

September, 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 meets to their natural state and providing wildlife habitats.

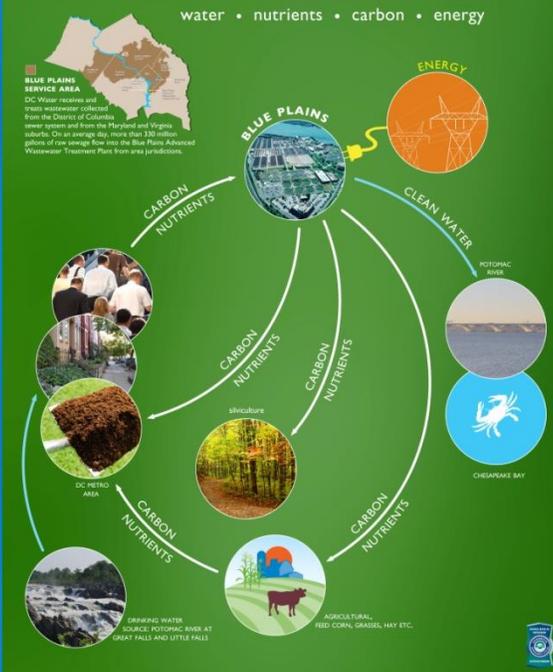
URBAN RESTORATION



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



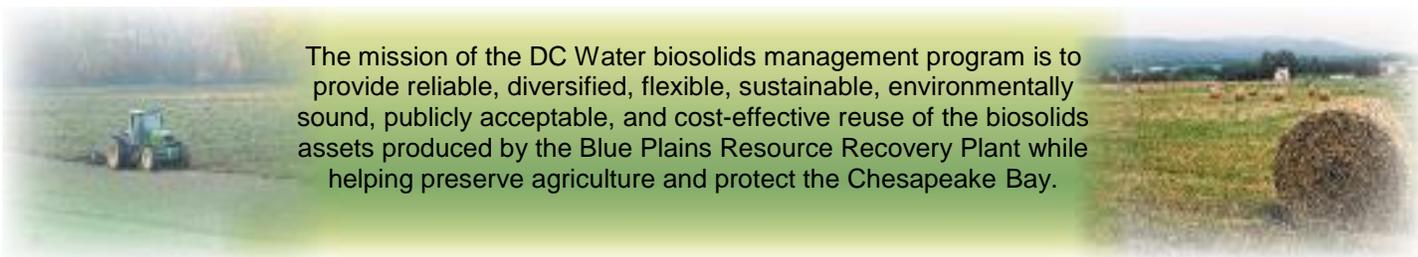
DC Water will be the first in North America to use thermal hydrolysis for wastewater treatment. When completed, this facility will be the largest plant of its kind in the world.

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

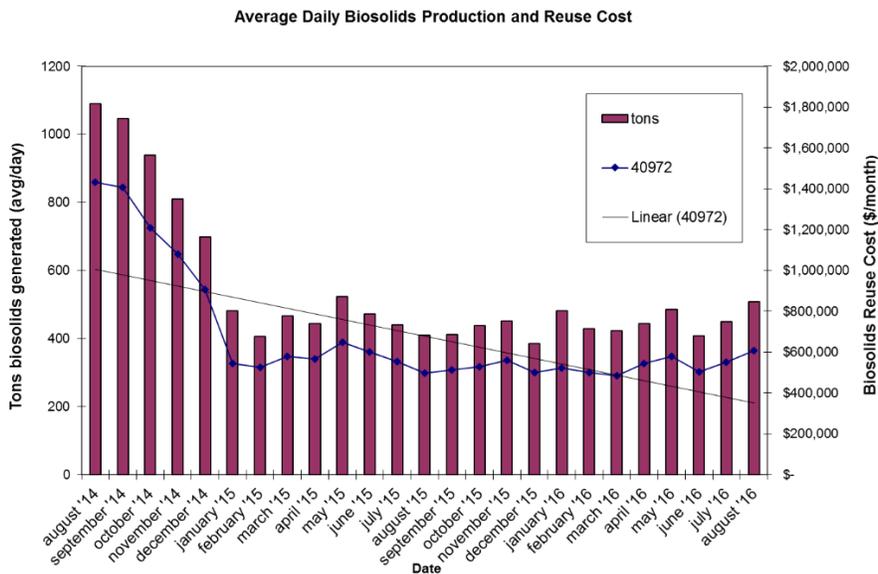
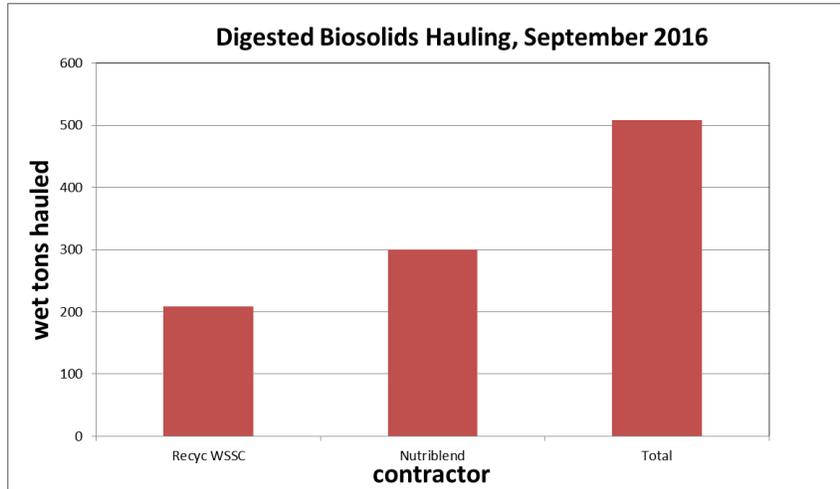
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The mission of the DC Water biosolids management program is to provide reliable, diversified, flexible, sustainable, environmentally sound, publicly acceptable, and cost-effective reuse of the biosolids assets produced by the Blue Plains Resource Recovery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

