

December, 2016

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 sustainability.

RECLAMATION



Restoring meads 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



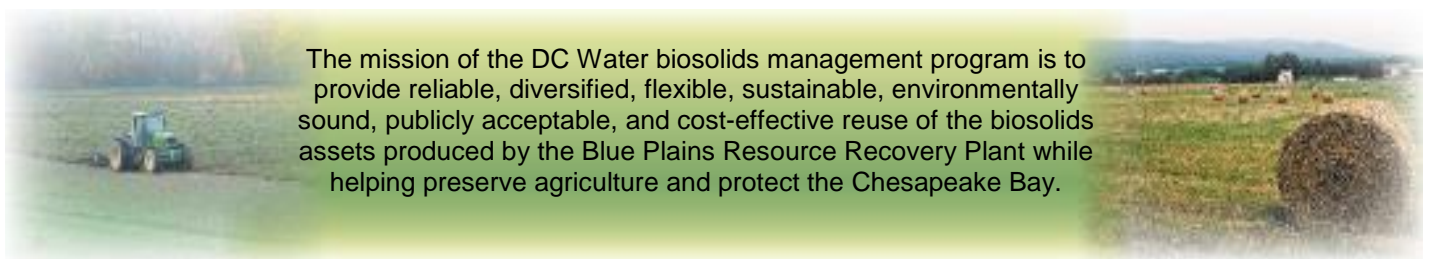
DC Water will be the first in North America to use thermal hydrolysis for wastewater treatment. When completed, this facility will be the largest plant of its kind in the world.

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

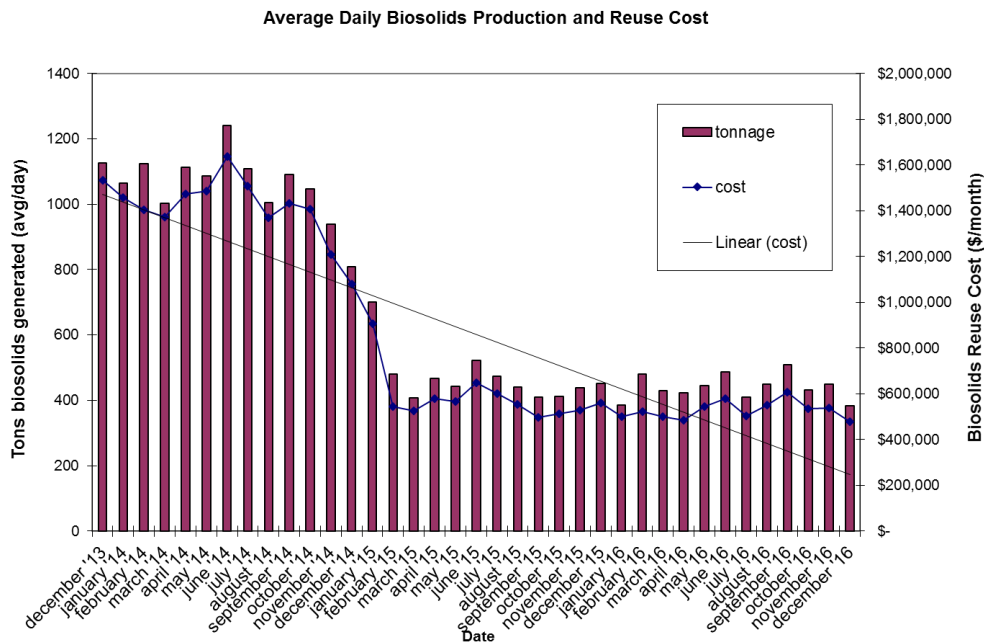
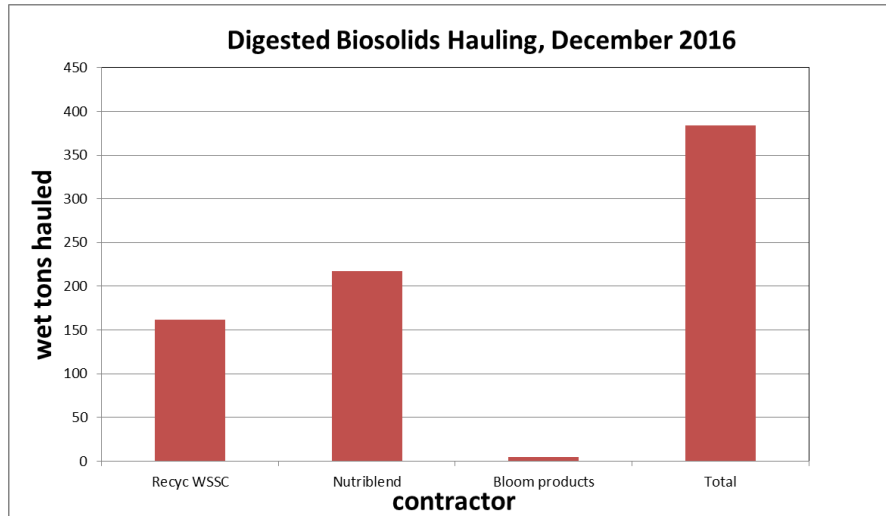
Resource Recovery Division
 5000 Overlook Avenue SW
 Washington, DC 20032
 202-787-4329; 202-787-4226 (fax)
 cpeot@dcwater.com



