

January, 2015

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.

dc water is life 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

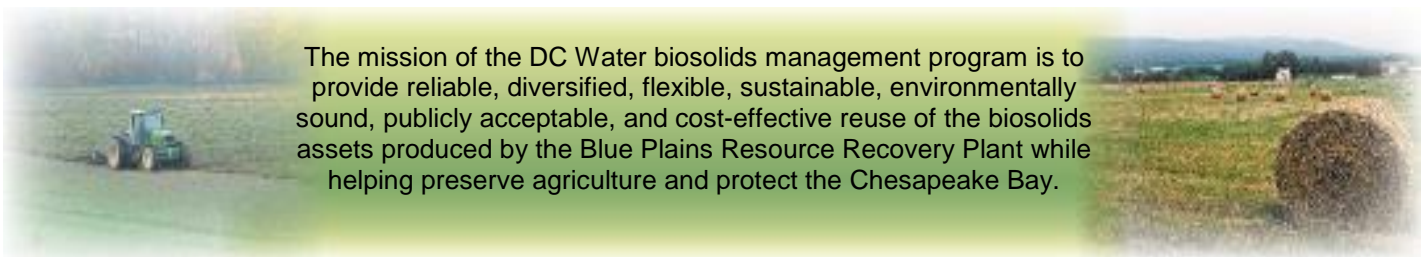
DC Water will be the first in North America to use thermal hydrolysis for wastewater treatment. When completed, this facility will be the largest plant of its kind in the world.

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

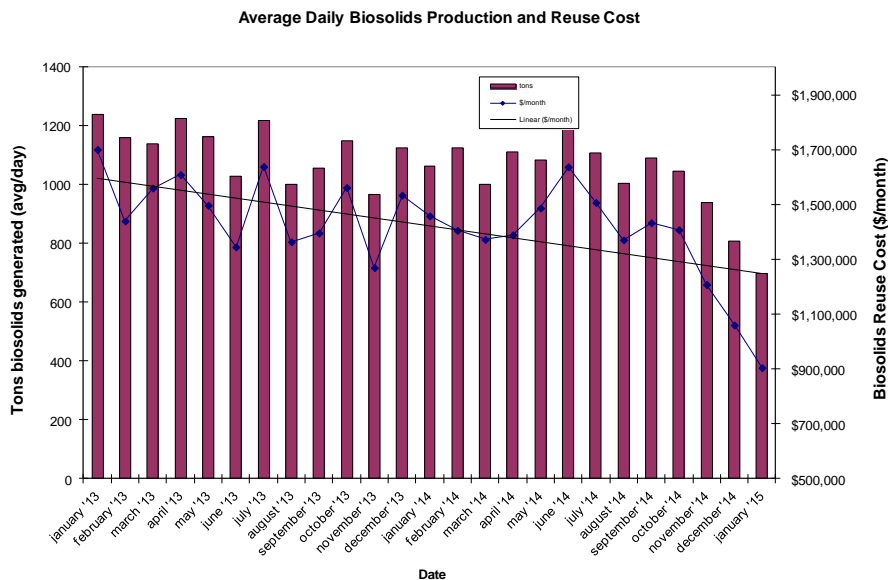
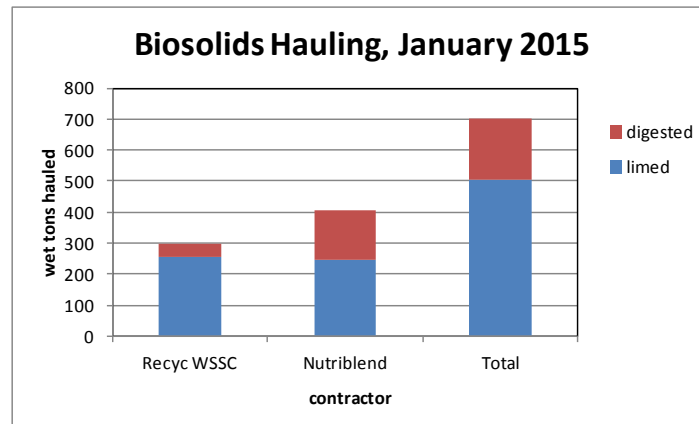


The mission of the DC Water biosolids management program is to provide reliable, diversified, flexible, sustainable, environmentally sound, publicly acceptable, and cost-effective reuse of the biosolids assets produced by the Blue Plains Resource Recovery Plant while helping preserve agriculture and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

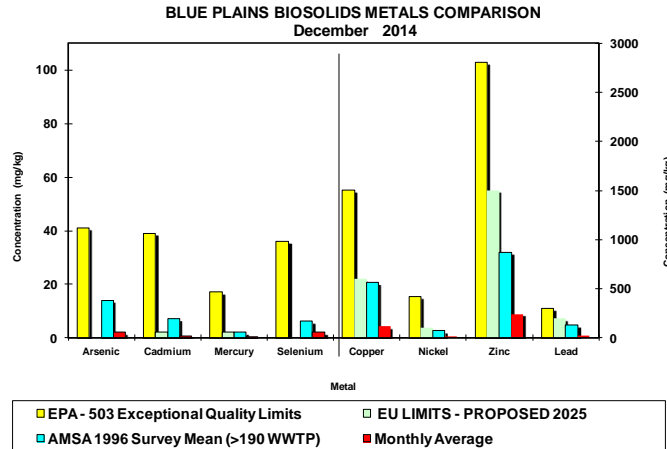
January 2015 Resource Recovery Report

In January, biosolids hauling averaged 700 wet tons per day (wtpd). Of this total, 504 wtpd were lime stabilized Class B, and 197 wtpd (28%) were digested. The graph below shows the total hauling by contractor for the month of January. The average percent solids for the unlimed cake was 27.5%, and for digested material was 29.5%. The average lime dose for the Class B biosolids was 23.4%. At the end of January the Cumberland County storage pad had approximately 21,000 tons, Cedarville lagoon had approximately 11,822 tons of Blue Plains biosolids (~30,000 tons capacity), and Fauquier lagoon had 800 tons. In addition, 210 tons went to the McGill compost facility.

