



**Codorus
Creek
Watershed
Association**

Mission: To enhance, restore, sustain and protect the Codorus Creek Watershed and its environs as a living resource for future generations, and as a habitat for biodiversity

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WINTER 2009

Greener - Flowing Cleaner

Volume 9, Issue 1

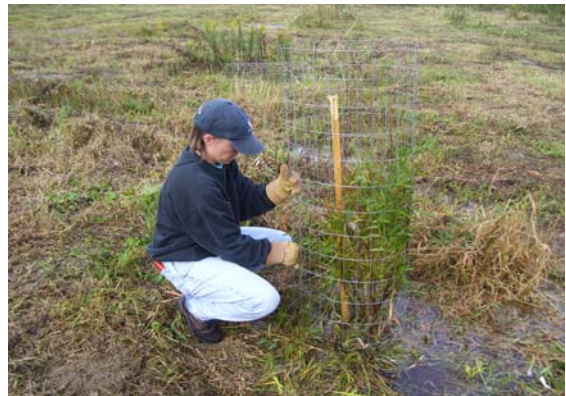
CCWA Greenstick Nursery Establishment Nears Completion

By Jeff Hamon

An ambitious team effort involving CCWA members, York College students, Central High School students and Logos Academy 8th graders brought the establishment of CCWA's greenstick nursery to near-completion. On September 28, 30th and October 2nd, the volunteers planted 220 new plants, and staked and placed protective cages around all 370 plants in the nursery. The amount of work performed in the nursery by the volunteers on those three days was impressive. Planting involved manually carrying, positioning and planting 220 plants in 1 to 3 gallon containers. Protective cages were constructed from 4' x 4' pieces of 2x4 welded wire fencing cut from 100-foot rolls in the field. Five-foot 1x2 surveyor stakes obtained from a local sawmill were hammered about 16 inches into the ground to secure the protective cages around the plants. The work proceeded seamlessly, often with all of these activities occurring simultaneously. The CCWA truly appreciates the efforts of all who participated. P.H. Glatfelter donated a former sediment lagoon for the nursery.



York College Students Pounding Stakes



Installing the Cages

The efforts of this fall were expanded from those of prior years to address shortcomings identified during an assessment of the nursery by CCWA members in September. Survival from the 2006 and 2007 plantings was about 75%, with the remainder lost to drought, winter-kill and deer browsing. The surviving plants were not thriving due to deer browsing and competition from weeds. Efforts to control weeds around the plants exposed the plants to severe browsing. In fact, some of the best looking plants were those found buried in shoulder-high weeds. Unfortunately, those plants were browsed within a week by deer using the new trails made during the assessment. At that point it was decided that protecting all plantings from deer was the only way the plants would be able to grow to provide greensticks for future plantings.



Jeff Hamon Eliminating Weeds

Some of our readers may not be familiar with the concept of greensticks or exactly how the CCWA will use these nursery plantings in the future. Greensticks are pieces of ½ to 1 inch diameter limbs cut from plants during the late winter while the plants are dormant. Each piece is approximately 12 – 18 inches long and has several sets of buds. Those pieces are then planted in the ground, with at least two sets of buds below the ground and one set of buds above the ground. Roots grow from the buried buds, and the top grows from the exposed buds. The use of greensticks minimizes the costs and labor associated with planting bare-root or containerized stock. Certainly not all species of plants can be started using greensticks, but the CCWA has chosen species for the nursery that have at least moderate potential for success. Fortunately, species that greenstick well are typically those that grow in riparian habitat near water, just the areas CCWA wants to plant.

Currently, about 11 species of plants are grown in the CCWA nursery. There are five species of willow: sageleaf, purple osier, black, sandbar and pussy willow. All greenstick extremely well and have extensive root systems that can stabilize stream banks. The black and pussy willows grow into trees, while the sandbar, purple osier and sageleaf willows are better characterized as spreading shrubs that remain less than 10 feet in height. The remaining species include two shrub dogwoods (silky and red-osier), two wild viburnums (nannyberry and arrowwood), black elderberry and buttonbush. These species were chosen based on wildlife and esthetic values (all have beautiful flowers and fruit that attract wildlife) that may be attractive to landowners.

While it will be at least a year or two before the nursery plantings are ready to cut for greensticks, there are still a few tasks that need to be completed to ensure their success. The CCWA is currently evaluating options to suppress weed growth immediately around each plant. These options include porous plastic “brush blankets” or pieces of corrugated box material. CCWA members are encouraged to suggest additional alternatives; they need to be inexpensive and last at least two years. Whatever material is chosen will need to be put in place before April. The wire cages will then be secured to the stakes using wire. Expect a work day announcement in the next issue!

