combined heat and power, generating 13 MW of electricity
- Save DC Water \$10 million annually cutting grid demand by a third (DC Water is the largest consumer of electricity in the District)
- Reduce carbon emissions by approximately 50,000 metric tons of CO<sub>2</sub>e per year.
- Reduce trucking by 1.7 million miles per year.
- Save \$10 million in biosolids trucking costs
- Produce Class A biosolids to grow trees, sequester carbon and reduce runoff.

[dcwater.com/biosolids](http://dcwater.com/biosolids)

**GREEN ENERGY BIORENEWABLES**

POWER FROM THE PEOPLE

**THERMAL HYDROLYSIS PROCESS (THP) AND DIGESTION FACILITY**

DC Water will be the first in North America to use thermal hydrolysis for wastewater treatment. When completed, this facility will be the largest plant of its kind in the world.

**GREEN BENEFITS:**

- Produce combined heat and power, generating 13 MW of electricity
- Save DC Water \$10 million annually cutting grid demand by a third (DC Water is the largest consumer of electricity in the District)
- Reduce carbon emissions by approximately 50,000 metric tons of CO<sub>2</sub>e per year.
- Reduce trucking by 1.7 million miles per year.
- Save \$10 million in biosolids trucking costs
- Produce Class A biosolids to grow trees, sequester carbon and reduce runoff.

## DC Water

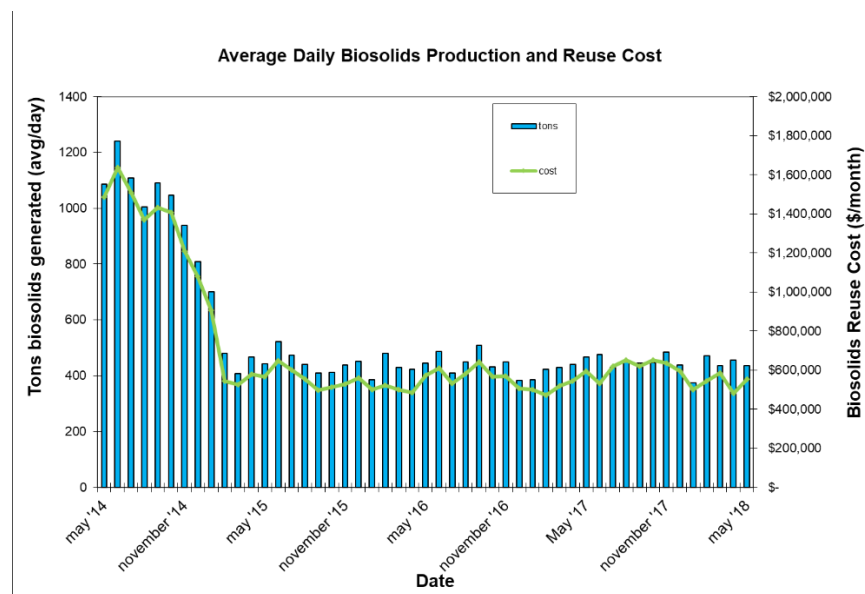
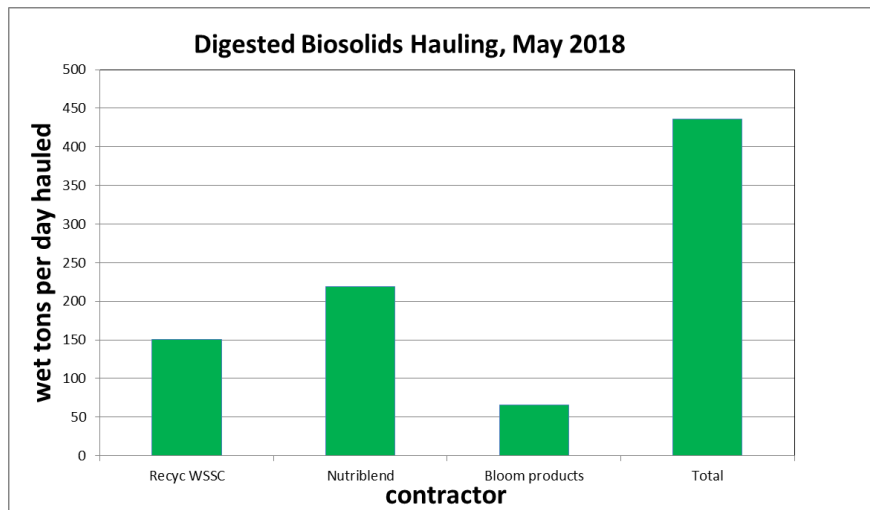
Resource Recovery Division  
 5000 Overlook Ave, SW  
 Washington, DC 20032  
 (202)787-4929

