Spring 2008

Welcome to the Beech Creek Watershed Association's Newsletter!

Our members have worked hard to make a difference throughout the watershed and we are excited to share our progress.

Your membership dollars are essential to ensuring that we can continue this publication. For more information about renewing your membership visit us at www.beechcreekwatershed.org or contact us at info@beechcreekwatershed.org or at the address listed on the back of this newsletter.

Inside this issue:

BEECH CREEK WATERSHED ASSOCIATION

www.beechcreekwatershed.org

A Note from the President

Dear Members and Friends of Beech Creek,

2007 was a very rewarding and productive year for us. We completed many projects, both big and small, with the help of many partners and dedicated members. As you will see in this newsletter, all of these efforts are important in helping the BCWA reach its goal of restoring the watershed and making it a better place for our residents, visitors, and future generations.

All of our projects have been completed with a very efficient and effective core group of dedicated members. I would like to thank each of you personally for all of your hard work. You certainly have helped us accomplish a lot!

Now the pitch: We need help from other members of our organization to continue this work. Many other projects must be completed in the coming years in order to restore Beech Creek.

Everyone has skills that are valuable to our mission. If you have an interest in anything mentioned in this newsletter, or if you have new ideas for projects, want to help with the newsletter or website, would like to hold an office, or are just interested in finding out more about our watershed, please join us at our regular monthly meetings.

We meet at the Beech Creek Municipal Building on the 3rd Monday of each month. I look forward to seeing many new faces at our upcoming meetings.

Jamie Walker, BCWA President

BCWA Members gather for a photo at a recent meeting

Watershed Clean Up Day

Each year, the Beech Creek Watershed Association in partnership with the ClearWater Conservancy participates in the world-wide recognition of Earth Day by organizing a Watershed Cleanup Day. This year's event is scheduled for Saturday, April 19th. Join our members and volunteers, rain or shine, to remove harmful material from sinkholes, roadsides, illegal dumpsite, and streambanks. Removing such material helps rid groundwater of dangerous pollutants, strengthening the surrounding environment and reducing the need for local governments to spend unnecessary tax dollars on cleanup that can easily be taken care of by watershed residents.

ClearWater Conservancy initiated this event in 1997 with the collection and disposal of 17 tons of trash from central Pennsylvania. Since that kick off year, nearly 1,400 tons of trash has been removed from Beech Creek, Spring Creek, Halfmoon Creek, Penn Creek, and Little Fishing Creek Watersheds.

A pile of trash is not an attractive sight, but trash can do worse than spoil the natural beauty of a place. Pollutants leaching from trash can enter your drinking water. Garbage can also cause injuries, harm wildlife, and its removal can use tax dollars that could be put to other uses. These are all excellent reasons to volunteer at our Watershed Cleanup Day, but as a volunteer you would also be able to enjoy the outdoors and be an active part of our community. This is a fun event that gathers together many individuals and organizations from all over the watershed.

To volunteer, contact Trout Unlimited's Becky Dunlap at 570-726-3118 or rdunlap@tu.org.

ClearWater Conservancy

Stay Tuned for our Next Edition's Feature Article:

THE BRICK TOWN TRAIL

backbone of the

BEECH CREEK GREENWAY

Beech Creek Coldwater Conservation Plan

Penn State's Center for Watershed Stewardship recently completed a Beech Creek Watershed Coldwater Conservation Plan with funds from Coldwater Heritage Partnership. The objective of the Plan was to provide a foundation for the management of the coldwater stream ecosystems in the watershed and focused on unimpacted high-quality streams to highlight the exceptional water resources still abundant in a watershed heavily impacted by historical mining activities. The plan contained a thorough inventory of the natural resources as well as detailed information on the cultural history, demographics, and economy of communities within the watershed.

As part of the Plan, the Center for Watershed Stewardship completed an assessment of the best quality streams in the watershed. Fourteen streams, nine of special protection status as defined by the Pennsylvania Department of Environmental Protection and four known locally to have very good water quality were included in the assessment.

The Plan outlined the following goals revolving around the preservation of current trout populations and improvement of trout habitats.

- Monitor and mitigate the apparent recent declines in trout abundance.
- Reduce the effects of episodic acidification on trout streams.
- Restore streams impaired by acid mine drainage to suitable trout habitat.
- Mitigate the impacts of natural gas extraction on trout streams in the Beech Creek watershed.
- Ensure proper construction and maintenance of dirt and gravel roads.
- Provide regulatory protection for high quality trout streams.
- Increase awareness and public appreciation of wild brook trout streams in the Beech Creek watershed.
- Promote wise land use practices and landowner stewardship.
- Promote recreational angling activities that support wild brook trout.