The mission of the DC Water biosolids management program is to provide reliable, diversified, flexible, sustainable, environmentally sound, publicly 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.

December 2016 Resource Recovery Report

In December, biosolids hauling averaged 384 wet tons per day (wtpd). The graph below shows the total hauling by contractor for the month of December. The average percent solids for the digested material was 30.2%. At the end of December the Cumberland County storage pad had 2608 tons (~25,000 tons capacity), Cedarville lagoon had zero tons of Blue Plains biosolids (~30,000 tons capacity), Goochland pad had zero tons, and Fauquier lagoon had 462 tons (~15,000 tons capacity).

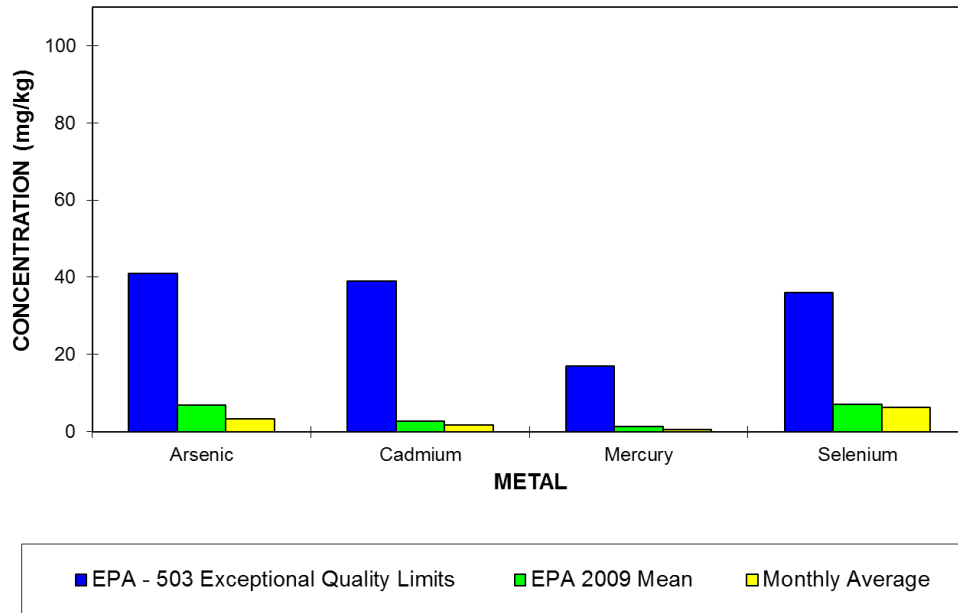


In December, diesel prices averaged \$2.65/gallon and with the contractual fuel surcharge the weighted average biosolids reuse cost was \$39.77 wet ton.

