

April, 2014

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 meads 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

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.

dcwater.com/biosolids

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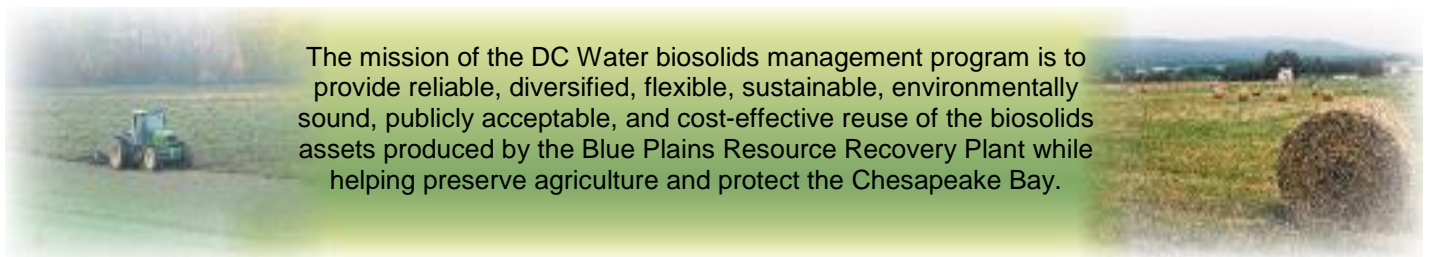
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DC Water

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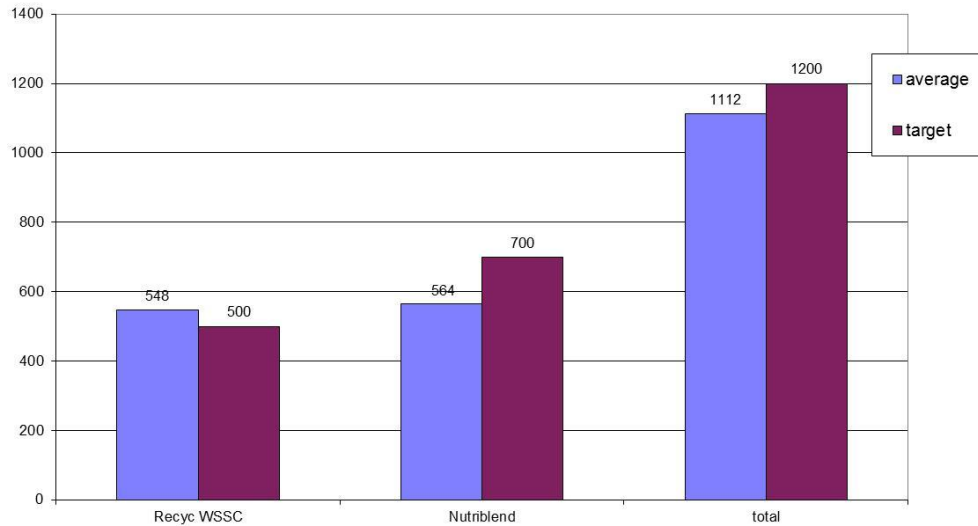
The mission of the DC Water biosolids management program is to provide reliable, diversified, flexible, sustainable, environmentally sound, publicly acceptable, and cost-effective reuse of the biosolids assets produced by the Blue Plains Resource Recovery Plant while helping preserve agriculture and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



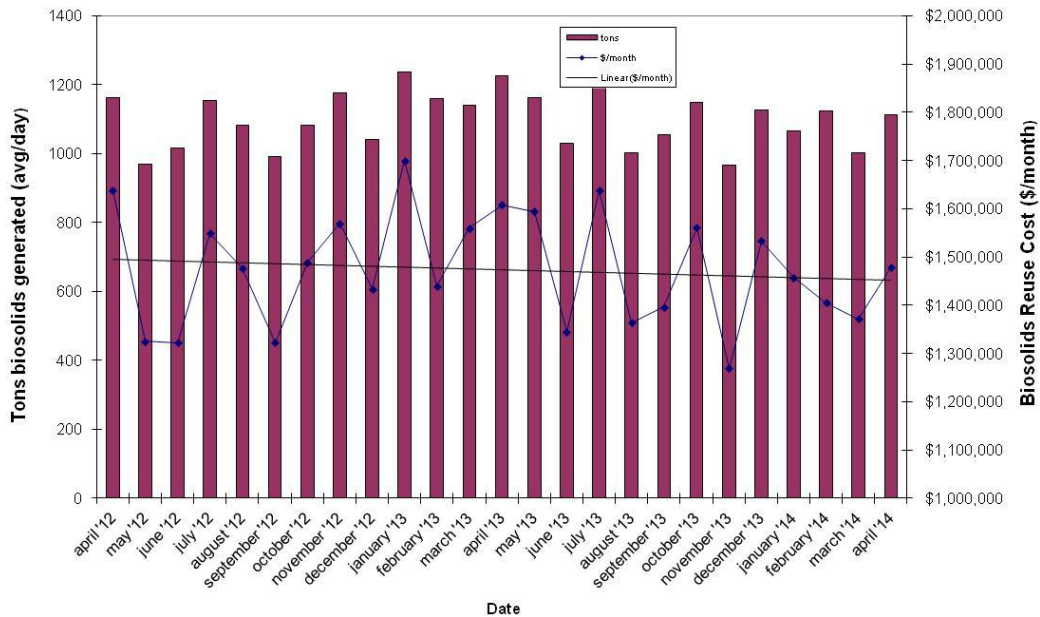
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In April, biosolids hauling averaged 1112 wet tons per day. The graph below shows the hauling by contractor for the month of April. Average % solids for the unlimed cake was 27.3%. Average lime dose for the month was 23.0%. 515 tons went to composting. At the end of April the Cumberland County storage pad had ~18,500 tons (~25,000 tons capacity), and the Cedarville lagoon had approximately ~5,400 tons (~30,000 tons capacity).

