

# Biosolids Reuse Monthly Report

**NUTRIENTS and CARBON RECYCLING**

**FARMING**  
  
Provides carbon and nutrients valued at \$300.00 per acre.

**SILVICULTURE**  
  
Increases yield and improves undergrowth.

**RECLAMATION**  
  
Restoring miles to their natural state and providing wildlife habitats.

**URBAN RESTORATION**  
  
Grow trees and reduce runoff.



**BLUE PLAINS SERVICE AREA**  
DC Water receives and treats wastewater collected from the District of Columbia sewer system and from the Maryland and Virginia suburbs. On an average day, more than 300 million gallons of raw sewage flow into the Blue Plains Advanced Wastewater Treatment Plant from area jurisdictions.

**BLUE PLAINS**  
water • nutrients • carbon • energy

**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.

[dcwater.com/biosolids](http://dcwater.com/biosolids)

**GREEN ENERGY BIORENEWABLES**

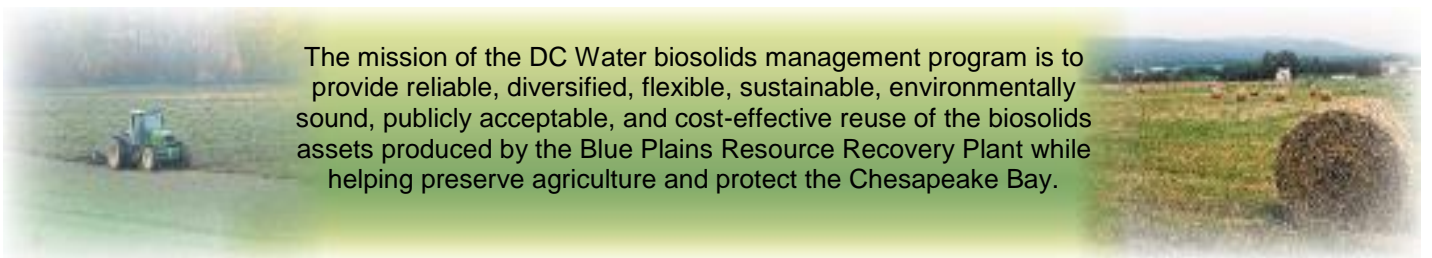
**POWER FROM THE PEOPLE**  
  
THERMAL HYDROLYSIS PROCESS (THP) AND DIGESTION FACILITY  
  
DC Water will be the first in North America to use thermal hydrolysis for wastewater treatment. When completed, this facility will be the largest plant of its kind in the world.

**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

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

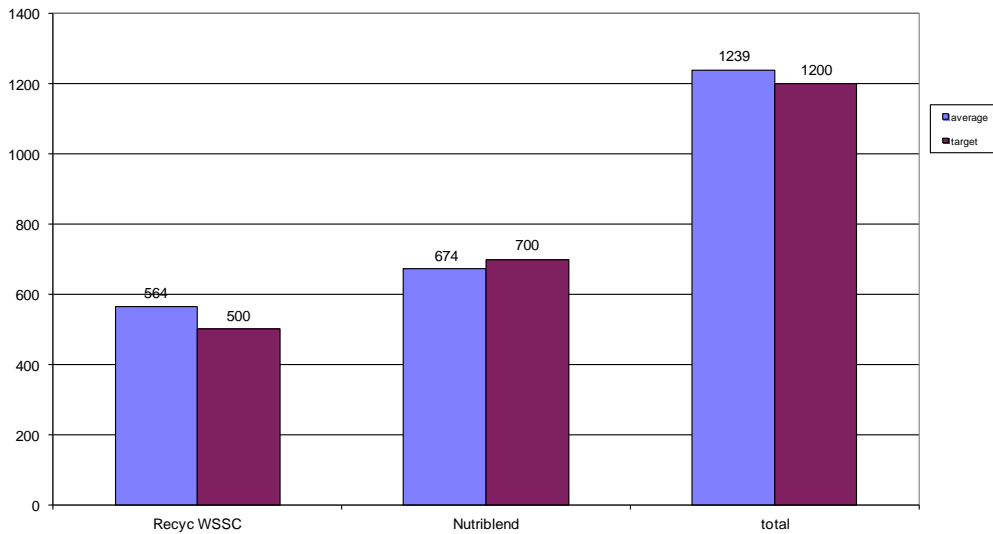


The mission of the DC Water biosolids management program is to provide reliable, diversified, flexible, sustainable, environmentally sound, publicly acceptable, and cost-effective reuse of the biosolids assets produced by the Blue Plains Resource Recovery Plant while helping preserve agriculture and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