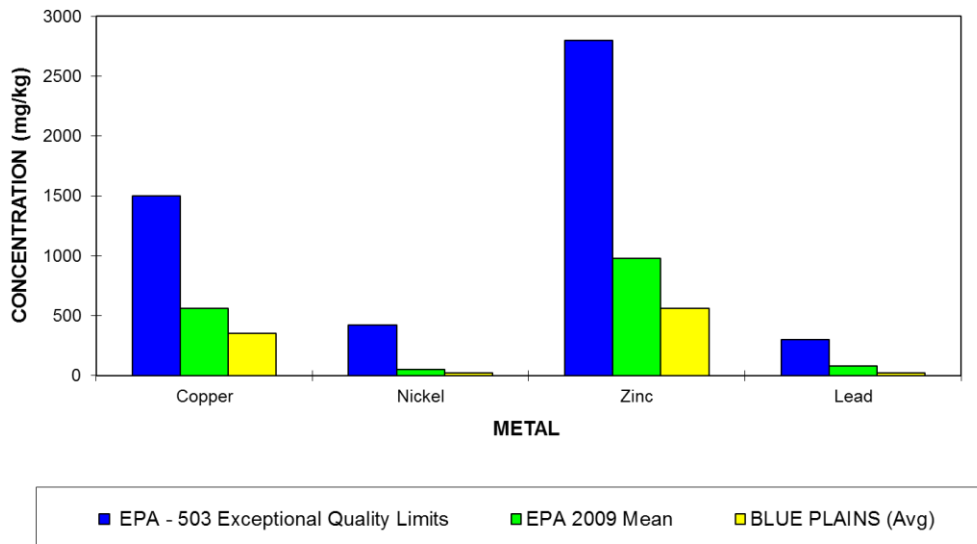
Product Quality

The graph below show the EPA regulated heavy metals in the Blue Plains biosolids for the month of November 2016. As can be seen in the graphs, the Blue Plains levels are considerably below the regulated exceptional quality limits and the national average.

BLUE PLAINS BIOSOLIDS METALS COMPARISON
NOVEMBER 2016



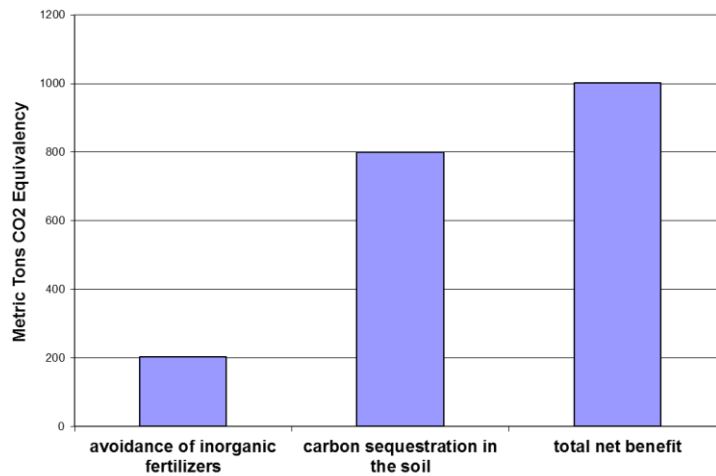
BLUE PLAINS BIOSOLIDS METALS COMPARISON
NOVEMBER 2016



Environmental Benefits

The quantity land applied in November coming directly from the plant and from storage facilities equaled 1002 tons. Taking into account the fuel required to transport biosolids to the field, the net benefit of the land applied material is 896 metric tons CO₂ equivalent avoided emissions. This is equivalent to taking 2,042,743 car miles off the road in the month of November (assumes 20 mpg, 19.4 lb CO₂ equivalent emissions/gallon gas – EPA estimate). The cumulative total avoided carbon emission since, January 2006 is 151,984 metric tons CO₂ equivalent.

**DCWater Biosolids Recycling Program
Greenhouse Gas Balance Benefits
November 2016 Totals**



Biosolids Applications and Agricultural \$'s for November 2016

