



# Environmental Protection Matters

DNREC Office of Environmental Protection

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## The Big Clean at Little Mill Creek

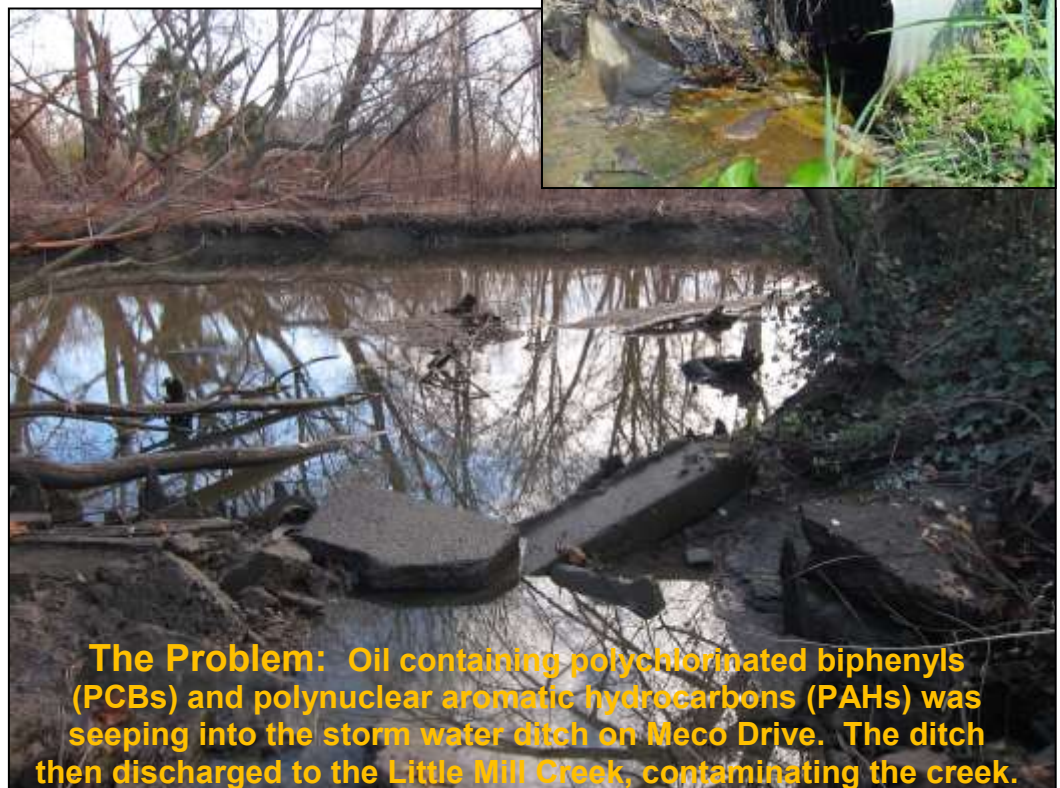
**W**hen it rains, it [really] pours!!! That may be an appropriate update to the old adage these days, with the increasing number of powerful storms and flood events occurring on the East Coast.

In Delaware, property owners along the Little Mill Creek in New Castle County can breathe a little easier now that the Phase II Flood Risk Mitigation project has been completed. Several DNREC Divisions are proud to say they played a pivotal role in keeping the project on

track including the Divisions of Waste and Hazardous Substances, Water and Watershed Stewardship.

Little Mill Creek has a long history of damaging floods. For over 60 years, extensive flood damage has been

*(Continued on page 2)*



**The Problem: Oil containing polychlorinated biphenyls (PCBs) and polynuclear aromatic hydrocarbons (PAHs) was seeping into the storm water ditch on Meco Drive. The ditch then discharged to the Little Mill Creek, contaminating the creek.**

## The Big Clean at Little Mill Creek *Continued...*

attributed to development along the flood plain on Meco, Gernay and Brookside Drives, all historically built on filled wetlands. During heavy rains, the run-off from paved areas flows into the Little Mill Creek, but the creek cannot accommodate all the runoff, so the creek overtops its banks and floods the uplands.

The Little Mill Creek Project was implemented in two phases. Phase I, completed in 2007, focused on deepening and widening the channel between Kirkwood Highway (Route 2) and the CSX Railroad Wilsmere Yard (between Maple and Brookside Avenues). This initial phase primarily protected private residences in this section of Elsmere and New Castle County.