CCWA and Logos Academy partnership: a win-win

By Abigail Baer, Capital Campaign Coordinator, Logos Academy

YORK, Pa.— “For we are God’s workmanship, created in Christ Jesus to do good works, which God prepared in advance for us to do,” states Ephesians 2:10 (NIV).

Community service and raising up servant leaders is a core value for Logos Academy. Chairman Jim Leaman and the Codorus Creek Watershed Association (CCWA) are supporting this vision by partnering with the Logos Academy’s middle school to provide learning opportunities while enhancing our local environment.

During the summer of 2007 CCWA leadership and Logos Academy administrators discussed how to incorporate CCWA projects into the science curriculum. In September 2008, Logos eighth graders planted 160 trees and shrubs at CCWA's nursery located on donated land at the P.H. Glatfelter Plant.



8th Graders and Staff and 2 students from Central High School

“The nursery exists for CCWA to have a stock supply of plants to use for establishing riparian buffers along streams in the Codorus Watershed,” said Jim Leaman, Chairman of the CCWA. “From these we can take live stakes and keep buffer project costs down.”



Placing the Plants



Placing the species to be planted

The eighth graders also constructed wire cages to prevent deer from damaging the young, budding vegetation. Eight varieties of trees and shrubs were added to the nursery during September 2008.

“Planting trees and constructing cages is labor intensive, but our students worked so hard and finished the day early,” said Janet Shenk, a Logos Academy middle school teacher.

Shortly before Logos students participated in the planting, they studied forest ecology in science class. The class work and hands-on experience provided the backdrop for a late September forest ecology camping field trip in northcentral Pa.

Thanks to this collaborative effort, the hearts and minds of Logos students are enlarged and the nursery has been expanded to nearly 400 plants. “I am very proud of the students,” said Shenk.

Designed to make a difference, Logos Academy was established in 1998 as a 501©3, nonprofit Christ-centered school in York, Pa. Logos Academy provides a classical education for students in kindergarten through eighth grade with intentional multicultural and socioeconomic diversity. A key vision of the school is to create enthusiastic life-long learners, and to develop servant leaders for tomorrow. For more detailed information, visit www.logosyork.org.

The 2008 Farm Bill and the Codorus Watershed (as discussed with Eric Samus)

By Jim Leaman

The Farm Bill passed in the spring of 2008 is a massive 5 year multi-programmed \$290 Billion bill. The aim of several of these programs is to pay farmers to plant streamside buffers and nutrient absorbing cover crops, implement nutrient management plans and other conservation practices. In other words the Farm Bill aims to reduce nutrients and sedimentation and to increase water quality.

To sort this all out and find out how the Codorus Watershed may be improved through this bill, I contacted Eric Samus at the County Conservation District. Eric works for the Federal National Resources Conservation Service (NRCS) which has offices at the District and four staff members who are administering their portion of the Farm Bill in York County.

Eric began his work at the District on August 1, 2008 with an impressive background of experience. He had five years in Lancaster County performing Natural Resource Inventory and operating as a nutrient management technician and Chesapeake Bay program manager. He then went west to Colorado for two years to work on irrigation projects and returned to Lancaster County for three years working with Amish farmers. All of these were NRCS jobs.



Manure Storage. One practice to reduce nutrient runoff



Grass Waterway Runoff Prevents Erosion

The NRCS portion of the Farm Bill totals 15 programs, two of which will be highlighted here. First is the Environmental Quality Incentive Program (EQIP). The “Core Four” concepts in this program are buffers, cover crops, nutrient management and residue management, which includes no-till and ridge-till farming. The incentive is that money is available to pay for the improvements and these programs result in a reduction of operating costs to the farmer. Participation is on a voluntary basis and the owner does pay a certain amount toward the project. To encourage participation, press releases will be sent out as well as arranging visits on site. Farmers have been calling the District requesting technical assistance.

The second NRCS program to be mentioned is the Farm and Ranch Protection Program (FRPP). This program pays to put land into conservation easements which ensure that land will remain in agricultural use. At present York County is one of the top three counties in Pennsylvania for such easements.

It is not yet known how much money will come to the District NRCS office from the Farm Bill but it will be a significant amount. Farm Bill funds are guaranteed and bypass the annual appropriations process. And our watershed will surely benefit from implementation of the coming projects.