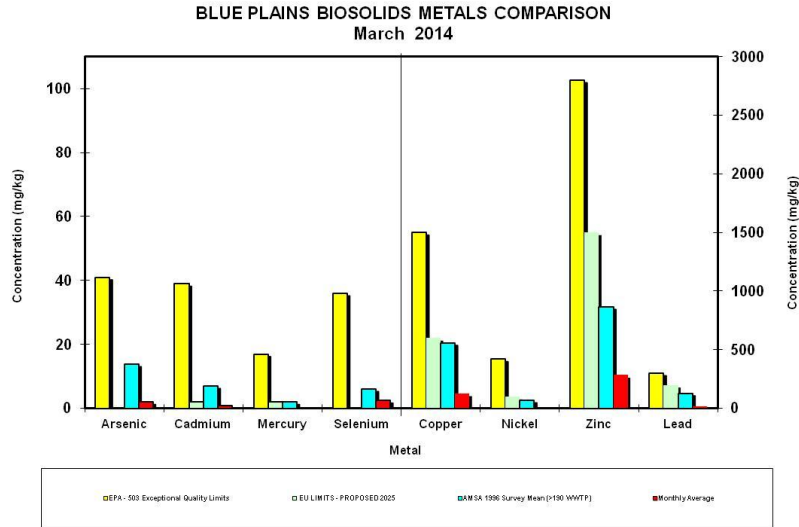
Average Daily Hauling by Contractor for April 2014



Average Daily Biosolids Production and Reuse Cost



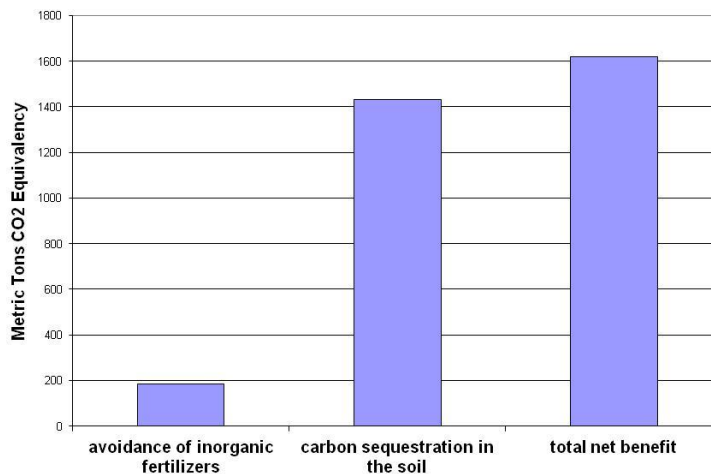
The graphs below show the EPA regulated heavy metals in the Blue Plains biosolids for the month of March 2013. As can be seen in the graphs, the Blue Plains levels are considerably below the regulated exceptional quality limits, the national average levels surveyed in 1996, and the European Union (EU) 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 March coming directly from the plant and from storage facilities equaled 22,292 tons. Taking into account the fuel required to transport biosolids to the field, the net benefit of the land applied material is 1619 metric tons CO₂ equivalent avoided emissions. This is equivalent to taking 3,298,092 car miles off the road in the month of March (assumes 20 mpg, 19.4 lb CO₂ equivalent emissions/gallon gas – EPA estimate). The cumulative total avoided carbon emission since January, 2006 is 127,177 metric tons CO₂ equivalent.

DCWater Biosolids Recycling Program Greenhouse Gas Balance Benefits March 2014 Totals



April Highlights

Staff made a presentation to a US Department of Energy working group (The Water-Energy Tech Team) titled “Autarkic* Water Utilities – uncoupling the Energy-Water nexus through efficiency and resource recovery”. The group will discuss both energy conservation and various strategies for energy recovery from wastewater based on experiences operating the Blue Plains treatment facility, which is among the first in the U.S. to install several novel technologies. Parties agreed to continue conversations regarding the possibility of funding and research of future projects.

Staff made a presentation at the VWEA annual educational seminar in Richmond on DC Water’s resource recovery efforts, at present and in the future. Highlights included the digester project and future potential discretionary projects that could help get the plant to grid energy neutrality.

Map of Blue Plains Biosolids Applications and Agricultural \$’s for March 2014

