



**BUCKS COUNTY  
CONSERVATION  
DISTRICT**

**ANNUAL REPORT 2010**

**Front Cover Photo:**

**Early morning on the Delaware River, Upper Black Eddy, PA**

**Photo Credit: Meghan Rogalus**

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*"If future generations are to remember us with gratitude rather than contempt, we must leave them something more than the miracles of technology. We must leave them a glimpse of the world as it was in the beginning, not just after we got through with it"*

***President Lyndon Johnson on the signing of the  
Wilderness Act in 1964***

## Manager's Message

Welcome to the Bucks County Conservation District's Annual Report for the year 2010. As we begin our 50<sup>th</sup> year, we take time to reflect on the projects and programs completed over the last twelve months, and the challenges ahead of us in the next. To begin on the right foot, this year the BCCD has made plans to meet those challenges with the creation of a new strategic initiative which will guide us over the next 10 years.

In the following pages you will read about improvements throughout Bucks County made possible by the hard work and dedication of the Conservation District staff. We've improved dirt and gravel roads in the County, cleaned up lakes and streams, tended farmland and parkland, and developed unique educational programs that improve the way our children learn about environmental stewardship. All of this builds upon our fundamental mission to protect the clean water of Bucks County by enforcing the Pennsylvania Clean Streams Law on behalf of the PA Department of Environmental Protection.

Science, methodology, and regulations continue to evolve as we build upon our base of knowledge regarding natural systems and the needs of Pennsylvania residents. At BCCD we strive to achieve a level of excellence in our stewardship of the environment and our service to residents. We are constantly learning and finding new ways to provide a better quality of life for those who choose to live in Bucks County.

Perhaps we are luckier than some in this Commonwealth where the decisions regarding the best use of our resources are concerned. We hear about issues that others must face, but we escape having the consequences impact our daily lives. The new practices in harvesting natural gas will be seen as either a blessing or a curse for thousands of Pennsylvanians in the years to come. I can only hope that we take the lessons learned from our long history in mining, and use them to help us achieve some measure of balance between economy and environment, or else we will find ourselves living in a landscape very different from the one we currently enjoy.

Please take a few moments now to learn about the variety of accomplishments the District has achieved in the last year. As always, we hope to serve Bucks County residents well, and wish you the best of all things for 2011.

Gretchen Schatschneider, District Manager

The goal of Bucks County Conservation District (BCCD) is to protect the county's soil, water and natural resources. We work with builders, developers, municipal officials and the public to prevent soil erosion, water pollution and other impairments, to remediate areas affected by improper stewardship within the county and to provide education on soil and water issues in the hopes of preventing future erosion and pollution problems.

# Board of Directors and Staff

## Board Members

Jeffrey Garton, Chairman  
Thomas Trycieki, Vice Chairman  
John Frederick, Secretary-Farmer Director  
Jeffrey Vey, Treasurer  
Charles Martin, Commissioner Director  
David Wolfinger, Farmer Director  
Joseph Matejick, Farmer Director

## Associate Board Members

Lynn Bush  
Ben Ciliberto  
Malcolm Crooks  
Dr. Joseph Brosnan  
Cathy Skwara

At Right: Gretchen Schatschneider, District Manager and Jeff Garton, Board Chairman accept the Heritage Partnership Award from Sue Myerov, Heritage Conservancy



## Staff

Gretchen Schatschneider, District Manager, BS Agronomy  
Eric Wightman, Environmental Protection Specialist II, BS, CPESC  
Lisa Dzuiban, Environmental Protection Specialist II, BS Environmental Planning and Design, CPESC  
Rich Krasselt, Environmental Protection Specialist I, BS Environmental Studies  
Jake Borden, Coastal Zone Management Technician, BS Forestry  
Meghan Rogalus, Watershed Specialist, BA Biology, MS Water Resources  
Rachel Onuska, Agricultural Technician, BS Agricultural Education  
Mary Ellen Noonan, Environmental Educator, BS Agronomy, MEd Secondary Science Education  
Mike Hunter, Registered Professional Engineer, BS US Military Academy, MS Civil Engineering  
Sandy Tucker, Chapter 102 NPDES/Administrative Permits Coordinator  
Rene Moyer, Chapter 102 NPDES/Administrative Permits Coordinator  
Camille Peters, Receptionist, Business Certification, Lansdale Business School  
Alberta Jett, Clerk



Mike Hunter reviews a plan with Eric Wightman and his student intern.

