

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 mines 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



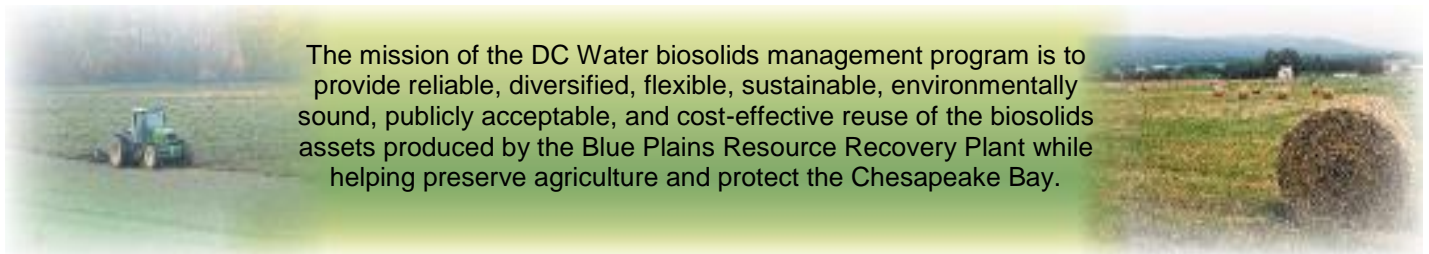
DC Water will be the first in North America to use thermal hydrolysis for wastewater treatment. When completed, this facility will be the largest plant of its kind in the world.

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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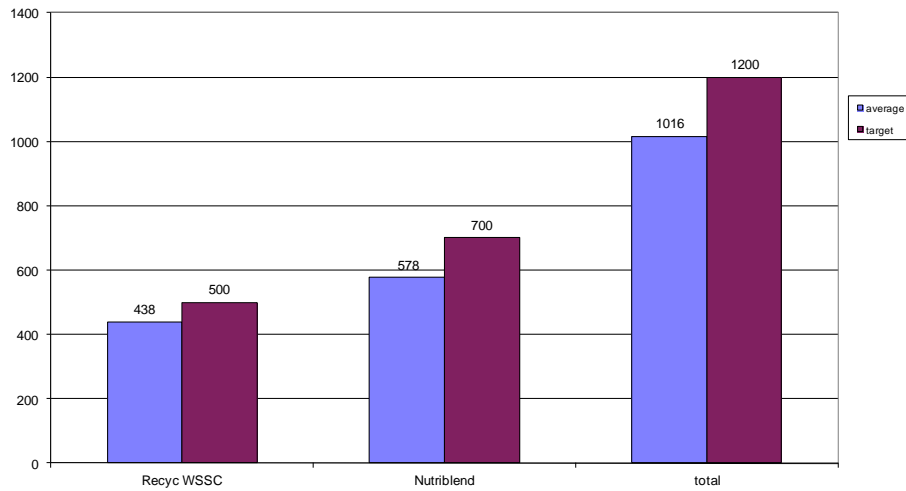


The mission of the DC Water biosolids management program is to provide reliable, diversified, flexible, sustainable, environmentally sound, publicly acceptable, and cost-effective reuse of the biosolids assets produced by the Blue Plains Resource Recovery Plant while helping preserve agriculture and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