Phase II protects the more than 40 businesses and commercial properties along the Little Mill

### The Solution Downstream: the finished section downstream by the Amtrak railroad bridge.



Creek between Maryland Avenue (Route 4) and the Amtrak Northeast Corridor. The U.S. Army Corps of Engineers, New Castle County, the New Castle Conservation District and the State of Delaware (DNREC) partnered in the implementation of the project to alleviate flooding.

The Army Corps of Engineers and their contractor, RC&D Inc. of Pawtucket, Rhode Island, managed the project. The creek was deepened by about three feet and widened to a minimum bottom width of 40 feet for a total length of about 2,170 feet, extending downstream along the Little Mill Creek to the Amtrak railroad bridge.



### The Process: DNREC's environmental contractor installs CETCO Reactive Core Mat in the upstream ditch section.

Following the excavation, riprap and erosion control matting were placed on the new creek bottom, and a vegetative cover was planted to stabilize the creek banks, slow floodwaters and improve the natural ecosystem.

What most people do not know is that the construction project was carefully coordinated with clean-up activities at the nearby contaminated Meco Drive Site to address a serious toxics water quality problem at the site.



## The Big Clean at Little Mill Creek *Continued...*

The Mecco Drive Site was listed on the state's Hazardous Substance Cleanup Act list of contaminated sites, due to the presence of free-phase petroleum in the fill material below the industrial park.

Some of the petroleum was making its way downstream via the adjacent ditch to the Christina River and the Russell W. Peterson Urban Wildlife Refuge. The Mecco Drive Site was identified as one of the sources of PCB contamination for a fish consumption advisory on the Christina River.



**The Solution Upstream: completed Flood Risk Mitigation project at Little Mill Creek in Wilmington.**

High resolution sampling determined that the Mecco Drive ditch was an ongoing source of polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs) that were impacting the Little Mill Creek. The remedial project was initiated by DNREC's Site Investigation and Restoration Section (SIRS) to address the ongoing release to the environment. Key to the entire project, the Mecco ditch remediation needed to be completed prior to the start of the Army Corps of Engineers' work to avoid re-contaminating the sediment in Little Mill Creek.

DNREC scientists used cutting-edge technology to characterize contaminants in the Little Mill Creek and the Mecco ditch including analysis for PCBs and PAHS using high resolution USEPA laboratory methods to improve accuracy through lower detection limits.

SIRS' contractor excavated and properly disposed of contaminated sediment from the ditch and replaced it with an activated carbon/bentonite barrier to prevent any residual migration of con-

taminants. This eliminated a large source of the PAHS and PCBs that were adversely impacting the health of the creek and the entire waterway. However, some residual PAH and PCB contamination remained in an area of the creek that was not included in the excavation. To help remediate this area with DNREC supervision, the Army Corps of Engineers' contractor applied 6,500 lbs. of activated carbon to sequester toxic contaminants along the banks.

The coordinated efforts between state and federal agencies ensures that the Flood Risk Mitigation project has a longstanding solution to flooding, as well as legacy contaminant issues. The project is an excellent example of how strong partnerships at all levels of government and innovative technology can help restore the water quality in our waterways. Investments in water infrastructure help support both the long term environmental health of Delaware's precious waterways and the economic benefits of clean, sustainable businesses in our communities.

*Photos and Article by Todd Keyser, WHS*

## Rolling Out Delaware's New Clean Transportation Incentive Program

**B**uying a new car? You might want to hear what Morgan Ellis has to say about possible incentives for alternative fueled vehicles.

Ellis is a Climate Policy Analyst in DNREC's Division of Energy and Climate (DEC). She is also the **Delaware Clean Cities Coordinator** and represents the State on the **Transportation Climate Initiative**, both of which help to regionally promote alternative fuels and reduce dependence on foreign petroleum sources.

After working on the Transportation Climate Initiative for almost four years, Ellis and her team at the DEC released a new program on July 16, 2015 to help promote clean transportation that is so extensive, it had to be broken down into five components (see page 5)!

The **Delaware Clean Transportation Incentive Program** offers a comprehensive package to help promote the purchase and use of alternative fueled vehicles. With this new program, Ellis and her team are taking great strides to help reduce Delaware's greenhouse gas emissions.

It's hard to imagine that 34% of the state's greenhouse gas emissions come from the transportation sector. Therefore, reducing these emissions by encouraging alternative fuel usage helps to make a big impact on Delaware's air quality.