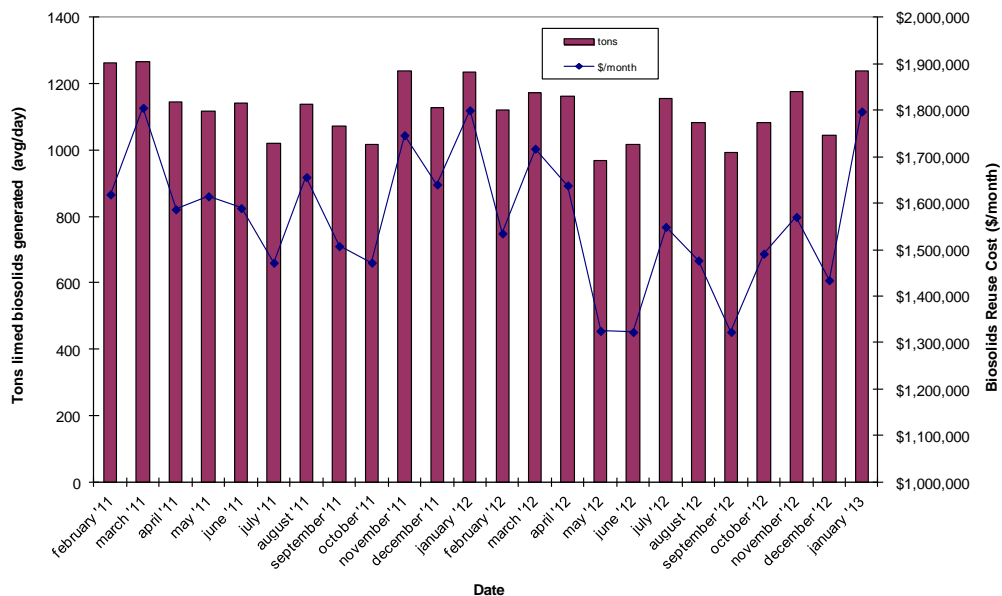
## January 2012 Biosolids Division Report

In January, biosolids hauling averaged 1239 wet tons per day. The graph below shows the hauling by contractor for the month of January. Average % solids for the unlimed cake was 25.2%. Average lime dose for the month was 23.5%. Nutriblend took 913.4 tons of biosolids to the Spottsylvania County compost facility. At the end of January the Cumberland County storage pad had 18,481 tons (~25,000 tons capacity), Ragsdale Pad had 3093 tons, Harrison Pad had 971 tons, Wilmar Pad had 1730 tons, and the Cedarville lagoon had 11,441 tons (~30,000 tons capacity).

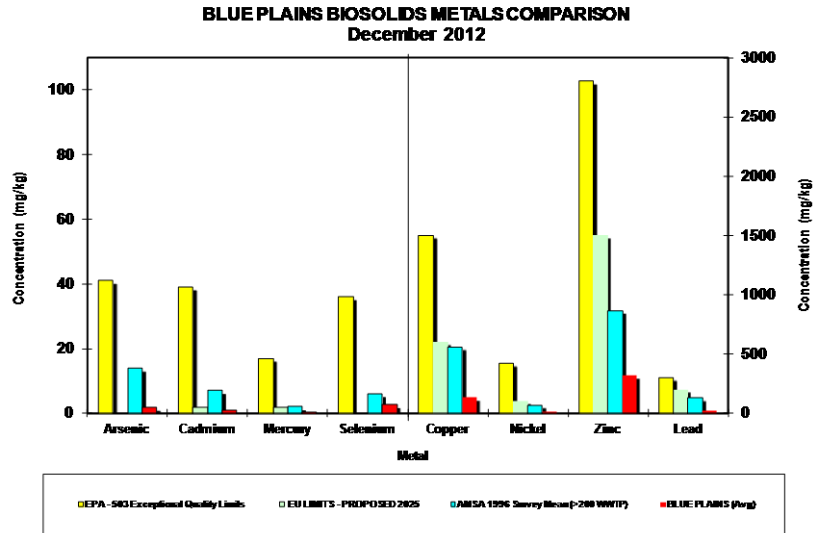
Average Daily Hauling by Contractor for January 2012