The mission of the DC Water Resource Recovery Program is to provide reliable, diversified, flexible, sustainable, environmentally sound, publically acceptable and cost-effective reuse of the Biosolids assets produced by the Blue Plains Resource Recovery Plant while helping preserve agriculture and protect the Chesapeake Bay



## RESOURCE RECOVERY

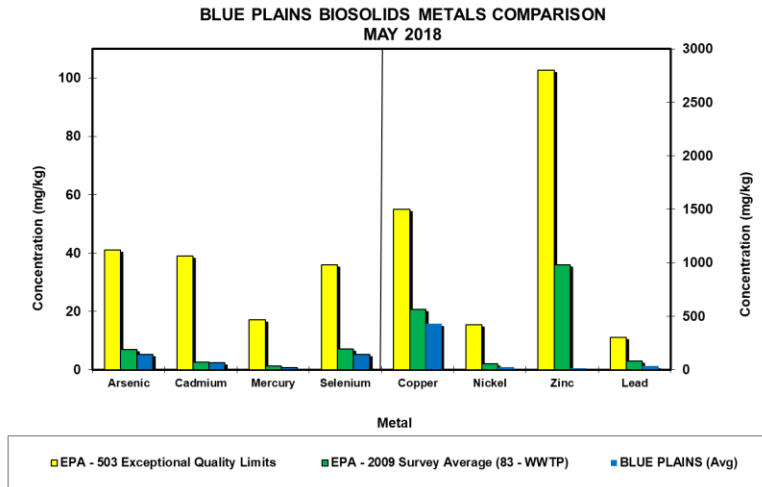
In May, biosolids hauling averaged 436 wet tons per day (wtpd). The average percent solids for the Class A material was 32.9%. The graph below shows average daily biosolids produced and the associated monthly cost for reuse (transportation and application cost) for a three-year period ending May 2017. In May, diesel prices averaged \$3.40/gallon, and with the contractual fuel surcharge, the weighted average biosolids reuse cost (taking into account the marketed material) was \$40.91 per wet ton.



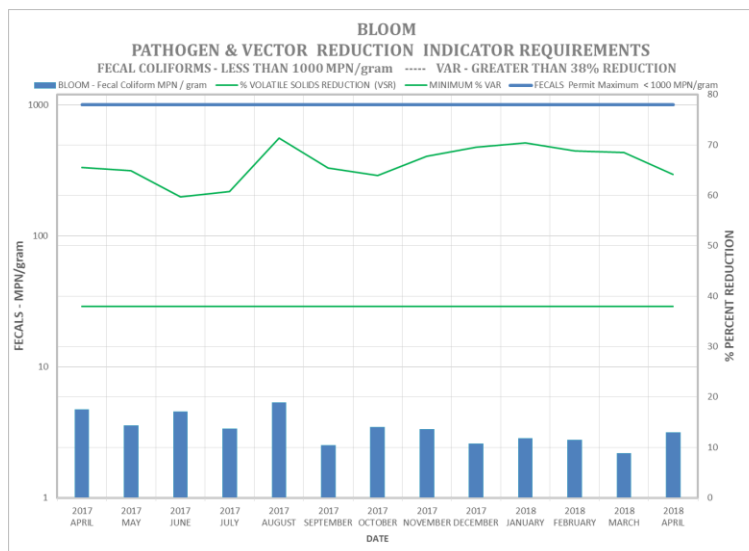
The average quantities of Class A biosolids transported and applied on farms by the two major contracts (WSSC's Recyc and DC Water's Nutriblend) and the quantities marketed as Bloom are shown on the graph above. In May, 2017 wet tons of Bloom were distributed to 19 customers.

