

# 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**



Raising miles 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](http://dcwater.com/biosolids)

### GREEN ENERGY BIORENEWABLES

POWER FROM THE PEOPLE



THERMAL HYDROLYSIS PROCESS (THP) AND DIGESTION FACILITY



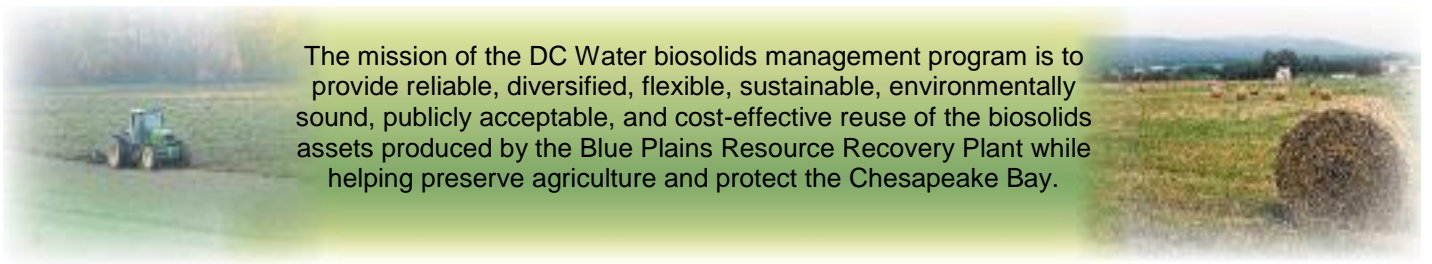
DC Water will be the first in North America to use thermal hydrolysis for wastewater treatment. When completed, this facility will be the largest plant of its kind in the world.

**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

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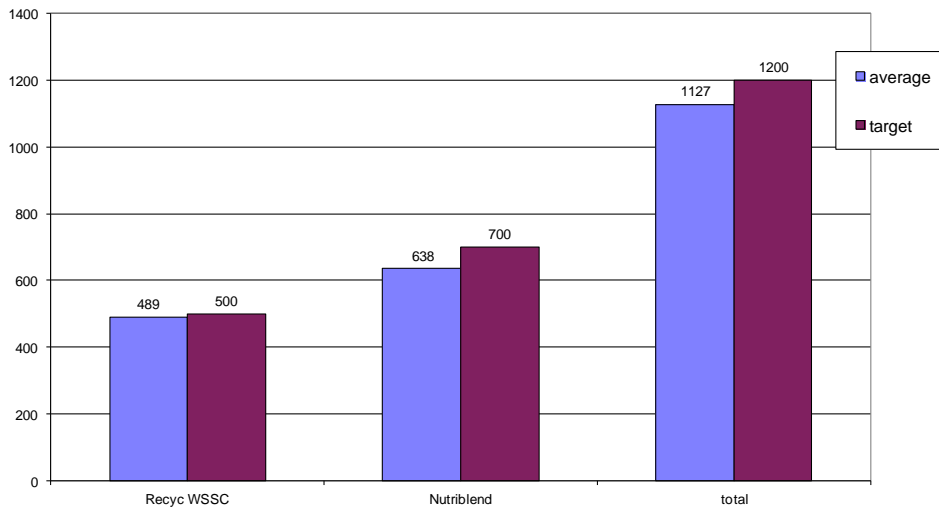


The mission of the DC Water biosolids management program is to provide reliable, diversified, flexible, sustainable, environmentally sound, publicly acceptable, and cost-effective reuse of the biosolids assets produced by the Blue Plains Resource Recovery Plant while helping preserve agriculture and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

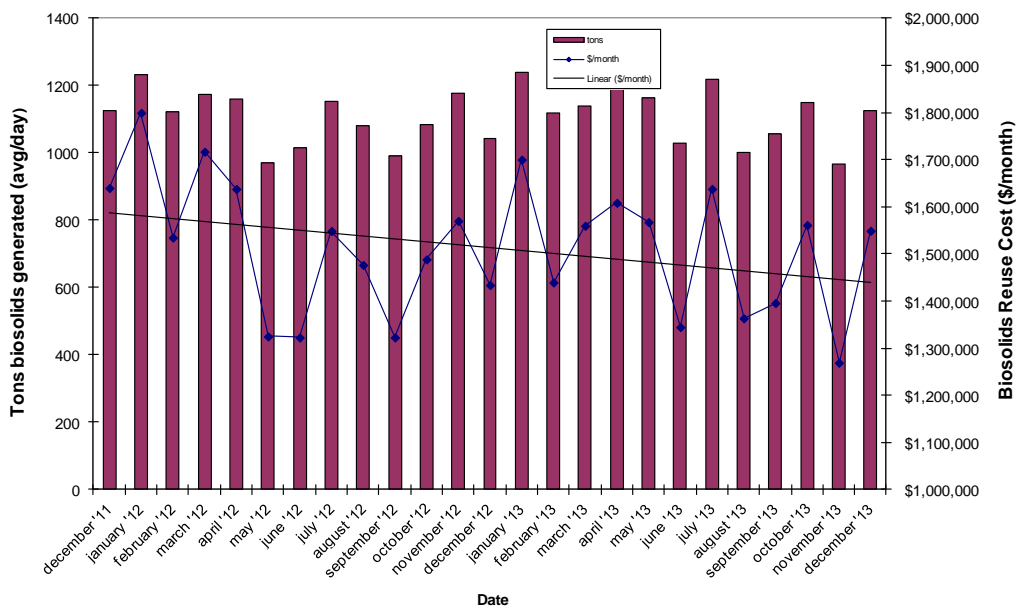
## December 2013 Biosolids Resource Recovery Report