Rachel Onuska and Meghan Rogalus work to secure a vernal pond liner at the wetland restoration workshop at Kings Gap State Park.



Rene Moyer, Camille Peters, Jake Borden and Mary Ellen Noonan at the 2010 Envirothon.

2010

## Financial Report

### Revenue:

Fees for Services	\$ 448,597
Grants	247,778
Contributions	7,733
Interest	4,293
Miscellaneous	<u>14,246</u>
Total Revenue	<u>\$ 722,647</u>

### Expenses:

Building Maintenance	\$ 11,482
Capital Purchases	18,055
Computer	4,505
Dues and Subscriptions	911
Education Projects	5,296
Fee Refunds	1,385
Grants and Programs	135,952
Insurance	16,159
Interest	2,680
Meetings and Seminars	5,296
Office Supplies	11,841
Payroll and Benefits	445,735
Payroll Taxes	30,389
Postage	4,064
Professional Fees	11,397
Publicity and Promotion	200
Travel	1,574
Utilities	18,771
Vehicles	<u>17,826</u>
Total Expenses	<u>\$ 743,518</u>

**Excess of Revenues over Expenses**

\$ (20,871)

## Erosion and Sediment Control

Construction began on the nine mile-long Route 202 Parkway project in November 2008. One of the first portions of the project to be constructed was the creation of 9.3 acres of wetlands near the intersection of County Line Road and Kansas Road in Warrington Township. See picture below.

Section 721, which is a 3.5 mile long portion that runs from Bristol Road east to the terminus at route 611, was begun in 2009. Permits for the project were obtained from U.S. Army Corps, PaDEP and the Bucks County Conservation District. Section 721 includes five bridges, one of which will span the Neshaminy Creek. An arch bridge which spans a tributary to the Neshaminy, is being constructed adjacent to Quail Drive in Doylestown Township. Shown top picture next page.

As of December 2010, 271,000 cubic yards of dirt had been excavated. Eleven culverts at waterways and wetlands will be built within the entire project. Storm water retention basins, bioretention basins and other best management practices (BMP's) are included to help mitigate storm water runoff during and after the construction process. Some of the other BMP's include sediment traps and basins, silt sox and silt fence, clean water diversion channels, erosion control matting, rock construction entrances and temporary and permanent stabilization measures.



The project is expected to be completed in 2013.  
For more information and a comprehensive overview of the project visit  
the 202 Parkway website, [www.us202-700.com](http://www.us202-700.com)



Cut and fill operations on a section of the bypass looking east in November 2010.

Quail Drive arch culvert can be seen in the left center of the photograph.



Berms being matted with erosion control matting.

Staked silt sox can be seen in the foreground.

Photo taken near New Britain Road



Construction of the US Route 202 bypass is being closely monitored to insure that our soil and water resources are protected.

## Best Management Practices

“Best management practices are designed to minimize or mitigate for the unavoidable impacts that development has on watershed resources.”

Pennsylvania Stormwater Best Management Practices Manual December 2006



Above: Silt Fence shown properly heeled in on a construction site.

Below: Jake points out one of many best management practices being used along the Route 202 bypass project in Doylestown Township during the Watershed Workshop for Teachers.





Top: Sediment is filtered out of water as it moves from right to left through the silt sock.

Center: Erosion controls in place at the Mercer Museum.

Bottom: Silt fence installed along the limit of disturbed area at the wetland creation site in Warrington Township.



## District Awards Program



**Conservation High School Student  
James Douglas, Palisades HS**



**Conservation Individual  
Alan Carey**

No picture available

**Conservation Individual Educator  
Cheri Tenaglia, William Tennent HS**



**Conservation Organization**

No Child Left Inside—Bucks County Coalition

## Scholarship Awards

**College Scholarship, Amanda Boscutti**

**Harold Haldeman Conservation Leadership School, Erik Berkheiser**

## Dirt and Gravel Road Program

In 2010 a Dirt and Gravel Road application was submitted by Tincum Township for Twin Lear Road. The grant amount approved was \$13,991 which was used for 1,995 feet of driving surface aggregate (DSA) that was placed on Twin Lear Road. Nine hundred and thirty eight tons of DSA were applied. This project was completed in May 2010.

