

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 lands 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.

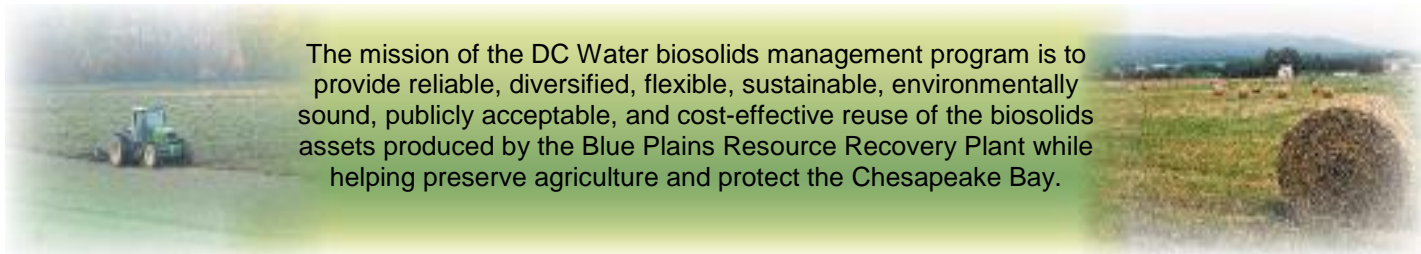
GREEN BENEFITS:

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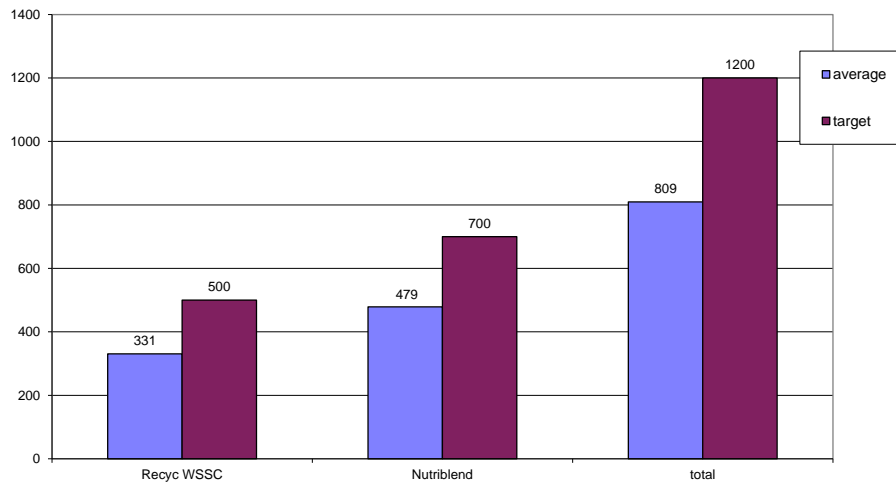
The mission of the DC Water biosolids management program is to provide reliable, diversified, flexible, sustainable, environmentally sound, publicly acceptable, and cost-effective reuse of the biosolids assets produced by the Blue Plains Resource Recovery Plant while helping preserve agriculture and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