Average Daily Biosolids Production and Monthly Cost



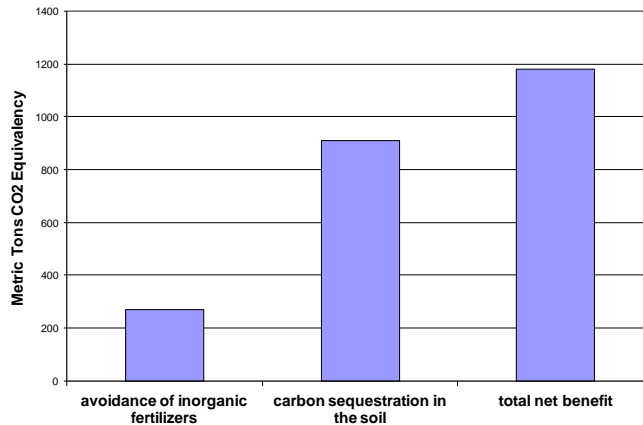
The graphs below show the EPA regulated heavy metals in the Blue Plains biosolids for the month of December 2012. As can be seen in the graphs, the Blue Plains levels are considerably below the regulated exceptional quality limits, the national average levels surveyed in 1996, and the European Union (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 coming directly from the plant and from storage facilities equaled 20,492 tons. Taking into account the fuel required to transport biosolids to the field, the net benefit of the land applied material is 1180 metric tons CO<sub>2</sub> equivalent avoided emissions. This is equivalent to taking 2,403,341 car miles off the road in the month of December (assumes 20 mpg, 19.4 lb CO<sub>2</sub> equivalent emissions/gallon gas – EPA estimate). The cumulative total avoided carbon emission since January, 2006 is 113,113 metric tons CO<sub>2</sub> equivalent.

**DCWater Biosolids Recycling Program**  
**Greenhouse Gas Balance Benefits**  
December 2012 Totals



## January Highlights

In 2012, DC Water saw a drop in complaints surrounding the biosolids land application program. As part of the National Biosolids Partnership (NBP) Environmental Management System (EMS), DC Water tracks complaints and inquiries in a database, allowing for analysis of data and corrective actions. This past year we agreed to exchange and compare data with VA DEQ, the Virginia agency tasked with monitoring biosolids in the state. This was done to ensure that we and they were hearing all the issues brought by the public. Total complaints captured by DC Water inspectors (MES) dropped by 50% from 2011 to 2012. This was likely due to better communication with contractors concerning product quality issues (odors, etc.). In addition, the total number of complaints attributed to DC Water 21.4%, a proportionately low percentage, considering that 59.4% of the biosolids land applied in Virginia came from Blue Plains.

COMPARISON BETWEEN VA DEQ COMPLAINT DATA AND MES INCIDENT REPORTING DATA FOR CALENDAR YEARS 2011 AND 2012

Va DEQ Complaint Concern Category	Va DEQ Complaint Data					MES Incident Data			Comparison	
	2008	2009	2010	2011	Through November 2012	MES Complaint Concern Category for Blue Plains' Biosolids	MES TOTALS 2011	MES TOTALS THROUGH DEC. 15, 2012	% of Incidents Attributable to Blue Plains in 2011	% of Incidents Attributable to Blue Plains in 2012
Health	14	7	12	25	13	NA	NA	NA	NA	
Odors	45	37	34	44	25	Odor Complaints (from Public, MES Inspectors, Contractors)	5	3	11.4	12.0
Runoff	15	14	10	20	8	NA	NA	NA	NA	
Buffers	25	8	10	11	12	Contractor Field Management Issues	11	5	NA	NA
Groundwater	17	7	12	21	9	Biosolids Spilled/Leaked Locally	9	0	NA	NA
Truck Traffic	11	5	7	9	1	Overturned Trucks/Vehicle Accidents/Truck/Equipment Malfunctions	7	7	77.8	> 100
Biosolids on Road	10	7	6	6	2	Biosolids Spilled/Leaked Original into Public Roadways	2	0	33.3	0.0
Inquiry Only	37	13	25	29	8	Professional Regulator Inquires from the Public	2	1	6.9	16.7
Other	29	10	18	15	8	General Complaint	NA	2	NA	25.0
<b>TOTALS</b>	<b>203</b>	<b>106</b>	<b>143</b>	<b>189</b>	<b>84</b>	<b>TOTALS</b>	<b>36</b>	<b>18</b>	<b>20.8</b>	<b>21.4</b>

NOTE: PER MES DATABASE, IN CALENDAR YEAR 2011 THE TOTAL TONNAGE TO VIRGINIA TO BENEFICIAL REUSE = 362,968 WET TONS  
 AVERAGE % TOTAL SOLIDS CONTENT OF LIQUE STABILIZED BIOSOLIDS = 38.0% (PER RECYC BIOSOLIDS LAB ANALYTICAL DATA FOR CALENDAR YEAR 2011)  
 ESTIMATED BLUE PLAINS DRY TONS TO VIRGINIA IN CALENDAR YEAR 2011 = 362,968 WET TONS x 0.38 = 130,968 DRY TONS  
 PER VA DEQ DATA, TOTAL DRY TONS LAND APPLIED IN VIRGINIA IN CALENDAR YEAR 2011 = 220,000 DRY TONS  
**ESTIMATED % OF DRY TONS FROM BLUE PLAINS TO VIRGINIA IN CALENDAR YEAR 2011 =  $[(130,968) \div (220,000)] \times 100 = 59.4\%$**

## Map of Blue Plains Biosolids Applications and Agricultural \$'s for December 2012