In December 2010 four grant applications were received and approved by the quality assurance board. Contracts were generated with anticipated completion in spring 2011. Three of these grants involve roads in Springfield Township; Springhouse Lane, Martins Lane and Walnut Lane. The fourth project is for Woodland Drive in Bridgeton Township.

Since 2000, fifteen dirt and gravel grant applications have been completed. Total expenditures have been \$194,800.00. An additional \$80,593.00 has been spent as in-kind contributions.

A new Dirt and Gravel Roads GIS program was developed this year by the Center for Dirt and Gravel Roads at Penn State. Conservation Districts are currently using the customized GIS interface to keep track of road projects. Figures such as cost, contracts and rankings for each project are all entered with user-friendly dialog boxes. This data is then stored by DGRoads in a master database where each data entry is linked to the location of the worksite. By simply sending worksite files to the Center for Dirt and Gravel Road Studies, a summary report can be generated with no transfer of actual paperwork. For more information consult [www.dirtandgravelroads.org](http://www.dirtandgravelroads.org).

### The Fred Groshens Conservation Farmer of the Year

Joseph Matejick shown receiving the award from County Commissioners with Gretchen Schatschneider, current District Manager and Fred Groshens, former District Manager. The Farmer of the Year award will now be named after Mr. Groshens to honor him for his many years of service to conservation in Bucks County.



For more information about our Awards and Scholarship programs

[www.bucksccd.org](http://www.bucksccd.org)

## Agricultural Conservation

The Natural Resources Conservation Service (NRCS) provides leadership in a partnership effort with the Bucks County Conservation District to help conserve, maintain and improve our natural resources and environment. The District's Agriculture Conservation Technician, Rachel Onuska, works with NRCS staff to develop conservation plans and implement agricultural Best Management Practices on all types of farming operations.

Rachel also administers the Act 38 Nutrient Management Program for the county, and addresses farm complaints on nutrient management and soil erosion concerns. Currently there are 9 Concentrated Animal Operations (CAOs), all horse farms, with nutrient management plans. A CAO is a farm whose animal density is equal or greater than 2,000lbs live weight animal per acre. Bucks County also has another 8 farms that have voluntarily decided to develop nutrient management plans. Rachel also oversees state and regional cost-share programs relating to conservation and nutrient management.

In 2010, Rachel assisted with the following conservation programs:

- **Growing Greener:** in collaboration with the Watershed Specialist, the District was awarded two grants encompassing 4 farms for 12 different conservation practices, totaling \$113,855. A cropland diversion and gutters above an animal sacrifice area were installed in 2010. The remainder of the project is expected to be completed in 2011.
- **Resource Enhancement and Protection Program:** 6 applications were submitted for a 50% PA-income tax credits for the total cost of conservation work on farms. Projects included no till drills, compost pad improvements, barnyards, improved sacrifice lots, waterways, diversions and a manure storage. Total tax credit awarded for 2010/2011 was \$121,237.
- **DEP Environmental Education Grant:** A \$3,750 grant was awarded to conduct a hands-on equine environmental stewardship training where participants will obtain the tools to identify, evaluate and synthesize feasible solutions for existing water and soil quality issues on their farm while still maintaining or improving horse health and productivity.
- **Cover Crop Demo** – A cover crop demo was put on by the District, with assistance from crop producer Joe Matejik, No-Till Alliance's Joel Meyers and NRCS's Soil Scientist John Chirbirka.



For more information on Agricultural programs,  
Contact Rachel Onuska, Agricultural Conservation Technician

Or go to the agricultural page of our website

[www.buckscdd.org](http://www.buckscdd.org)



John Chirbirka digging test pits in the continuous no-tilled crop field.



*Above left:* the white nodules of the planted Austrian Winter Pea are rhizobium nodules that will fix nitrogen in the soil.

*Above right:* continuous no-till can increase the depth of a soil's crumbly structure, shown here.

In 2010 Rachel also completed several trainings:

**Penn State's Manure Expo-** attended sessions on bio-digesters, biochar, in-field stacking of manure, manure incorporation with no-till. Attended manure spreader demonstrations.

**King's Gap Wetland Training-** Built 4 wetlands over the course of the training, learned about creating groundwater, liner and clay wetlands

**NRCS Conservation Planner Training** – completed 1 week training for conservation planning certification.

**Stream Restoration Stroud Center-** attended 1 day workshop on in-stream effects of forest buffers. Learned about updates on current Stroud research.