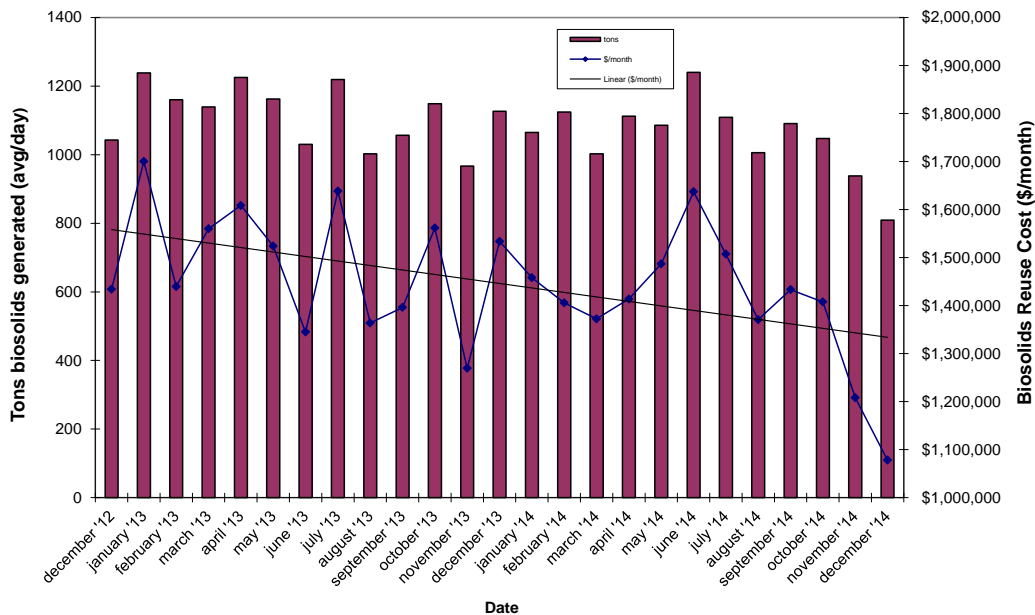
December 2014 Resource Recovery Report

In December, biosolids hauling averaged 809 wet tons per day (wtpd). Of this total, 711 wtpd were lime stabilized Class B, and 98 wtpd were digested. The graph below shows the total hauling by contractor for the month of December. Average % solids for the unlimed cake was 27.2%, and digested material was 26.5%. Average lime dose for the Class B biosolids was 27.4%. At the end of December the Cumberland County storage pad had approximately 5,000 tons of lime stabilized and 2,160 tons of digested materials (~25,000 tons capacity), The Cedarville lagoon had approximately 8,225 tons of Blue Plains biosolids (~30,000 tons capacity).

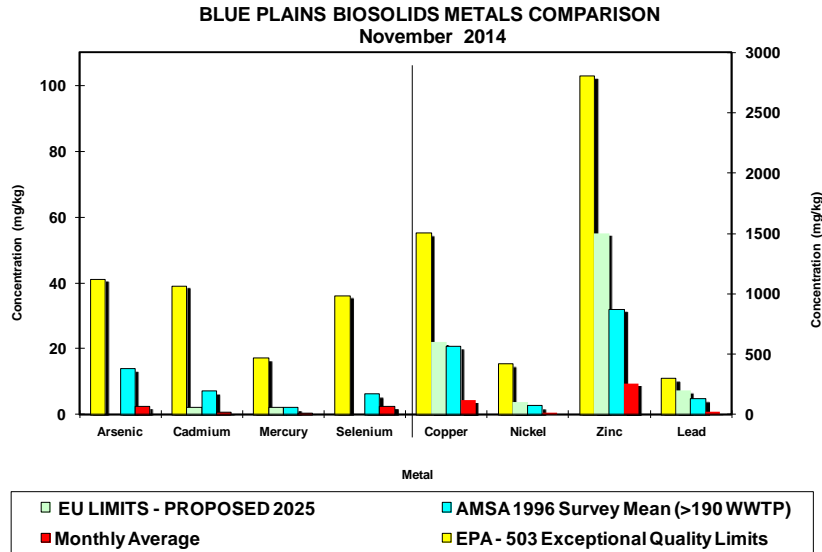
Average Daily Hauling by Contractor for December 2014



Average Daily Biosolids Production and Reuse Cost



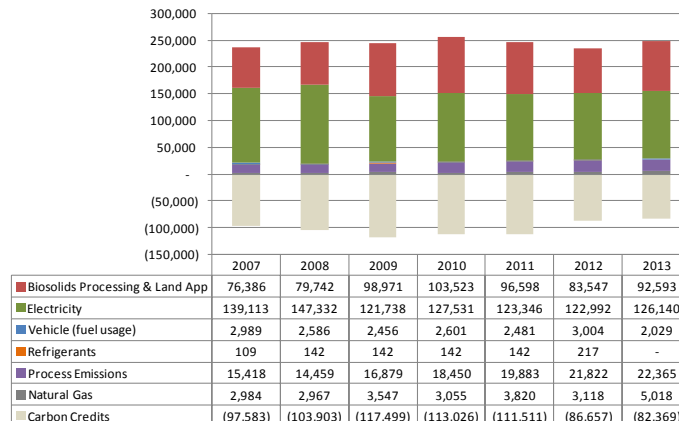
The graphs below show the EPA regulated heavy metals in the Blue Plains biosolids for the month of November 2014. As can be seen in the graphs, the Blue Plains levels are considerably below the regulated exceptional quality limits, the national average levels surveyed in 1996, and the European Union (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.

