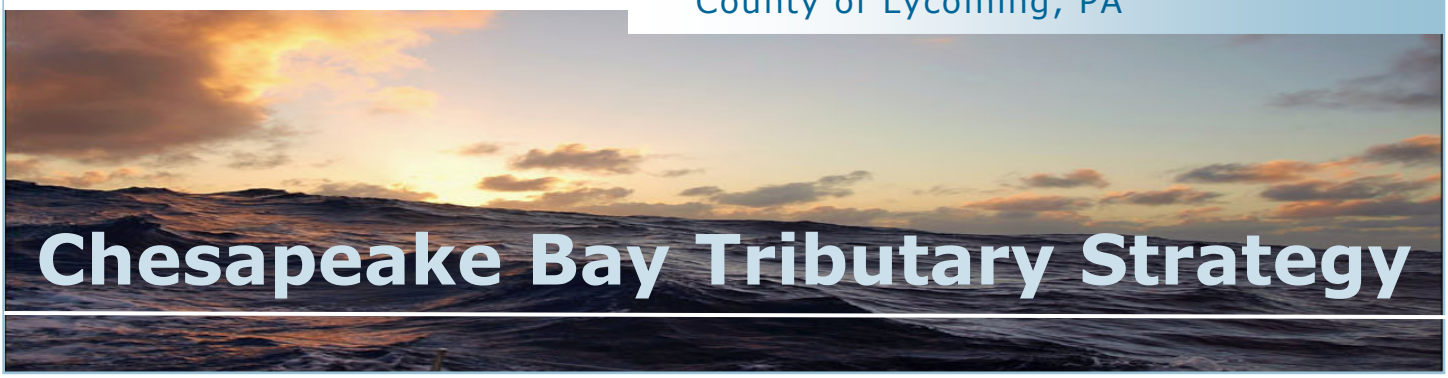
2012 Year in Review Newsletter

County of Lycoming, PA



Chesapeake Bay Tributary Strategy

LYCOMING COUNTY CHESAPEAKE BAY TRIBUTARY STRATEGY

Inside this issue:

DEP Secretary Krancer, Lycoming County Present Check for $41,052.63 in Credit Trading Revenue to Nine Farmers

The County of Lycoming and special guest Pennsylvania Department of Environmental Protection Secretary Michael Krancer presented a ceremonial check to the Lycoming County Conservation District, accepting on behalf of participating farmers, to recognize the sale of 2011 nutrient credits totaling $41,052.63. The credits were generated by nine Lycoming County farmers by implementing conservation practices to reduce pollution from their farm operations into local waters and the Chesapeake Bay. "Trading is one of the keystones to our Chesapeake Bay strategy. Lycoming County adopted this idea early and has been at the forefront," said Secretary Krancer. "I am a supporter of market-based solutions. Trading is cheaper in many cases. And Pennsylvania is a national leader in trading. I served as legal counsel for a company that was involved in buying and selling air quality credits. I can tell you from firsthand observation that it works—no doubt about it. Air trading is easier; it's a little harder for nutrients, so we've got to be thinking outside the box." The Lycoming County Chesapeake Bay Tributary Strategy (CBTS) has brought together stakeholders from across the County to craft an innovative program that provides flexible options to wastewater treatment plants, preserves economic opportunities, and improves the environment here at home. "The conservation practices used to generate these credits have local impacts that go above and beyond their benefits to the Chesapeake Bay," said County Commissioner Wheeland. "These farmers are creating local environmental benefits, such as aquatic and riparian habitat improvements and erosion reduction. It goes to show that if we are good stewards of the land and clean up our own streams, the Bay will take care of itself."

For the full article, please visit http://www.lyco.org/Departments/PlanningandCommunityDevelopment/ChesapeakeBayTributaryStrategy.aspx.

Lycoming County Water Quality Improvement Monitoring Project

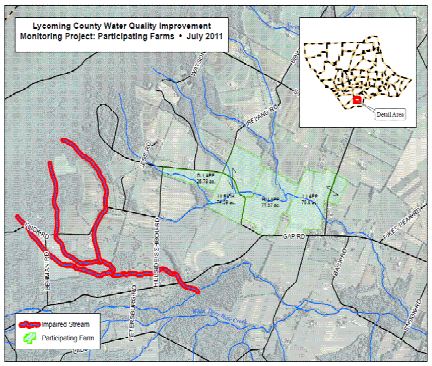
This project was a joint venture between the Lycoming County Conservation District, Lycoming County Planning Commission, Land Studies, Inc. and the Lycoming College Clean Water Institute. The objectives of this project are to facilitate the cost effective implementation of agricultural best management practices (BMPs) in a small watershed in order to monitor local water quality improvements, and facilitate voluntary implementation of BMPs to promote the goals and objectives of the Lycoming County Nutrient Management Strategy. In August of 2011, an un-named tributary near Elimsport in Lycoming County PA was identified as the initial phase of the project when the owners of four separate farm partials agreed to participate. Water quality can be assessed by several different parameters including species diversity of fish, macroinvertibrates and water chemistry. Habitat evaluation of each site as well as fish and macroinvertebrate analysis was done. Water level and temperature were continuously monitored on devices called Levelogers.