In December, biosolids hauling averaged 1127 wet tons per day. The graph below shows the hauling by contractor for the month of December. Average % solids for the unlimed cake was 27.0%. Average lime dose for the month was 18.9%. At the end of December the Cumberland County storage pad had 17,769 tons (~25,000 tons capacity), and the Cedarville lagoon had approximately 3000 tons (~30,000 tons capacity).

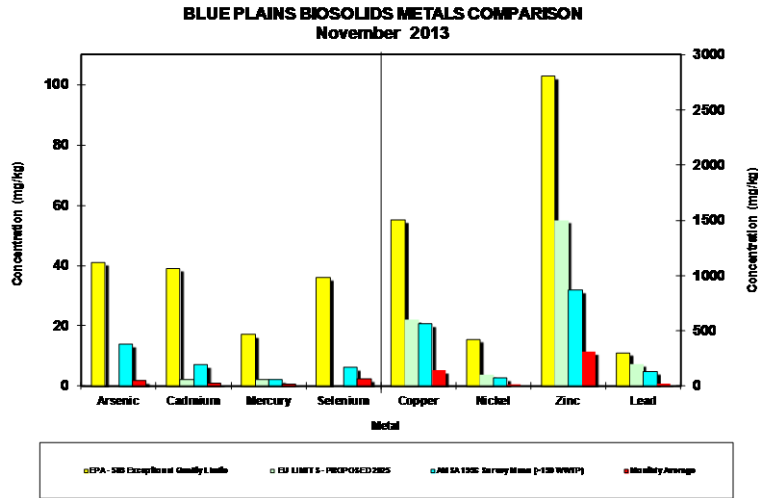
Average Daily Hauling by Contractor for December 2013



Average Daily Biosolids Production and Reuse Cost



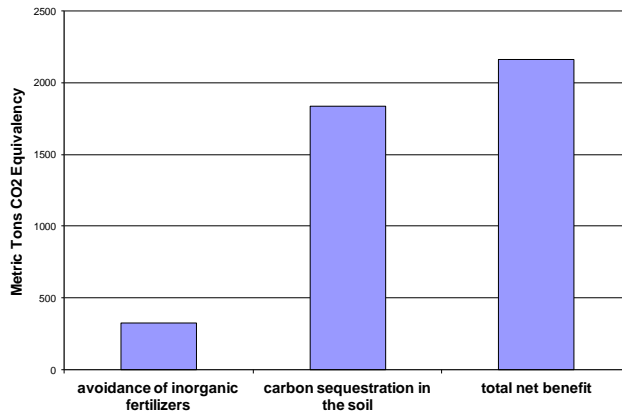
The graphs below show the EPA regulated heavy metals in the Blue Plains biosolids for the month of November 2013. As can be seen in the graphs, the Blue Plains levels are considerably below the regulated exceptional quality limits, the national average levels surveyed in 1996, and the European Union (EU) limits. The EU limits are more conservative than the USEPA limits, and Blue Plains biosolids metals content is lower than the EU standards as well.



### Environmental Benefits

The quantity land applied in September coming directly from the plant and from storage facilities equaled 27,644 tons. Taking into account the fuel required to transport biosolids to the field, the net benefit of the land applied material is 2163 metric tons CO<sub>2</sub> equivalent avoided emissions. This is equivalent to taking 4,406,637 car miles off the road in the month of September (assumes 20 mpg, 19.4 lb CO<sub>2</sub> equivalent emissions/gallon gas – EPA estimate). The cumulative total avoided carbon emission since December, 2006 is 110,737 metric tons CO<sub>2</sub> equivalent.

**DCWater Biosolids Recycling Program**  
**Greenhouse Gas Balance Benefits**  
November 2013 Totals



## December Highlights

Staff hosted the annual meeting for members of the Virginia biosolids Council this past month at Blue Plains. Members, as well as Virginia Department of Environmental Quality (DEQ) staffers came to the meeting to discuss the past year in biosolids, and the changes ahead in 2014. After the meeting agenda, staff made a presentation on the digestion project, and DEQ staff made remarks and took questions on the new Virginia biosolids regulations. Afterward, staff took the participants on a tour of the digester project.

Virginia Biosolids Council representation met with Virginia State Delegate (98<sup>th</sup> District) Keith Hodges in King William County. Delegate Hodges had heard complaints about a silviculture (forestry) site on which DC Water was one of several biosolids sources applied. Complaints ranged from drag out of soil onto the roads to truck traffic and odors. Staff and VBC listened to the issues, and agreed, along with the contractor, to pull out of the site earlier than expected. VBC also agreed to revise its code of good practice to specifically address forestry sites. Current language is intended for agriculture, and there are potential improvements to the language that will ensure that forestry sites don't pose a problem in the communities.

## Map of Blue Plains Biosolids Applications and Agricultural \$'s for November 2013