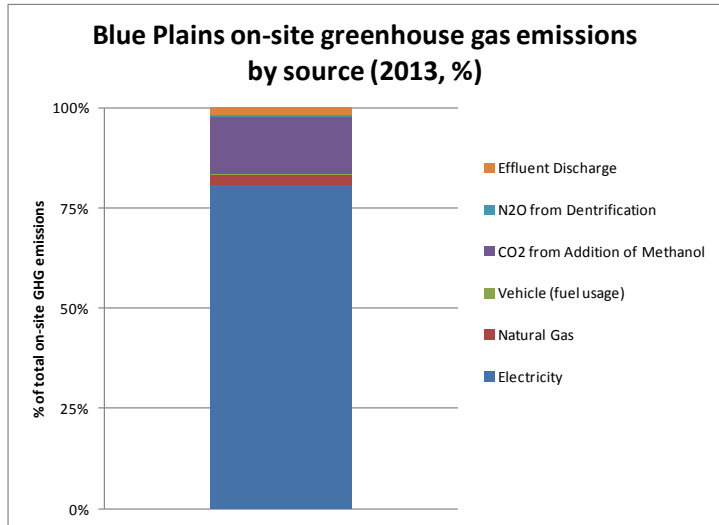
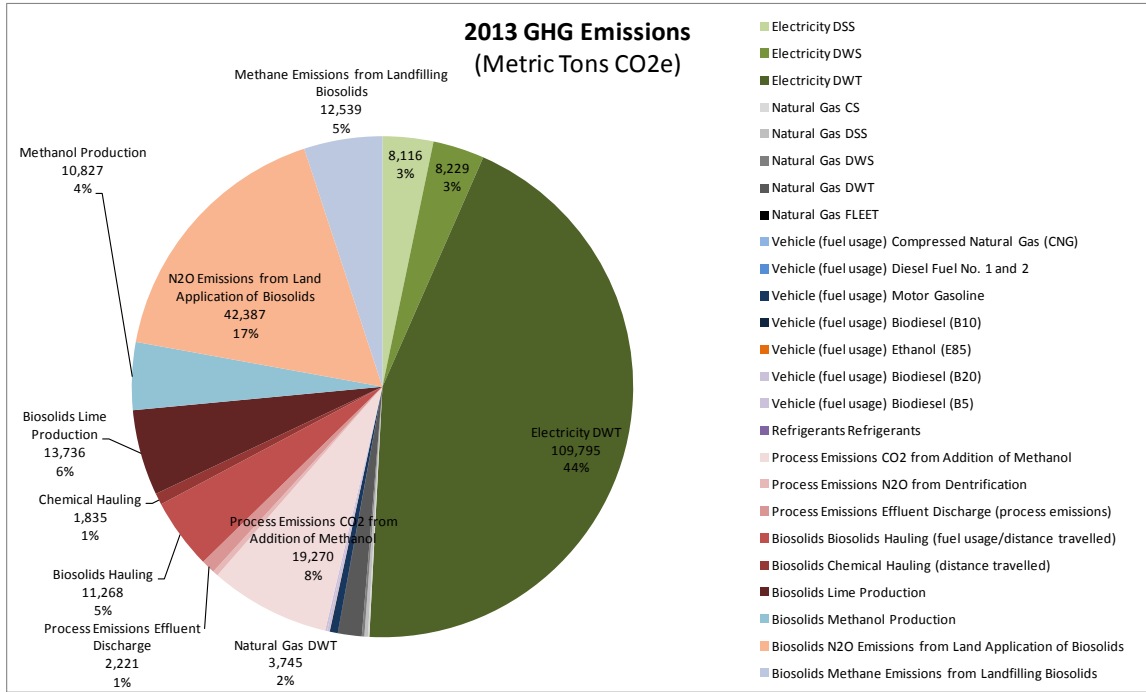