Student using Leveloger to collect data

The first two sites (Elimsport and Ulrich) had higher levels of Nitrate, TDS, and Coliforms most likely because they were downstream of all the farms. Horses and cattle were able to move freely in the stream, therefore allowing them to deposit organic wastes in the streams. Also it was an area where if it rained there would be some organic waste as well as fertilizer run-off. The Organic farm site was upstream of the heaviest agricultural area and is more secluded with forested vegetation and existing riparian buffers. For the most part these sites scored "poor" on the pollution tolerance index. Animal feces and fertilizer runoff were the primary sources of organic nitrogen and phosphorus. The pollution score appears to be related to where the streams were located. The invertebrates also appear to be related to the level of agricultural activity in a particular area. One way to reduce sediment and nutrient discharges to the stream would be to plant more natural buffers, including trees and shrubbery along the banks of the streams. These trees would help soak up runoff and utilize a greater proportion of the fertilizer. Precautions need to be taken to secure a minimum distance in which livestock can approach the stream. A secure area in which the animals can drink the water without having access to stand in the stream is ideal.

Ulrich Farm Site

This article is courtesy of Dr. Mel Zimmerman and the Lycoming College Clean Water Institute.



Participating farms in the Water Quality Improvement Project

Sherman Beef Cattle Wins Statewide Clean Water Award

The Sherman Beef Cattle farm received the Clean Water Farm Award for their efforts to protect the Chesapeake Bay. The farm, which is located in Clinton Township, also participates in the Lycoming County Nutrient Credit Trading Program and allows local groups to conduct education and outreach activities on their lands throughout the year. In 2011, the Sherman Beef Cattle Farm was the recipient of the PA Cattlemen Association's Environmental Stewardship Award.

"In Lycoming County, Michael Sherman, owner of Sherman Beef Cattle, has demonstrated a strong commitment to conservation and improved water quality," said Drew Gilchrist, PACD President. "He has installed several best management practices on his farm which include rotational grazing, stream-bank fencing, riparian buffers, a stabilized stream crossing and a livestock heavy-use area. Sherman Beef Cattle Farm is a model for Lycoming County and we are proud to recognize their efforts today."

Michael Sherman receives the Clean Water Farm Award for his efforts in

Flood Plain Restoration Project

A flood plain restoration project at the White Deer Golf Course in Allenwood, PA began in the spring of 2012. Two watersheds, Muncy Creek and Black Hole, run through the golf course and are in compliance with the nutrient trading program to restore the Chesapeake Bay. Due to extensive amounts of rain and flooding, erosion began to accelerate rapidly. "This will be a restoration project that will solve multiple problems," said Benjamin Ehrhart, designer and engineer of the golf course project. This will be a pilot demonstration site work showing how it can be done. "We will stabilize the site that has eroding conditions and make a small contribution to the Chesapeake Bay Restoration Project." This project was funded by the National Fish and Wildlife Foundation.

Pre-construction Conditions: erosion, bank slumping, flooding on golf course

Construction: remove sediment, stabilize stream banks, create wetlands, establish native plantings

Completed Condition: vegetation is establishing, project survived first flood, increased wildlife activity seen

Porous Pavement Projects

Porous pavement is a Best Management Practices (BMPs) used to increase infiltration capacity, address storm water runoff pollution, and to promote environmental stewardship. It is considered to be very cost effective and only requires limited maintenance. Two porous pavement demonstration projects were completed in Lycoming County in Summer 2012: one at Muncy Heritage Park & Nature Trail in Muncy Creek Township, and the other at the Lycoming County Water and Sewer Authority (LCWSA) in Montoursville. Though similar in providing a variety of environmental benefits and allowing for 'greener' solutions for parking lot construction, the projects utilized two different types of porous material: plastic "grass" pavers, and a brick-like product called Turfstone®.

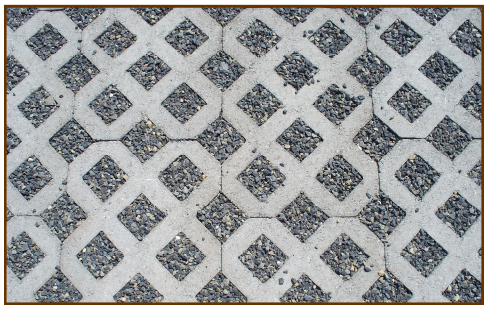
The porous pavement project site located at Muncy Heritage Park & Nature Trail utilized plastic grass pavers. The grass pavers are small plastic rings that are placed on a hydrogrow blanket and filled with a crushed sand mixture. The hydrogrow blanket allows for grass to grow while keeping the pavers in place. The crushed stone allows for rain water to infiltrate into the ground. The parking area is frequently used by school buses and can bear significant loads.

