

August, 2015

# Biosolids Resource Recovery Monthly Report

**NUTRIENTS and CARBON RECYCLING**

**BLUE PLAINS ADVANCED WASTEWATER TREATMENT PLANT: A RESOURCE RECOVERY FACILITY**

water • nutrients • carbon • energy

**GREEN ENERGY BIORENEWABLES**

**FARMING**

Provide carbon and nutrients valued at \$300,000 per acre.

**SILVICULTURE**

Increase yield and improve understorey.

**RECLAMATION**

Returning water to their natural state and providing wildlife habitat.

**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.

**ENERGY**

**CLEAN WATER**

**POTOMAC RIVER**

**CHEESAPEAKE BAY**

**AGRICULTURE**  
CORN, SOYBEAN, HAY, ETC.

**DRINKING WATER**  
SOURCE: POTOMAC RIVER AT GREAT FALLS AND LITTLE FALLS

**DC RETRO AREA**

**SILVICULTURE**

**AGRICULTURE**  
CORN, SOYBEAN, HAY, ETC.

**DC WATER**

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

**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.

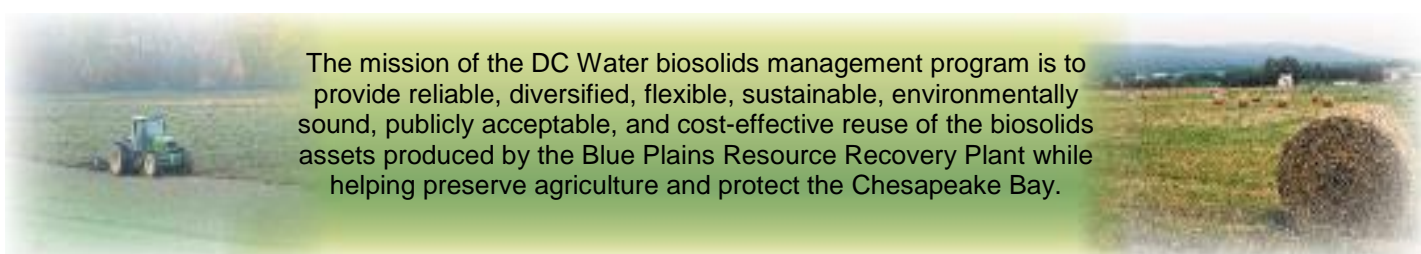
**GREEN BENEFITS:**

- 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

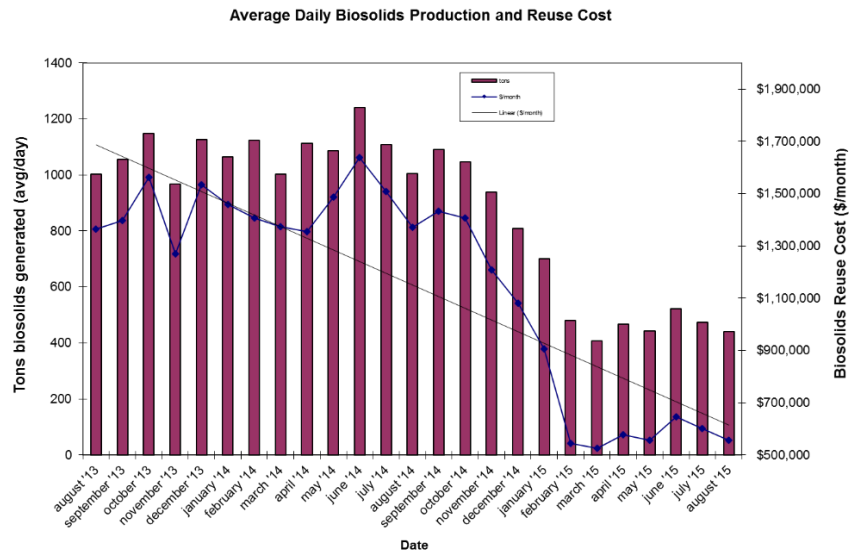
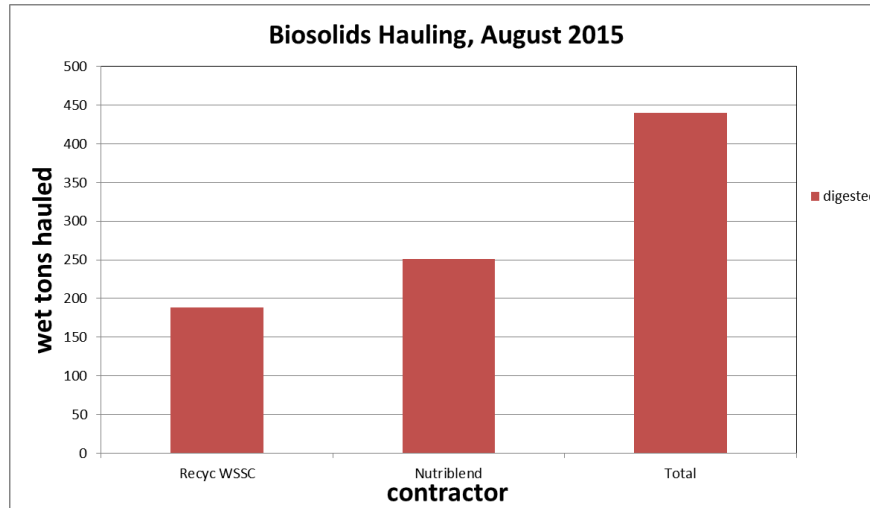