Please note the drop in biosolids management costs (second graph below, right vertical axis) due to the reduction in solids production since digesters came on line, and also due to the drop in fuel costs. In January, diesel prices averaged \$3.19/gallon and with the contractual fuel surcharge the weighted average biosolids reuse cost in January for the two contracts (DC Water and WSSC) was \$41.71/wet ton. For comparison, in January 2014 the average diesel price was \$4.07/gal and the average contract cost was \$44.13/wet ton.



The graphs below show the EPA regulated heavy metals in the Blue Plains biosolids for the month of December 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.



January Highlights

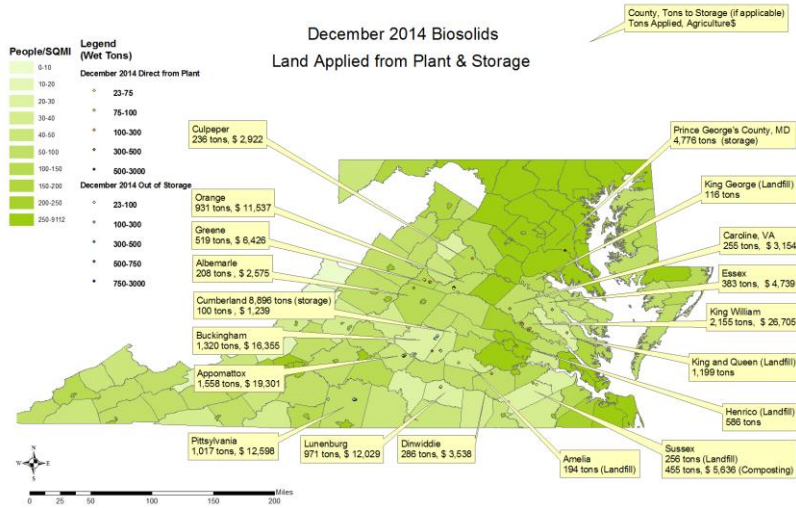
Maryland Environmental Services, the DC Water contractor that provides inspection services for the biosolids land application program, also maintains an incident database to track issues and analyze for trends. Please see below the summary of incidents for calendar year 2014. Of significant note are the total number of incidents (20) and those related to odors (3) for the year. Both of these represent a reduction from calendar year 2013 (33% and 50% respectively), and represent remarkably low totals, considering that the program moved 378,377 wet tons of biosolids, with approximately 17,000 truck loads.

TOTAL INCIDENTS NOTED BY MES STAFF
DURING THE PERIOD JANUARY 1, 2014 THROUGH DECEMBER 31, 2014

INCIDENT TYPE	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	TOTALS
Odors Noted by MES Inspector	0	0	0	0	0	0	0	0	0	0	0	0	0
Odor Complaint From Public	1	0	0	0	0	0	1	0	0	0	1	0	3
Odor Noted by Contractor	0	0	0	0	0	0	1	0	0	0	0	0	1
Overtumed Trailers	0	1	0	2	0	0	0	0	0	0	0	0	3
Truck/Equipment Malfunctions	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Accident	0	0	0	1	0	0	0	2	0	0	0	1	4
Contractor /Field Management Issues	0	0	0	1	0	0	0	0	0	1	0	0	2
Biosolids pH/Treatment/Quality	0	0	0	2	0	0	0	0	1	0	0	0	3
Biosolids Spills	0	0	0	0	1	0	0	1	1	0	0	0	3
General Complaint	1	0	0	0	0	0	0	0	0	0	0	0	1
Informational Requests/ Inquiries from the Public	0	0	0	0	0	0	0	0	0	0	0	0	0
Biosolids Dragout onto Public Roadways	0	0	0	0	0	0	0	0	0	0	0	0	0
ESTIMATED NUMBER OF ONE WAY TRUCK TRIPS *=	1,610	1,534	1,749	2,269	2,024	1,850	1,738	1,523	1,641	1,576	1,481	N/A	18,994
TOTAL INCIDENTS =	2	1	0	6	1	0	2	3	2	1	1	1	20

* Estimated Number of One-way Truck Trips = (Number of Trips Direct From the Plant) + (Tonnage Removed Out From Storage / 24 Tons per Truckload)
N/A = This data not available at this time

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



Environmental Benefits

The quantity land applied in December coming directly from the plant and from storage facilities equaled 8,040 tons. Taking into account the fuel required to transport biosolids to the field, the net benefit of the land applied material is 679 metric tons CO₂ equivalent avoided emissions. This is equivalent to taking 1,382,419 car miles off the road in the month of December (assumes 20 mpg, 19.4 lb CO₂ equivalent emissions/gallon gas – EPA estimate). The cumulative total avoided carbon emission since December, 2006 is 136,374 metric tons CO₂ equivalent.

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