Carbon Footprint

The graphs below represent the carbon footprint of the DC Water organization for 2007 – 2013. Staff developed a model to calculate this based on input from each department. The first graph shows the total footprint for each year, broken down by source of the carbon. The second graph shows a more detailed breakdown of the 2013 data, and the third graph represents the breakdown for the largest emitter, DWT (Blue Plains). Carbon credits are from sequestration of carbon during land application of biosolids, and the associated avoidance of inorganic fertilizer, which requires energy for production. Land applying biosolids avoids this energy use. Very soon, staff will compile and report the 2014 data, and will begin to report monthly data.

DC Water Annual GHG Emissions Estimates
(Metric Tons CO₂e)



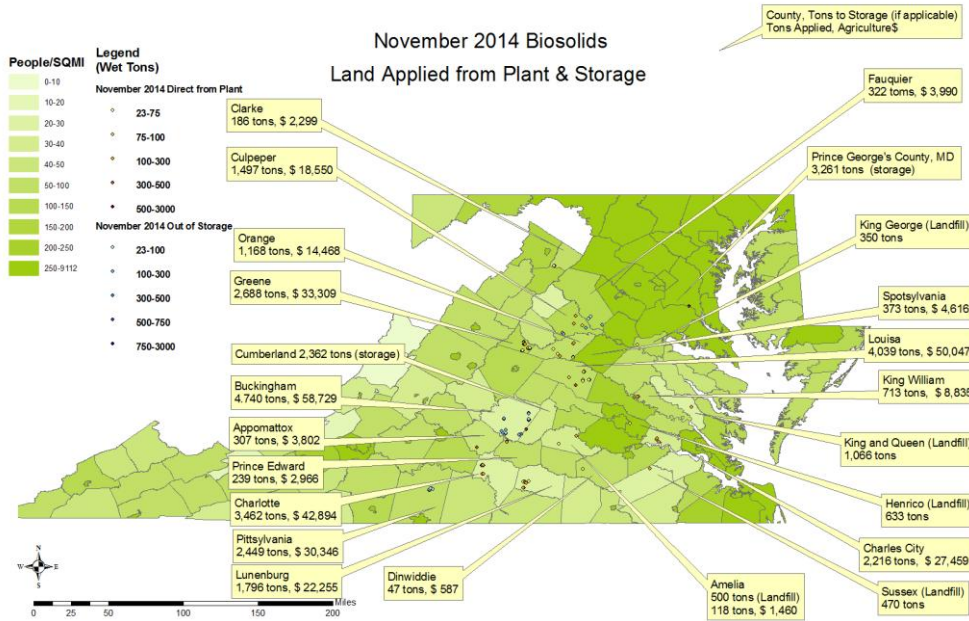


December Highlights

The Blue Plains Garden had another bountiful year, producing nearly 80 pounds of eggplants, tomatoes, yellow and spaghetti squash, strawberries, lettuces and herbs. The new DC Water Tour Guide and others stopped at the garden and the adjacent compost shed during tours for hundreds of people. Seeing (and tasting!) the benefits of using biosolids compost has proven an effective way to influence the opinions of visitors and leave a lasting impression. The harvest from the garden was provided to various offices around Blue Plains and in the COF cafeteria.



Map of Blue Plains Biosolids Applications and Agricultural \$'s for November 2014



Environmental Benefits

The quantity land applied in November coming directly from the plant and from storage facilities equaled 29,318 tons. Taking into account the fuel required to transport biosolids to the field, the net benefit of the land applied material is 1614 metric tons CO₂ equivalent avoided emissions. This is equivalent to taking 3,352,603 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 136,374 metric tons CO₂ equivalent.

**DCWater Biosolids Recycling Program
Greenhouse Gas Balance Benefits
November 2014 Totals**