September 2016 Resource Recovery Report

In September, biosolids hauling averaged 508 wet tons per day (wtpd). The graph below shows the total hauling by contractor for the month of September. The average percent solids for the digested material was 30.4%. At the end of September the Cumberland County storage pad had approximately 1468 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 385 tons (~15,000 tons capacity).

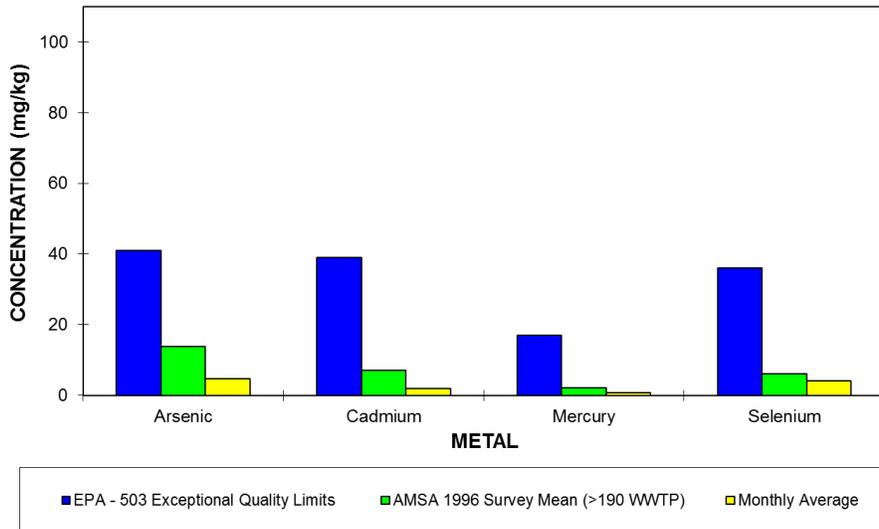


In September, diesel prices averaged \$2.49/gallon and with the contractual fuel surcharge the weighted average biosolids reuse cost was \$39.78/wet ton.

