

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

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 CO₂e 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

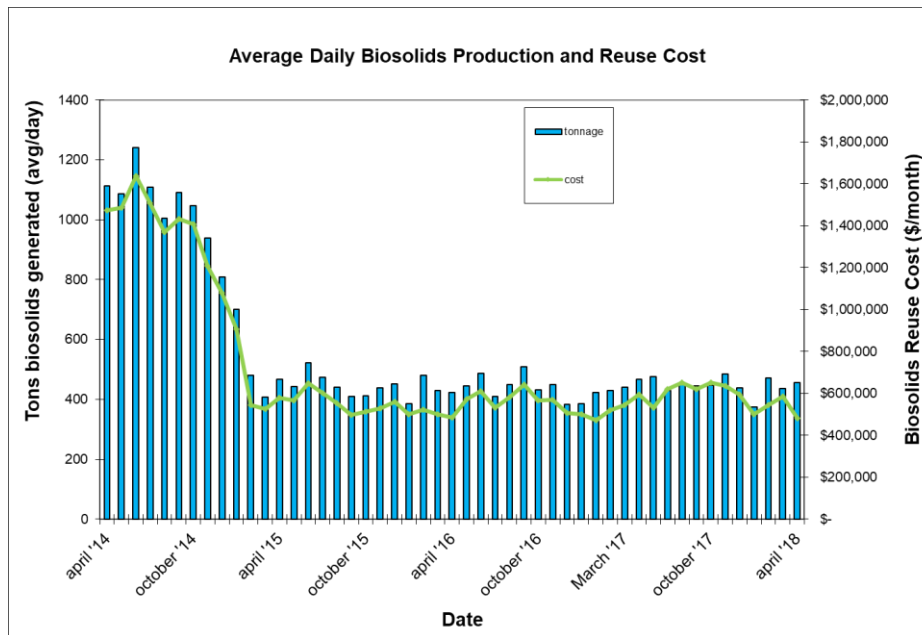
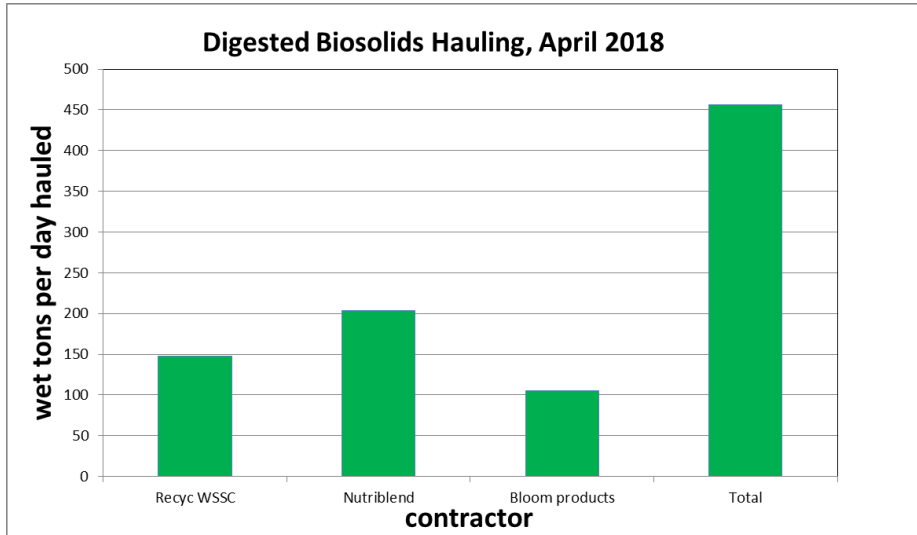
Resource Recovery Division
5000 Overlook Ave, SW
Washington, DC 20032
(202)787-4929

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

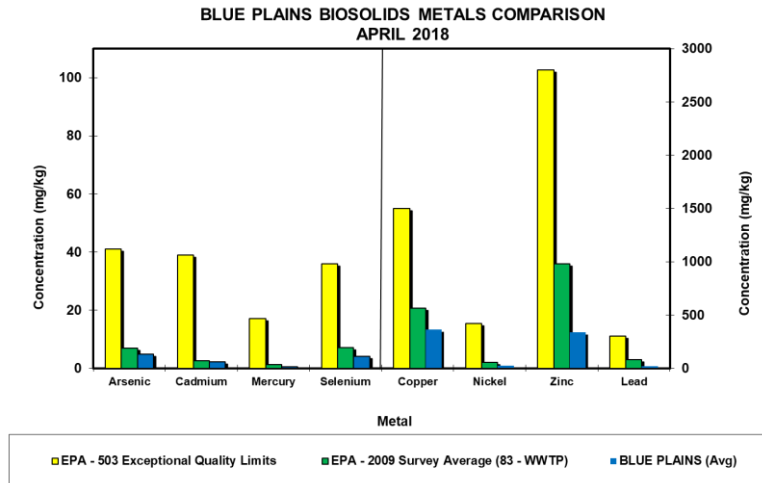
In April, biosolids hauling averaged 456 wet tons per day (wtpd). The average percent solids for the Class A material was 31.2%. The graph below shows average daily biosolids produced and the associated monthly cost for reuse (transportation and application cost) for a three-year period ending April 2017. In April, diesel prices averaged \$3.27/gallon, and with the contractual fuel surcharge, the weighted average biosolids reuse cost (taking into account the marketed material) was \$36.40 per wet ton.