**Penn State Lehigh's Organic Production Training** - attended 1day workshop on organic high tunnel production, reduced tillage with organic production, and soil health testing.

# Watershed Improvement Programs

## Cooks Creek Restoration Project

BCCD sponsored this \$75,000 Growing Greener grant Cooks Creek Stream Restoration Project on behalf of the Bucks County Chapter of Trout Unlimited in 2007. This year BCTU completed two riparian buffer planting projects along Cooks Creek, developed an interpretive sign on the benefits of riparian buffers and printed an educational brochure for streamside property owners with funding provided by this grant. In addition, grant funds were utilized to purchase stream monitoring equipment that will be used for water quality assessment and available for loan from the district office to other watershed and conservation organization volunteers around the county.

## Magnolia Lake Shoreline Restoration Project

BCCD in collaboration with Bucks County Department of Parks and Recreation was awarded a \$44,341 Pennsylvania DEP Growing Greener grant to complete a restoration project on the southern shore of Magnolia Lake, Bristol Township. Construction is slated for Fall 2011.

## Unami Creek Watershed Dam Removal Project

BCCD was awarded \$50,000 from Pennsylvania Fish & Boat Commission to remove Archey Mill Dam and restore 250 feet of severely eroding streambank immediately downstream of the dam on the East Branch Swamp Creek. The dam, currently breached but still impeding fish passage, is out of compliance with DEP Dam Safety, contributing to bank erosion and posing a threat to public safety. Gleim Environmental Group will act as the project consultant for design-build services. Site survey support has been provided by Pennsylvania Association of Conservation Districts Technical Assistance Program. The grant will expire on December 31, 2011.

## Upper Tohickon Monitoring Project

BCCD was awarded \$16,521 in pass-through funding from Pennsylvania Department of Environmental Protection under the American Recovery and Reinvestment Act. Throughout 2010, project consultant, Aqua Link, Inc., the District and community volunteers conducted habitat assessments and collected water chemistry and biological field data at five stream stations in the Upper Tohickon Creek Watershed. The goal of this grant is to assist PA DEP in determining if the upper portions of the Tohickon Creek watershed, currently listed as impaired, are improving.

## Primrose Creek Watershed Association

BCCD is currently serving as the Primrose Creek Watershed Association's fiscal sponsor for a \$6,457 Growing Greener watershed association formation grant. For information on how you can get involved with this all-volunteer organization, visit <http://www.primrosecreek.org/> or email [primrosecreek@gmail.com](mailto:primrosecreek@gmail.com)

**For more information on any Watershed Improvement programs**

**Contact Meghan Rogalus, Watershed Specialist**

**Or go to the watershed page on our website [www.buckscd.org](http://www.buckscd.org)**

## Upper Tohickon Watershed Association

BCCD is currently serving as the Upper Tohickon Watershed Association's fiscal sponsor for a \$6,280 Growing Greener watershed association formation grant. For information on how you can get involved with this all-volunteer organization, call Francine at 215-536-7184 or email Tom at [tsmicker@verizon.net](mailto:tsmicker@verizon.net).

## TreeVitalize Watersheds

BCCD sponsored the installation of approximately 9 acres of riparian buffer and stormwater mitigation projects through TreeVitalize Watersheds grants in 2010. In total, 2,295 trees and shrubs were planted in Bucks County this year thanks to the time and effort of 204 volunteers. The \$40,684.96 in funding provided by this program was leveraged with \$39,980.34 in-kind donations from local municipalities and non-profit organizations who participated in this program. Tree Vitalize Watersheds is administered by the Pennsylvania Horticultural Society and distributes program funding provided by PA DEP and Aqua Pennsylvania throughout the 5 southeastern PA counties. Special thanks to the participating organizations including Greenbelt Overhaul Alliance of Levittown, Doylestown Township, Doylestown Township Environmental Advisory Council, Central Bucks Key Club, Aquetong Watershed Association, Solebury School, New Hope Solebury High School, Pearl Buck International (see picture on back cover), Natural Lands Trust, Bucks County SPCA and Bucks County Trout Unlimited.