But that's not all, Ellis represents Delaware as the lead policy analyst for the **Regional Greenhouse Gas Incentive (RGGI)** program. RGGI is a cap and trade program that helps to reduce greenhouse gas emissions in the Northeast.

In addition, Ellis has worked diligently on climate change policies and programs, such as the **Dela-**



**Morgan Ellis discusses Delaware's new rebate program with a car dealer at the launch event for the Delaware Clean Transportation Incentive Program.**

**ware Climate Impact Assessment**, which inform citizens about the effects of climate change on Delaware and mitigation steps that are already underway, as well as **Governor Markell's Executive Order 41: Preparing Delaware for Emerging Climate Impacts and Seizing Economic Opportunities from Reducing Emissions.**

With the new incentive program, Ellis and her team at DEC have developed a thorough and comprehensive program that will be sure to help clean up Delaware's roads and help make Delaware a leader in clean transportation initiatives.

*Article by Kathleen Harris, DEC*

## What Does the New Clean Transportation Incentive Program Do?

The Delaware Clean Transportation Incentive Program (CTIP) goal is to promote wider use and acceptance of electric vehicles and cleaner alternative fuel vehicles and boost investment in clean transportation fuel infrastructure. The CTIP is open to Delaware residents, businesses, governments, academic institutions, and non-profit organizations, with the following five components:

1. **[The Delaware Clean Vehicle Rebate Program](#)** — **Encourages residents, businesses, and fleets to purchase alternatively fueled vehicles.** *This program provides rebates to qualified new or leased (or retrofitted) electric and dedicated propane or natural gas vehicles. Electric vehicles will receive \$2,200, while propane or natural gas vehicles will receive \$1,100.*
2. **[The Delaware Heavy-Duty Vehicle Rebate Program](#)** — **Helps to make some of the trucks on our roads cleaner.** *This program is designed to assist heavy-duty truck operators with obtaining newer, cleaner natural gas powered trucks. Rebates are capped at \$20,000 for the purchase or lease of a Class 7 or 8 compressed natural gas vehicle, and fleets are limited to five heavy-duty trucks per fleet.*
3. **[The Electric Vehicle Charging Infrastructure Rebate Program](#)** — **Increases infrastructure for electric vehicles.** *This program is designed to assist in the purchase of an electric vehicle charger (aka, Electric Vehicle Supply Equipment or EVSE). Rebates up to \$500 are available for the purchase of Level 1 or 2 charging equipment for installation at home, at work, or in commercial places.*
4. **[The Delaware Alternative Fueling Infrastructure Grant Program](#)** — **This competitive grant program provides financial incentives for development of alternative fueling infrastructure for fleet operators and others interested in building this kind of infrastructure.** *Grants are limited to 50% of the total project costs, with no recipient receiving more than \$500,000.*
5. **[The Innovative Transportation Greenhouse Gas Reduction Competitive Grant Program](#)** — **This program is designed to promote innovative projects that have real, tangible reductions in emissions of greenhouse gases.** *The program will be released in combination with the alternative fueling infrastructure grant program and also has a 50% of total project costs requirement, with no one recipient receiving more than \$100,000. The minimum grant amount is \$5,000.*

These five components provide incentives for Delawareans to purchase new, leased or retrofitted alternatively-fueled vehicles; electric vehicle charging equipment for electric vehicles and install alternative fueling infrastructure. CTIP programs are currently funded at \$2.7 million, with funding provided through Delaware's participation in the Regional Greenhouse Gas Initiative (RGGI). The rebate and grant programs are aligned with Governor Jack Markell's commitment to innovation in the transportation sector, reducing greenhouse gases, and improving Delaware's air quality. For more information about any of the five incentive programs, please contact the Delaware Division of Energy and Climate at 302-735-3480. To apply for these programs, or for additional information, including a list of frequently asked questions, please visit:

[www.de.gov/cleantransportation](http://www.de.gov/cleantransportation)

If you should have any additional questions, please e-mail the division representatives at:

[DNREC.Transportation@state.de.us](mailto:DNREC.Transportation@state.de.us)



## Sweeping the Benefits of the Diesel Emissions Reduction Act

**N**otice a big, shiny-new, white and blue, street sweeper operating on I-95 in Wilmington lately? DNREC's Division of Air Quality (DAQ) made that happen when they applied for and received close to \$100,000 in grant funding last year from the USEPA under the Diesel Emission Reduction Act.