What have you done to help Codorus Creek?

The Fresh Water Crisis: A Global Problem with Backyard Solutions

By Gary R. Peacock

Freshwater needs to mean more to us than three glasses a day...keeps the doctor away! Or...it's the stuff we wash our hands with! Or...the stuff we nourish our garden with! To impress our neighbors with our big tomatoes! We need to recognize...water quality in this river is determined by the hundreds of small streams feeding it...including those in your backyard. Small streams suffer from the "tragedy of the commons." It's a tragedy that...Everyone owns them...so nobody takes ownership." So we need to shift our mindset...away from drainageways...and away from recreational opportunities...to this. Streams are our primary water filtration and treatment plants..and the price for these ecosystem services is right...it's Free! Our job is to put streams in the best shape to do this work for us. Which brings us to Forest Buffers as Best Management Practices (BMPs).

Ongoing scientific research by Dr. Bernard W. Sweeney et al. al, Stroud Water Research Institute, shows that total riparian deforestation would result in at least 50% less benthic stream habitat (due to channel narrowing), compared with total reforestation. Based on his data here, the uptake of nitrogen, and hence its potential loss from a stream through denitrification and/or export to the terrestrial food web, would be similarly reduced. Yet the impact of stream narrowing continues unnoticed and unregulated in many watersheds in a region where each linear meter of stream helps to reduce the transport of contaminants to the rivers that feed the Chesapeake Bay, the largest estuary in the U.S.

Stroud's findings suggest that the fragmented landscape (50% forested) created by humans in the Piedmont and elsewhere has produced a correspondingly fragmented condition for the resident streams: reaches that function naturally (or at least quasinatually) are separated by unnatural and often dysfunctional reaches, with a net loss of in-stream ecosystem services. More work is clearly needed to determine, e.g., how the net functional response (additive) of two streams of equal length, one forested and one deforested, would scale relative to having both streams in a fragmented (forested-deforested patches) state. Regardless, their data clearly support the concept of preserving and restoring riparian forests along as many stream reaches as possible in the Piedmont and other landscapes, especially those that were historically forested.



Difference in stream width of a deforested (upstream) and forest-buffered (downstream) small headwater stream in York County.

The results strengthen current U.S. policy that endorses riparian forest buffers as best management practice, as well as federal and state programs that subsidize riparian reforestation for stream restoration and water quality purposes. Not only do forest buffers prevent nonpoint source pollutants from entering small streams, they also enhance the in-stream processing of both nonpoint and point source pollutants, thereby reducing their impact on downstream rivers and estuaries. The concept that riparian forest restoration plays a significant role in helping to abate point source pollution in small streams is new and greatly expands the notion of riparian forest buffers as best management practice.

The link among riparian vegetation, channel geomorphology, ecosystem function, and stream ecosystem services had been neither intuitively obvious nor scientifically measured. Demonstrating the increased value of riparian forest “services” relative to forest “products” could significantly change economic analyses and lead to a reduction of riparian deforestation for profit, an increase in landowner perceptions of the value of riparian forests, and a corresponding decrease in the need for external incentives for landowner cooperation.

Sweeney’s data should also enhance public appreciation of stream ecosystem services, which should “help promote connections between science and management” of aquatic ecosystems. Moreover, the potential application of their data are extensive because they are based on small to intermediate streams, which represent 90% of the total stream lengths in most watersheds and play a major role in collecting, processing, and exporting nutrients to estuaries and oceans.

MEMBERSHIP

Membership renewal and dues are due in January 2009. Unless you have joined in the last 3 months of 2008, please complete and return the form below and send with your \$10 check, made out to CCWA, and mail to CCWA, PO Box 2881, York, PA 17405.

Name _____

Address _____

Phone _____

E-mail _____

Check appropriate items below:

New Member () *Renewal* () *Individual* () *Organization* ()

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Gary Peacock

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CALENDAR OF EVENTS, 2009

January 12: Board meeting. 7pm York Water Co. Mt. Rose Ave

April 13: Board meeting. 7pm York Water Co. Mt. Rose Ave

May 10: York Street Fair

May 11: Annual Meeting

June 27: Codorus Blast

Check our web site for updates.

Visit our website at www.codoruscreek.net

Newsletter Editor: Jim Leaman Coeditor and Publisher: Jean Leaman

Codorus Creek Watershed Association

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