Turfstone was used at he second porous pavement project site at the LCWSA. Turfstone is a system of concrete pavers, each of which covers about 2.6 square feet that are placed together to form a stable grid-like structure. The open voids can then be filled with gravel, sand, or topsoil and grass to give a nice landscaped look while still providing the function of a parking lot. The main advantages of this product include: combating soil erosion, providing a firm "breathable" foundation, requiring very low maintenance, and allowing water to penetrate into the soil.

There are some major differences between the two pavement types. First, grass pavers are much more affordable than Turfstone. However, Turfstone can be applied in much larger areas due to its sturdiness and longer lifecycle of material. Secondly, grass pavers require a little more maintenance, involving compacting plastic rings with a heavy compactor to minimize the tendency of the grass pavers to "pop out." Turfstone can withhold heavier traffic flow than grass pavers. There are many other products available on the market that will help to achieve the same goal; it all comes down to the location, level of usage, budget, and desired aesthetics of the project.

Turfstone

(LCWSA)



Plastic Pavers

(Muncy Nature Trail)

Algal bloom in the Chesapeake Bay

Chesapeake Bay Cleanup On Track

Reprinted from "Chesapeake Bay cleanup on track, officials say", in the Baltimore Sun.

The multistate effort to restore the Chesapeake Bay is on track to meet its latest timetable for cleaning up the ailing estuary, even though states failed to achieve all the short-term pollution reduction goals they set for themselves three years ago, officials said Monday. Environmentalists joined in praising the progress to date but pointed out that Maryland, Pennsylvania and Virginia had all missed at least a few of the cleanup goals they'd set for themselves, even while meeting or exceeding many others. The EPA's Lisa P. Jackson said that while the bay still has a long way to go to recover its vitality, she was encouraged after hearing reports from her staff and state officials. They ticked off a list of recent accomplishments, including restoring nearly 3,800 acres of wetlands, reopening 148 miles of streams for fish to spawn and planting trees along 240 miles of shoreline. Maryland Gov. Martin O'Malley agreed that "the degree and the movement that we've made over the past five years … is really remarkable."

Pennsylvania and Virginia already have launched nutrient "trading" programs in which polluters can buy "credits" representing pollution reductions made elsewhere, often by farmers taking steps to curb fertilizer and soil runoff from their fields. Maryland is developing a similar program. "We have economic challenges we have to keep in mind," said Pennsylvania's secretary of environmental protection, Michael Krancer, who noted that studies have shown that cleanup costs can be reduced significantly by allowing such "market-based" arrangements. Chris Pyke, chairman of a panel of scientists and other technical experts advising the cleanup, acknowledged the potential of pollution trading to cut costs drastically.

Storm Drain Stenciling Initiative

Storm drains are metal grate inlets that you can see at road curbs around your community. Storm drains collect and convey rain water. They are connected by a series of underground pipes that carry the rain water to local streams and rivers. Storm drain systems do not connect to waste water treatment facilities, instead it directs water straight to local streams. Common pollutants dumped into storm drains include household chemicals, motor oil, trash, animal waste, and decomposing leaves and grass.

Storm Drain Markers are aluminum signs to warn and remind citizens that the storm drains are connected directly to local waterways. The Storm Drain Stenciling Initiative continues in Lycoming County with 600 storm drain markers installed in high traffic areas. The main goal is to educate local residents and visitors that storm drains are not connected to waste water treatment facilities. It is also illegal to dump anything down a storm drain, and punishable by law.

From left: Commissioner Jeff Wheeland, Walt Nicholson, Taylor Martin, and Mayor Gabe Campana

County of Lycoming, PA

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This newsletter was created by Nathan Volkel, Lycoming College, Fall 2012 Intern.

LYCOMING COUNTY CHESAPEAKE BAY TRIBUTARY STRATEGY

This poem was written by Ann Hennessy, who was active in Chester Valley Minister's Association and who swam in MD Swim for Life off Rolph's Wharf in the Chester River at age 69. The poem describes the waters where she lived.

My Rivers by Ann Hennessy (1929-2008)

My rivers, Lord, are not
Clear gurgling brooks
tumbling down mountainsides
to dwell in shady nooks

Nor are they mighty torrents
swelled to overflow
plunging over concrete dams
to seek new depths below

My rivers reach like gentle hands
spreading fingers through level lands
nourished by endless ebb and flow of tide
feeding famished salt marsh by their side

Their scent and sound and face
transport me to a sacred place
a place where time moves slow
a cherished place of long ago

To a sun-tanned child who knows
squish of creek mud 'tween bare toes
putt-putt of waterman's skiff in early morn
and the distant moan of a fog horn

My rivers smell of life and death
of fish and crabs and brackish breath
My rivers are a part of me
They link me to eternity