To get the best environmental "bang for the buck" in Delaware, DAQ partnered with Delaware's Department of Transportation (DeDOT), Division of Maintenance and Operations in a memorandum of understanding to purchase the new Schwarze street sweeper.

DAQ and DeDOT each contributed approximately \$100,000 for a total of \$207,715 for the brand-new street sweeper.

The Schwarze street sweeper replaces a 12-year old street sweeper that only averaged 345 miles per year. The much cleaner emitting vehicle will average 1,950 miles per year. The street sweeper recently arrived and was assigned to the DeDOT Area 14 Maintenance



**Front view of the new Schwarze street sweeper.**

Yard to help sweep I-95 in Wilmington.

The purpose of the project was to reduce diesel emissions in the Wilmington metropolitan area. The reduction is important because the USEPA re-designated New Castle County as in "attainment" for PM2.5. This status for New Castle County means that the county has become a PM2.5 maintenance area, and will be included in USEPA's PM Advance Program.



**Rear view of the new Schwarze street sweeper.**

This worthwhile project has significant health benefits in reducing air pollution for Delaware citizens. In total, the emission reductions are:

- 8.3 tons of oxides of nitrogen;
- 5.75 tons of particulate matter;
- 0.25 tons of hydrocarbon; and,
- 1.15 tons of carbon monoxide.

The reductions achieved certainly add up to cleaner air in Delaware! For more information on air quality in Delaware, please visit:

<http://www.dnrec.delaware.gov/Air/Pages/Improving-Air-Quality.aspx>

*Photos and Article by D. Cuccinello, DAQ*

## New Hours at Polly Drummond Hill Road Yard Waste Site

**C**ooler temperatures mean fall is here at last! Now what to do with all those beautiful falling leaves? Time to check the new drop-off schedule for DNREC's free community yard waste demonstration site and other possible recycling options:

- ◆ **DNREC's Polly Drummond Hill Road Yard Waste Drop-off Demonstration Site** in New Castle County is now open from 8am to sunset **only** on Friday, Saturday, and Sunday due to operating budget cuts.
- ◆ **The South Chapel Yard Waste Site on Route 72**, operated by Holland Mulch, is open from 7:30am to 4pm, Monday through Friday, and 7:30am to noon on Saturday. The site is free for Delaware residents bringing their own yard waste to the site. All others must pay a fee as set by Holland Mulch.
- ◆ **Alternative yard waste drop-off facilities across Delaware** can be found online at [www.dnrec.delaware.gov/yardwaste](http://www.dnrec.delaware.gov/yardwaste) (select "Yard waste drop-off options").



Other possible recycling options include managing the material on your property by mulching the leaves, arranging for a collection service with a private recycling business, or taking the leaves to a commercial composting or mulching site. More information can also be found online at the above yard waste link, or by calling DNREC's Division of Waste and Hazardous Substances, Solid and Hazardous Waste Management Section at 302-739-9403, ext. 1.

## Recycling by the Numbers

**T**he goal of Delaware's Universal Recycling Law is to maximize the convenience of recycling and minimize the amount of trash disposed of in Delaware. Recycling keeps raw materials in the manufacturing sector, creates jobs, and promotes sustainability. Waste haulers are required to provide single-stream recycling collection to both single and multi-family residential customers, and most bars and restaurants. In addition, all commercial businesses are required to participate in Delaware's comprehensive recycling program. This includes for-profit and not-for-profit retail or wholesale stores, offices, food service establishments, warehouses, and other manufacturing, industrial or processing activities, and institutions such as social, charitable, educational, healthcare, professional and government services. The recycling numbers in Delaware are definitely improving:

- ◆ *In 2013,\* Delawareans recycled 41.9% of their municipal solid waste, while the USEPA reports a national recycling rate of only 34.3%.*
- ◆ *Residential recyclers have a higher recycling rate (280,000 tons or 47.1%) than businesses (170,000 tons or 35.6%) in Delaware.*
- ◆ *Delaware has two Material Recovery Facilities, or MFRs, to process recyclables and one construction and demolition (C&D) debris recovery facility supporting over 200 local jobs.*
- ◆ *Over \$7 million of the Delaware Recycling Fund has been awarded to 67 successful grant applicants to fund specific activities designed to enhance the state's recycling rate and the diversion of recyclables.*
- ◆ *According to **Keep America Beautiful**, 20 recycled aluminum cans can be made with the energy needed to produce one can from virgin ore.*
- ◆ *Each ton of recycled paper can save 17 trees, 380 gallons of oil, 3 cubic yards of landfill space, and 7,000 gallons of water.*

Please visit: [www.recycling.delaware.gov](http://www.recycling.delaware.gov) for more information on recycling grants, toolkits to help your commercial business recycle, the Recycling Public Advisory Council, and other recycling information.