## Product Quality

All biosolids produced during the month of April met Class A Exceptional Quality (EQ) requirements required by EPA. The graph below shows the EPA regulated heavy metals average concentrations in the Class A biosolids. The concentrations are considerably below the regulated exceptional quality limits (EPA-503 Exceptional Quality Limits) and the national average (EPA-2009 Survey Average).

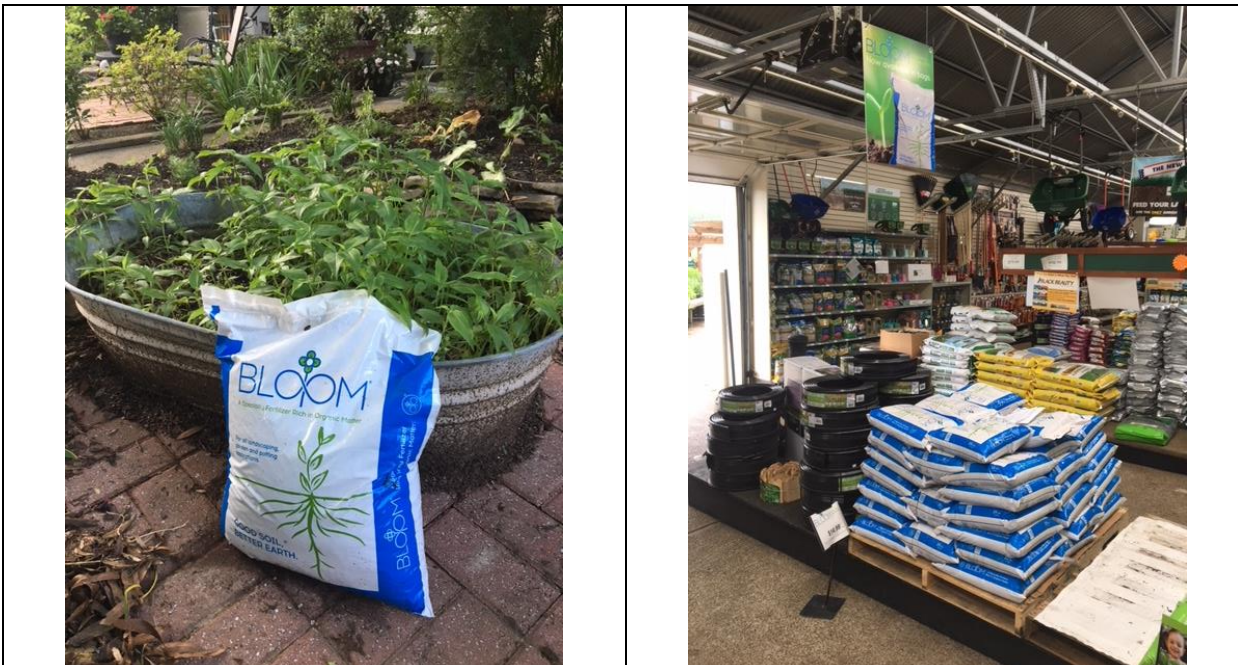
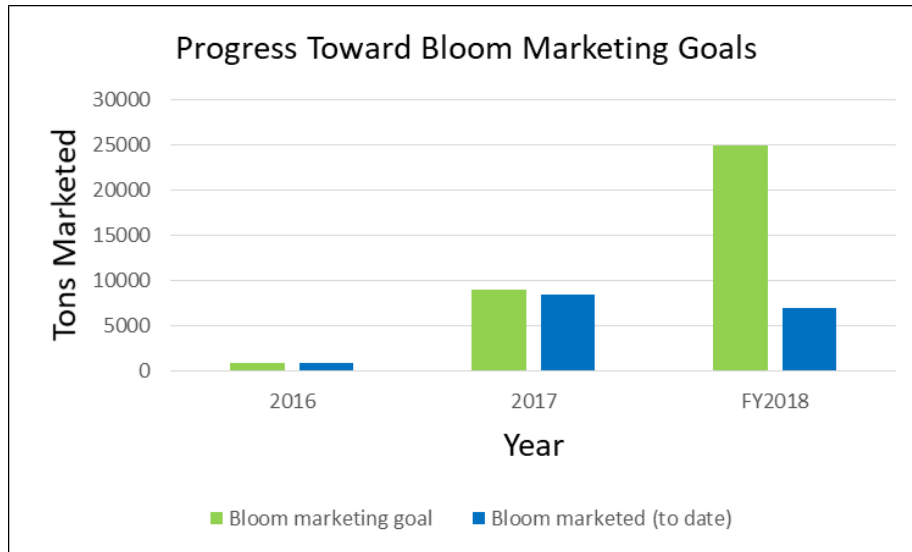