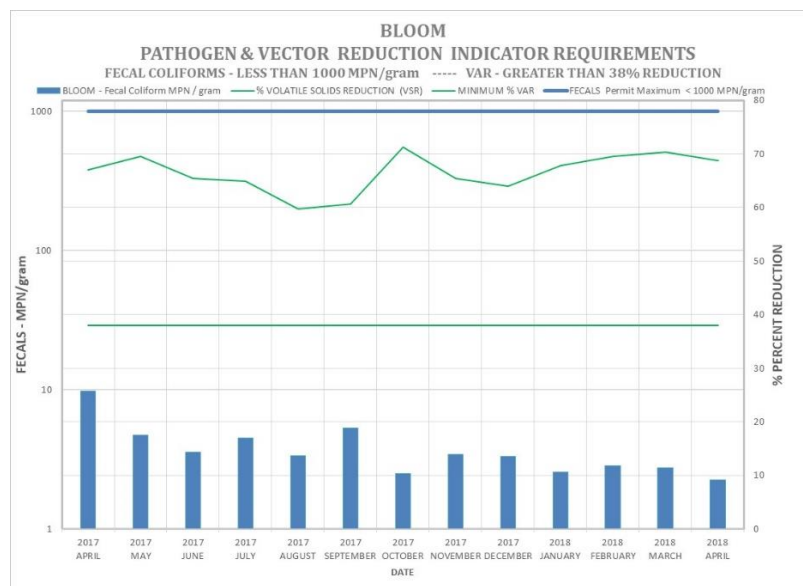
The average quantities of Class A biosolids transported and applied on farms by the two major contracts (WSSC's Recyc and DC Water's Nutriblend) and the quantities marketed as Bloom are shown on the graph above. In April, 3165 wet tons of Bloom were distributed to 14 customers.

Product Quality

All biosolids produced during the month of March 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).

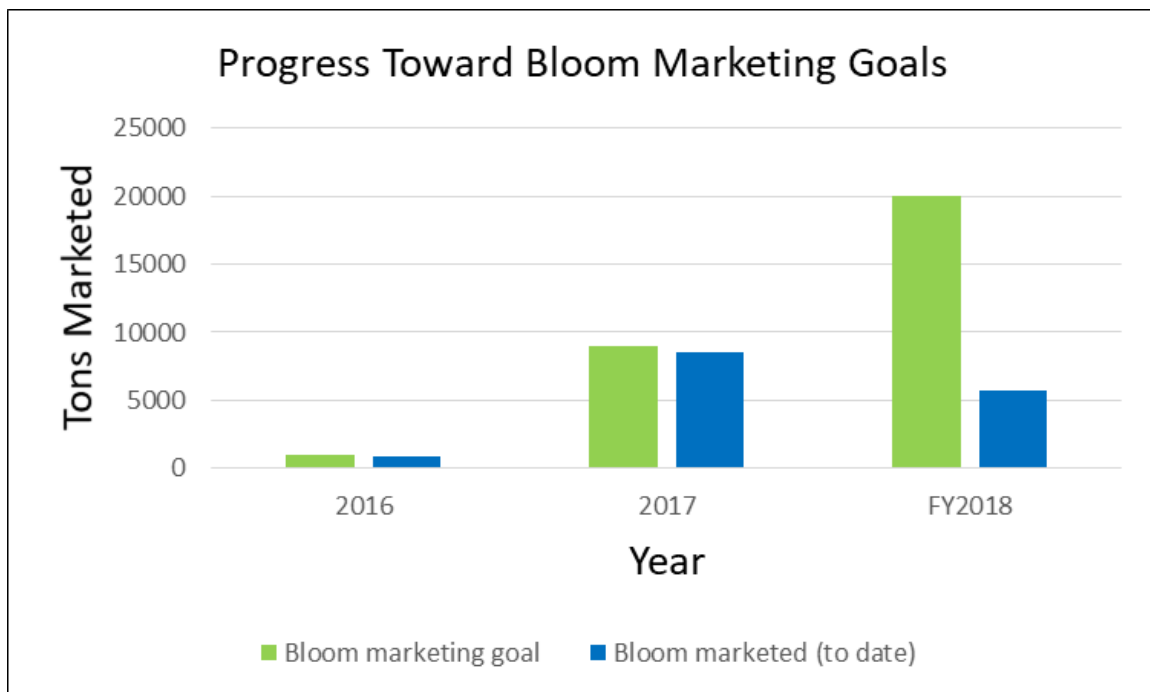


The graph below shows both Vector Attraction Reduction (VAR) and Fecal Coliform (FC) results in the Class A product, both of which are required to maintain the Class A Exceptional Quality (EQ) status. Vector Attraction Reduction is measured by the reduction in Volatile Solids (VS) or organic compounds 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 May 1st total 4910 tons for the calendar year. This represents 29% of the goal 20,000 tons. Goals were set last year for this year, and we have reason to believe we will meet these goals. The Bloom team achieved, on April 23rd, the first day that we sold more Bloom (500 tons) than we produced that day (450 tons). This will not happen every day (for now) but proves that there is demand in the market for a high quality, low odor biosolids product, and justifies the digestion design that included consideration for product quality with every choice made for process equipment. We were able to sell more product than we produced because we held inventory over the weekend for hauling on Monday. To maximize sales revenue and minimize costs for hauling, we are considering options for Bloom inventory storage and management, to have material on hand when demand is highest. Options include a covered pad behind the digesters and procurement of offsite land.



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. As of April 2017, marketing activities occurred exclusively in MD, VA and DC. We now possess our Distribution and Marketing permit for the state of VA, and are beginning to make deliveries to VA.