## Lake Towhee Aquatic Invasive Plant Control

On June 28 and 29<sup>th</sup>, community volunteers and local kayak club members, Pennsylvania Department of Environmental Protection and BCCD staff (shown in the picture below) collaborated on an aquatic invasive plant removal project at Lake Towhee County Park. Over two work days, approximately 90% of the water chestnut (*Trapa natans*) infestation was removed by hand from the lower 20 acres of the 50-acre impoundment. Approximately 2 tons of wet plant material was removed and hauled offsite to a wooded and secluded section of the park to compost. Special thanks to PA DEP staff who traveled from Harrisburg for this event and to Bucks County Department of Parks and Recreation Director, Bill Mitchell, for his assistance in coordinating this effort! For more information on water chestnut, visit:

<http://www.pserie.psu.edu/seagrant/ais/watershed/chestnut.htm>



### BCCD Staff included

Jake Borden, Coastal Zone Technician,  
(standing in the blue shirt on the left),  
Gretchen Schatschneider, District Manager,  
(second from right middle row),  
Rachel Onuska, Agricultural Technician  
(front row wearing the sharp cowboy hat)  
and  
Meghan Rogalus, Watershed Specialist  
(not shown).

# Environmental Education Programs

BCCD Education Program highlights:

Yardley Library Summer Reading Program\* Science Fair and Fuzzy Challenge, Grey Nun Academy \* Chalfont Summer Camp \* Grange Fair Rain Garden display\* PAEE Conference presentation \* Upper Bucks Healthy Living Faire\* AdventureLand Day Camp macroinvertebrate study \* Delaware Valley Science Fair Judge \* Watershed Workshop for Teachers \* Enviroscape presentation to Quakertown Community School 9th grade environmental science students, New Hope Solebury and Kutz Elementary 5th graders \* Stormwater segment on Comcast Newsmakers \* and more ....



BCCD partnered with Hunterdon County, NJ Soil and Water Conservation District and the Delaware River Experience and received a grant from the Lower Delaware Wild & Scenic Management Committee to offer **Experience the Delaware River Education Program**, a hands-on watershed program to area schools. Grant funds allowed partners to offer programs free of charge to schools within the watershed. This unique program included a classroom portion as well as water quality assessment studies of the river during an outdoor lesson aboard the River Otter.



Students shown investigating macroinvertebrates aboard the River Otter.

Students from 10 area school districts in both PA and NJ participated in this program. The unique curriculum developed for this program meets many environment and ecology standards and also teaches students cultural and historical facts about the Delaware River. This program was extremely well received by students, teachers and parent chaperones alike. Additional funds are being sought for the 2011-2012 school year.

Mary Ellen uses the Enviroscape model to explain how actions on the land affect our water at the **No Child Left Inside World Wide Day of Play** event held on September 25 at Central Park in Doylestown.



For more information on any Educational programs  
Contact Mary Ellen Noonan, Environmental Educator  
Or go to the education page of our website [www.bucksccd.org](http://www.bucksccd.org)

BCCD partnered with Doylestown Township and Delaware Valley College (DVC) on a League of Women Voters Water Resource Education Network grant project.

Environmental Design students from DVC learned about stormwater by re-designing an existing area to incorporate a rain garden as a best management practice. The winning design was installed on campus and is shown above. Congratulations to Gio Thomas, the winning designer.



Students from Central Bucks East display their first place banner

Representatives from the PA Game Commission, PA Department of Environmental Protection, PA Fish and Boat Commission and the Department of Conservation and Natural Resources - Bureau of Forestry joined the BCCD staff and education committee to host the **2010 Bucks County Envirothon**.

Special thanks to Tracy Carluccio, Delaware Riverkeeper Network who gave a presentation on the implication of natural gas drilling in the upper reaches of the watershed.

Teachers tour the streambank restoration project along the Watson Creek during this year's Watershed Workshop for Teachers. Bucks County Trout Unlimited and Buckingham Township are to be commended for their work on this restoration project.



Back Cover:

As a result of last year's DVC student streamside consultations and the TreeVitalize program, native trees now stand providing wildlife habitat and cooling the water along the stream at Pearl Buck House. These trees will help reduce non-point source pollution, steam bank erosion, increased sediment and flooding thereby improving our water quality for years to come.

**Bucks County**

**Conservation District**

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**Doylestown, PA 18901**

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[www.buckscd.org](http://www.buckscd.org)