The graph below shows both Vector Attraction Reduction (VAR) and Fecal Coliform (FC) results in the Class A product, both of which are required to maintain the Class A Exceptional Quality (EQ) status. Vector Attraction Reduction is measured by the reduction in Volatile Solids (VS) or organic compounds that may be odorous and attract nuisance vectors such as flies and rodent. DC Water anaerobic digesters reduced VS by over 65 percent, well above the required 38 percent minimum. In addition, the graph shows fecal coliforms levels in the Class A product. Fecal coliforms are indicators of disease causing organism (pathogens), and must be below 1,000 MPN/g to meet Class A standards. The FC levels in the Class A product are two orders of magnitude less than the maximum allowable level.



## Bloom Marketing

Bloom sales as of June 1<sup>st</sup> total 6957 tons for the calendar year. This represents 28% of the goal 25,000 tons. Goals were set last year for this year, and we have reason to believe we will meet these goals. The Bloom team achieved, in May with our partner Homestead Gardens, the first bagged material in stores. Bagged Bloom is initially available in Homestead Gardens stores only, although we have a sales agreement that encourages wholesale sales to other garden centers. The Bloom team has reached out to some prominent DC garden centers, and there is interest in learning more.



Growth Trials in our New Greenhouse

In addition, staff ran growth demonstration trials in our new greenhouse, showing grass and vegetable growth in our various mixes, including one done with construction soil and Bloom for use in highway projects. The poor construction soil paired with the high nutrient Bloom grows lush, thick grass, turning this waste product into rich topsoil.



### **First Tier 1 REC Sale Completed**

Staff coordinated the first sales of Tier 1 Renewable Energy Credits (RECs) from the production of clean, green, renewable energy from our digester gas. The first sale of the credits generated in 2017, and eligible for use in Maryland, generated revenue of ~\$300,000. Depending upon the price of the RECs on the market, each year the digester project will generate revenue in this range. For more information, please contact the Resource Recovery Department at x4329.

## First Direct-to-Farm Sale in Virginia

Staff made our first direct sale to a farm in VA (see photo below) this month. This is done through a unique marketing partnership with a spreader and direct contact with the farmer. With a handful more in the works and word spreading, this is hopefully the start of a big market for us—and helps to further change the dynamic in our industry. More to come!



## Bloom Reuse and Value Map

This map shows where Bloom was reused on agricultural land and sold into the market as a soil amendment product. We now possess our Distribution and Marketing permit for the state of VA, and are beginning to make deliveries to VA.

# April 2018 Biosolids Land Applied from Plant & Storage and Bloom Distribution