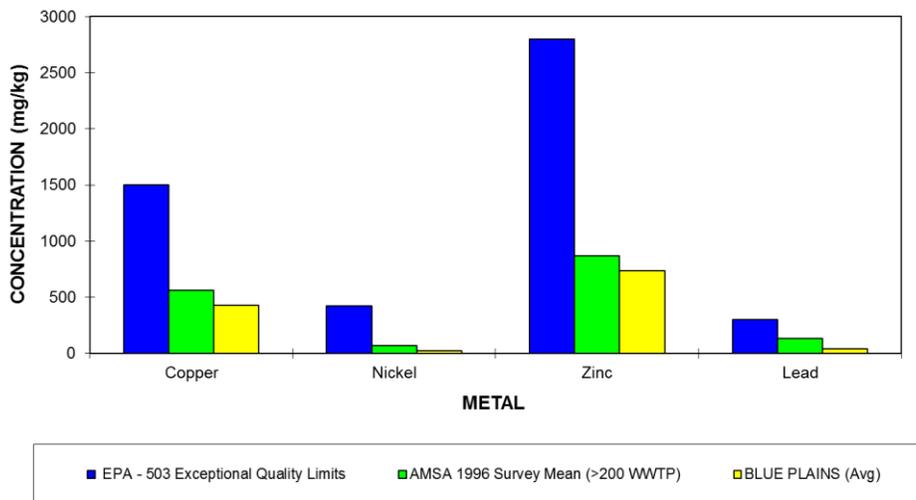
Product Quality

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

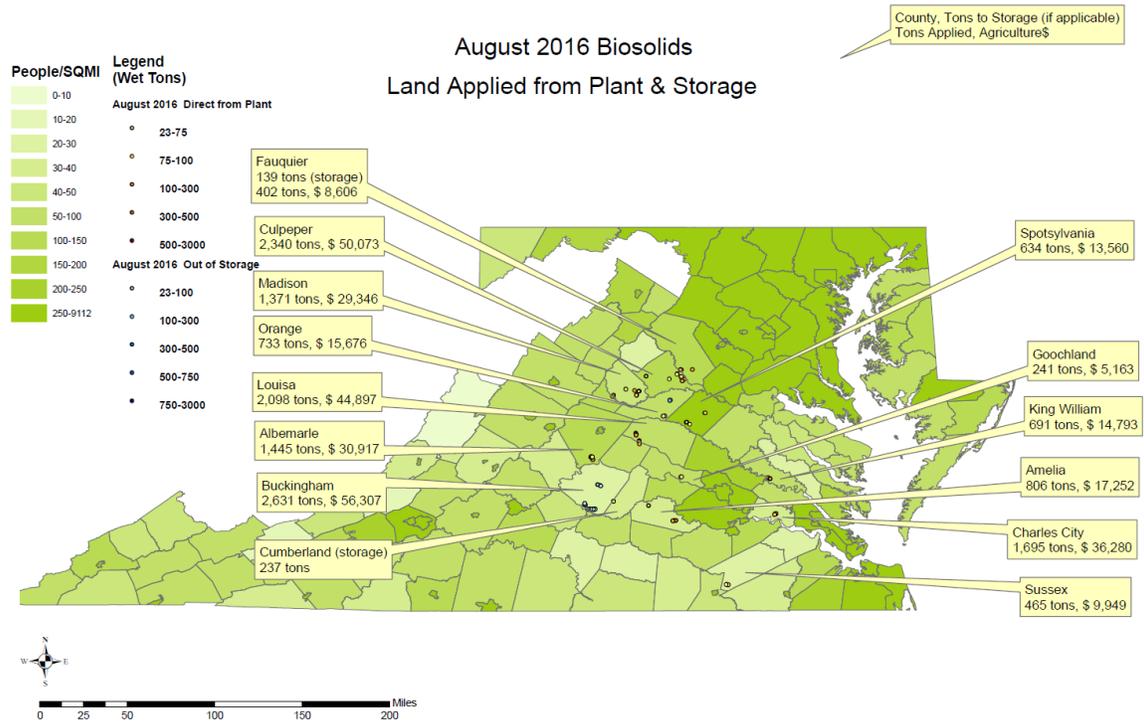
**BLUE PLAINS BIOSOLIDS METALS COMPARISON
August 2016**



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August 2016**



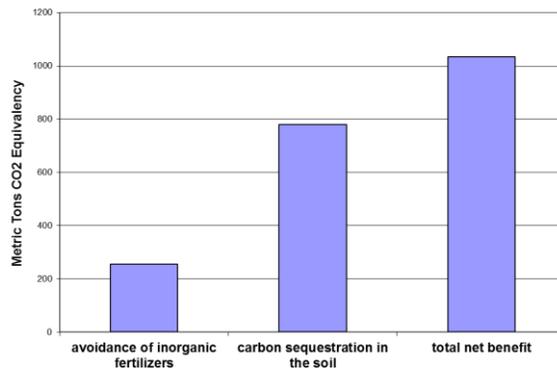
Biosolids Applications and Agricultural \$'s for August 2016



Environmental Benefits

The quantity land applied in August coming directly from the plant and from storage facilities equaled 15,552 tons. Taking into account the fuel required to transport biosolids to the field, the net benefit of the land applied material is 1034 metric tons CO₂ equivalent avoided emissions. This is equivalent to taking 2,106,489 car miles off the road in the month of August (assumes 20 mpg, 19.4 lb CO₂ equivalent emissions/gallon gas – EPA estimate). The cumulative total avoided carbon emission since, January 2006 is 149,696 metric tons CO₂ equivalent.

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



Highlights

Staff filled the first order of bagged Bloom for delivery to Casey Trees and DC DOT (DDOT) for tree planting. Through a landscaping company that has access to bagging equipment, we filled ~900 bags and sold them to the two organizations listed above. The landscaping company is interested in receiving more Bloom in the future, and we anticipate a sales relationship with them to develop in the coming months. Their desire to work with DC Water and Bloom resulted in their bagging the material at a very low cost, making for a large savings over our land application costs. A small amount, yes, but at the very least it proves the concept that there is a market for this material.