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The mission of the DC Water biosolids management program is to provide reliable, diversified, flexible, sustainable, environmentally sound, publicly acceptable, and cost-effective reuse of the biosolids assets produced by the Blue Plains Resource Recovery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



## August 2015 Resource Recovery Report

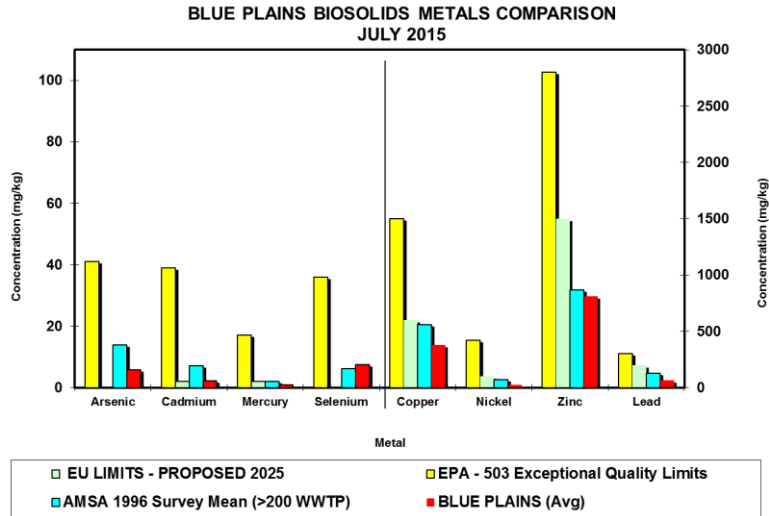
In August, biosolids hauling averaged 440 wet tons per day (wtpd). The graph below shows the total hauling by contractor for the month of August. The average percent solids for the digested material was 31.9%. At the end of August the Cumberland County storage pad had approximately 2000 tons (~25,000 tons capacity), Cedarville lagoon had approximately 2026 tons of Blue Plains biosolids (~30,000 tons capacity), and Fauquier lagoon had 2355 tons (~15,000 tons capacity).



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 August, diesel prices averaged \$2.81/gallon and with the contractual fuel surcharge the weighted average biosolids reuse cost in August for the two contracts (DC Water and WSSC) was \$40.66/wet ton. For comparison, in August 2014 the average diesel price was \$3.98/gal and the average contract cost was \$43.86/wet ton.