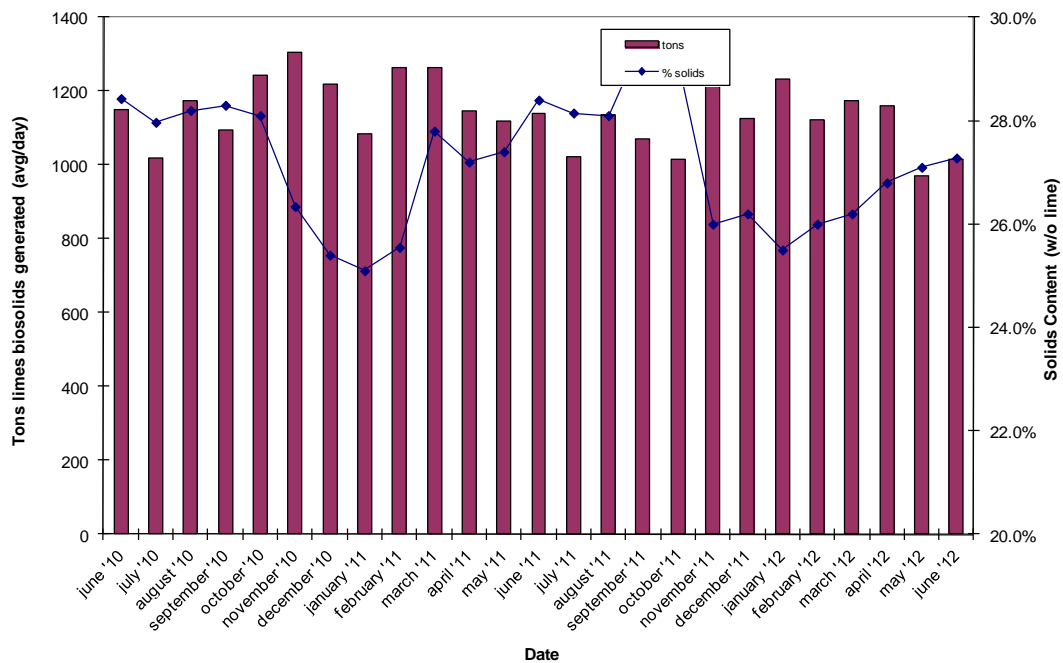
June 2012 Biosolids Division Report

In June, biosolids hauling averaged 1016 wet tons per day. The graph below shows the hauling by contractor for the month of June. Average % solids for the unlimed cake was 27.3%. Average lime dose for the month was 20.7%. At the end of June the Cumberland County storage pad had 3500 tons (~25,000 tons capacity).

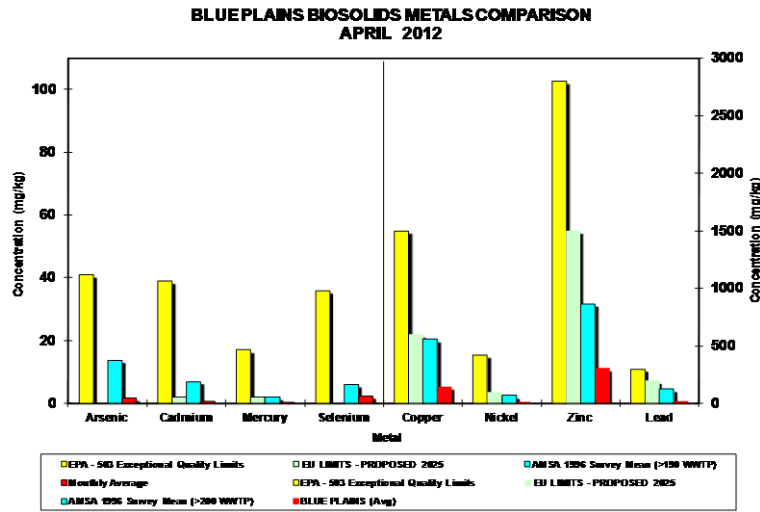
Average Daily Hauling by Contractor for June 2012



Average Daily Biosolids Production and Solids Content



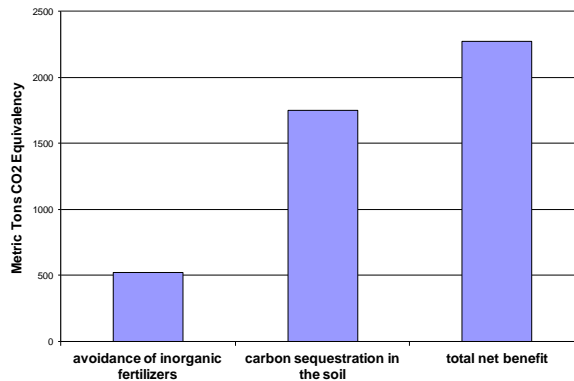
The graphs below show the EPA regulated heavy metals in the Blue Plains biosolids for the month of April 2012. As can be seen in the graphs, the Blue Plains levels are considerably below the regulated exceptional quality limits, the national average levels surveyed in 1996, and the European Union (EU) 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 39,102 tons. Taking into account the fuel required to transport biosolids to the field, the net benefit of the land applied material is 2,271 metric tons CO₂ equivalent avoided emissions. This is equivalent to taking 4,626,493 car miles off the road in the month of June (assumes 20 mpg, 19.4 lb CO₂ equivalent emissions/gallon gas – EPA estimate). The cumulative total avoided carbon emission since December, 2006 is 102,764 metric tons CO₂ equivalent.

**DCWASA Biosolids Recycling Program
Greenhouse Gas Balance Benefits
June 2012 Totals**



Program Highlights

Staff, at the request of EPA Region 3, made a presentation to EPA staff at a technical seminar on the benefits of the annamox deammonification process. This was made in an attempt to bring them up to speed on our progress toward testing this in a pilot lab scale setting, and our desire to implement the technology on a larger scale. The process can save considerable energy and methanol use, and dramatically reduces our overall carbon footprint while saving operations costs.

Staff met with a commercial soil blender to discuss uses of the digested Class A biosolids in their products. There is mutual interest in this concept, and the company has expressed interest in serving as a test site for a pilot project. Staff is managing a research project with Va Tech to help determine what products we can make from the Class A biosolids. This research project is funded through the Blue Plains User Group, through COG.

Staff has agreed to serve on a working group for NACWA to discuss nutrient trading and how this concept might benefit the profession and the environment. Staff participated in two working group conference calls to discuss comments on the draft EPA trading policy. This concept could benefit DC Water by allowing trading nutrient credits with other point and non-point sources.

Staff agreed to serve on a WEF Roadmap to Energy Sustainability at Wastewater Treatment Facilities work group. Staff is authoring a chapter for a WEF document on this subject, and has several others contributing. The document is to be ready for publication this fall. The document will serve as a broad overview of the subject and will likely spawn more detailed reports on specific aspects of this concept.

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