\*2013 is the most recent year recycling was calculated in Delaware, but 2014 numbers are scheduled to be published by Nov. 2015.

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web!**  
[www.dnrec.delaware.gov](http://www.dnrec.delaware.gov)



**Division of Air Quality** handles the majority of air issues in Delaware including: monitors and regulates all emissions to the air; issues "permits to construct" and "permits to operate" to air contaminant sources; maintains emission inventories from business and industry; develops the State Implementation Plan as required by the Clean Air Act; adopts new regulations and enforces existing regulations and permits; and inspects asbestos removal sites.

**Division of Energy and Climate's** mission is to serve the people of Delaware by reducing the adverse impacts of energy use on our environment, health, and economy. We educate, lead by example, and build partnerships to increase energy efficiency and renewable energy, promote sustainable growth, and prepare for a changing climate.

**Division of Waste and Hazardous Substances** plans for and responds to, environmental incidents; regulates the handling, transfer, storage and disposal of solid, infectious and hazardous waste; manages the recycling program in Delaware; regulates above and underground storage tanks and boilers; oversees the remediation of sites that have been contaminated by hazardous substances and chemicals; and implements Delaware's Brownfields Development Program.

**Division of Water** manages and protects water resources through various programs by providing technical assistance, laboratory services, regulatory guidance and implementation, and educational services; and performing applied research.

## EASY REFERENCE PHONE NUMBERS

### 24-Hour Report and Spill Notification Line - 1-800-662-8802

Aboveground Storage Tanks - 302-395-2500  
Air Quality - New Castle Office - 302-323-4542  
Air Quality - Kent & Sussex - 302-739-9402  
Asbestos New Castle - 302-323-4542  
Asbestos Kent & Sussex - 302-739-9402  
Biosolids Permits - 302-739-9946  
Boiler Safety - 302-395-2500  
Brownfields - 302-395-2600  
Delaware Estuary Program - 302-739-9283 (Delaware Coastal Management Program)  
Division of Air Quality Director's Office - 302-739-9402  
Division of Energy and Climate Office - 302-735-3480  
Division of Waste and Hazardous Substances Director's Office - 302-739-9400  
Division of Water Information - 302-739-9950  
Dock/Dredging/Bulkheads/Rip-Rap/Wetlands & Subaqueous Lands - 302-739-9943  
Emergency Prevention and Response - 302-739-9404  
Environmental Crimes Unit - 302-739-9401 or 1-800-662-8802  
Environmental Laboratory - 302-739-9942  
Hazardous Waste - 302-739-9403  
Industrial Stormwater Permits - 302-739-9946  
Loans & Grants for Wastewater and Septics (Financial Assistance Branch) - 302-739-9941  
Medical Waste - 302-739-9403  
Non-Hazardous Liquid Waste Transporters - 302-739-9948  
On-site Wastewater Licensing Program - 302-739-9948  
Open Burning - 302-739-9402  
Outreach Ombudsman - 302-395-2600  
Recycling - 302-739-9403  
Septic System Permits - Large Systems (Community & I/A) State-wide - 302-739-9948  
Septic System Permits - Small Systems for Kent & New Castle Counties - 302-739-9947  
Septic System Permits - Small Systems for Sussex County & Holding Tank Compliance Program - 302-856-4561  
Site Investigation & Restoration Section (Superfund/Brownfields) - 302-395-2600  
Solid Waste - 302-739-9403  
Source Water Protection - 302-739-9945  
Surface Water Discharge Permits (NPDES) - 302-739-9946  
Underground Injection Control & Spray Irrigation - 302-739-9948  
Underground Storage Tanks - 302-395-2500  
Wastewater Collection, Conveyance and/or Treatment Facility Construction Permits - 302-739-9946  
Wastewater Treatment Facility Operators - 302-739-9946  
Water Allocation Permits - 302-739-9945  
Water Testing - Drinking Water (Division of Public Health) - 302-741-8630  
Water Supply - 302-739-9945  
Well Driller's License - 302-739-9944  
Well Permits & Licensing - 302-739-9944  
Wells - 302-739-9945  
Wetlands and Subaqueous Lands Section - 302-739-9943