The graphs below show the EPA regulated heavy metals in the Blue Plains biosolids for

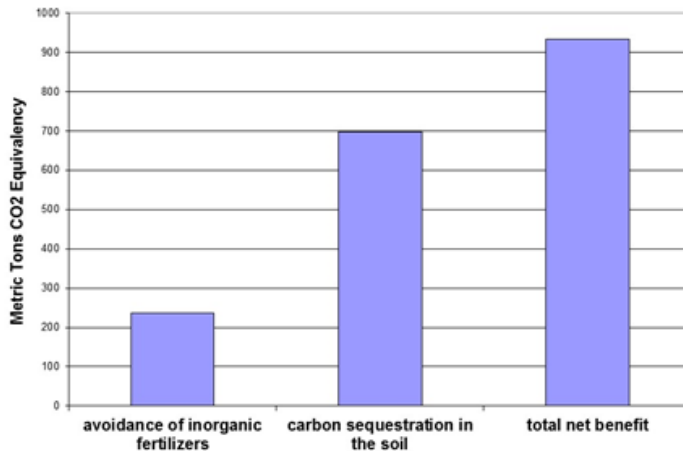
the month of July 2015. As can be seen in the graphs, the Blue Plains levels are considerably below the regulated exceptional quality limits, the national average levels surveyed in 1996, and the European Union (EU) limits. The EU limits are more conservative than the USEPA limits, and Blue Plains biosolids metals content is lower than the EU standards as well.



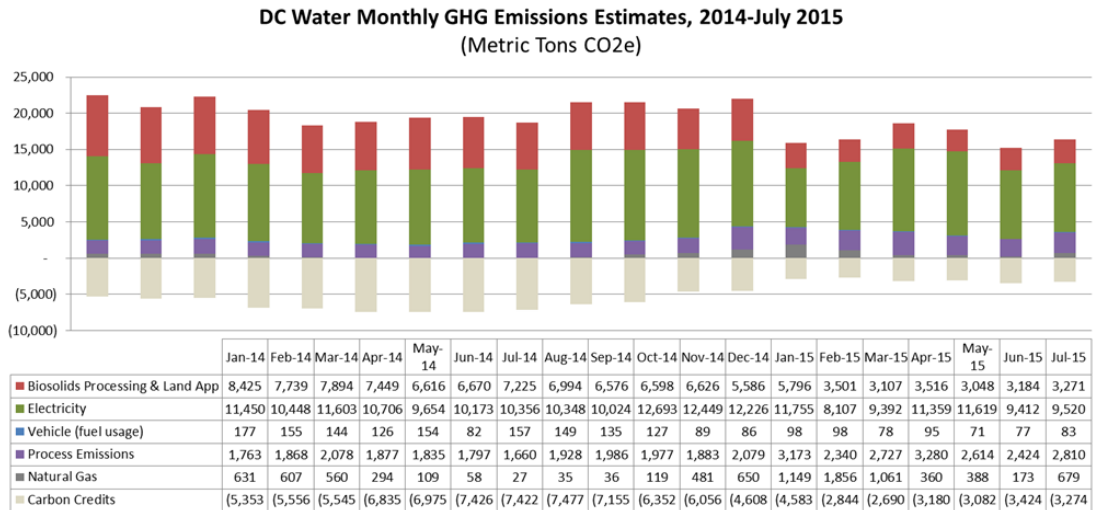
### Environmental Benefits

The quantity land applied in July coming directly from the plant and from storage facilities equaled 13,222 tons. Taking into account the fuel required to transport biosolids to the field, the net benefit of the land applied material is 933 metric tons CO<sub>2</sub> equivalent avoided emissions. This is equivalent to taking 2,856,41,900,590 car miles off the road in the month of July (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 142,000 metric tons CO<sub>2</sub> equivalent.

### DCWater Biosolids Recycling Program Greenhouse Gas Balance Benefits July 2015 Totals



The graph below shows the monthly calculated carbon footprint for DC Water. The bar graph is broken down by source of emission. The model also contains data for each department within DC Water.



## Map of Blue Plains Biosolids Applications and Agricultural \$'s for July 2015