More information about the Beech Creek Watershed Coldwater Conservation Plan can be found at http://www.coldwaterheritage.org

Brook trout in Wolf Run

Tree Planting

Butch Davey, Beech Creek Watershed Association Member

Since 1991, a group of hearty volunteers, collectively known as **PennReleaf**, have been planting seedlings throughout the Sproul State Forest. In 2004, volunteers from the Beech Creek Watershed Association joined in this tree-planting effort. Over time, about 35,000 seedlings have been planted, many in the Beech Creek watershed. As they grow, these young trees will provide greater watershed protection, sequester larger volumes of carbon dioxide, and create more wildlife habitat for many animal species.

This past year, the planting site was located near the head of the West Branch of Big Run in the Beech Creek Watershed. On April 28, 2007, volunteers planted over 2,500 white pine seedlings.

In the mid 1960s, this area was defoliated several times by swarms of native insects known collectively as the oak leaf roller complex. The weakened trees were subsequently killed by root rot. Many of the dead trees were salvaged; however, emerging seedlings were browsed by deer, and the site reverted to mountain laurel, low bush blueberry, and sweet fern, further discouraging the establishment of a new forest.

White Pine is a good choice for this part of PA. This species is native to the area and grows well. The original forest contained a high percentage of white pine. The seeds from the cones provide food for wildlife, and the foliage provides excellent winter thermal cover. And, the lumber is a staple in the wood industry. The Bureau of Forestry provided the seedlings, planting tools, and manpower for the day. Although it will be several years before the planted seedlings grow taller than the competing vegetation, our grandchildren will enjoy the new forest.

The Beech Creek Watershed Association focuses on restoring the watershed. Tree planting is part of this effort. The planting date for 2008 is April 26, 2008. We hope you will help. Planters should dress in outdoor work clothes and bring gloves. A good time will be had by all. And, there is such a thing as a free lunch when planting trees.

Mark your calendar for the next tree planting:

April 26, 2008

To register for this event, contact Butch Davey at 570-748-1901 or K1retired@yahoo.com by April 12th 2008

Rain Barrel Workshop

Erin Dunleavy, Clinton County Watershed Specialist

What is a rain barrel? It is a barrel, connected to a downspout, that collects and stores rooftop runoff. This water can then be "recycled" to water your lawn and garden or even wash your car.

Rain barrels are often a component of Low Impact Development (LID), an environmentally sensitive approach to managing stormwater-runoff. The goal of LID is to mimic pathways water took through an area prior to development using design techniques that facilitate infiltration and re-route runoff close to its source. Some other common LID practices include rain gardens, grassed swales, cisterns, porous pavements, and green roofs. Increasingly, LID practices are used by communities across the country to help protect and restore water quality.

Erin Dunleavy demonstrates how to construct a rain barrel

In addition to the stormwater-reduction benefits, rain barrels provide free, clean water and help us conserve this important natural resource. This strategy gains additional emphasis in light of our recent drought. In fact, landowners who had rain barrels during the 2007 drought reported never having to use "new" water from their faucets for their gardens.

On December 17th, the Clinton and Centre County conservation districts in conjunction with the BCWA's monthly meeting co-sponsored a rain barrel workshop. Ann Donovan, Centre County's Watershed Specialist, discussed stormwater, detailing what it is, how it affects communities, and what can be done to reduce its impacts. Following Ann's presentation, Erin Dunleavy, Watershed Specialist for Clinton County, provided the more than 30 participants step-by-step instructions on the construction and placement of a rain barrel. All those present received a free 55-gallon rain barrel and the attachments to take home.

The BCWA plans on holding additional rain barrel workshops throughout the year as a community service.

Fore more information about Rain Barrels contact the Clinton County Conservation District at 570-726-3798 Or the Centre County Conservation District at 814-355-6817

Acid Mine Drainage Restoration Plan for the Beech Creek Watershed

Neil Wolfe, Hedin Environmental

In 2002, the Beech Creek Watershed Association received a PA DEP Growing Greener grant to prepare an acid mine drainage assessment and restoration plan for the entire Beech Creek watershed. Hedin Environmental was contracted to perform the work which began with monthly sampling of nearly fifty discharges and in-stream locations. The first round of monthly samples was collected in August, 2004. Monthly sampling continued until July, 2005.

In addition to the regular monthly sampling, watershed "snapshots" of portions of the watershed were performed on Sandy Run, the North Fork, Wolf Run, the South Fork, and Big Run. The purpose of these snapshots was to obtain more detailed sampling results and loading capture analyses on these sub-watersheds. In all, 396 samples were analyzed as part of this project.

Some streams, such as Big Run, South Fork, and Wolf Run, have mild to moderate pollution, which can be remedied with one or two projects. However, North Fork and Sandy Run, major tributaries near the western portion of the watershed, are severely polluted with many sources of mine drainage and hundreds of acres of unreclaimed spoils.

Eight high-priority projects have been identified that will help BCWA meet its watershed restoration goals. These include two alkaline wetlands on Big Run, continued PennDOT work on Jonathan Run, self-flushing limestone beds on Tributary K (Butts Run), alkaline addition to Wolf Run, and three reclamation projects totaling 81 acres. The total cost estimate for these projects is approximately $1.4 million. While these 8 projects will not completely restore the entire Beech Creek watershed, they will restore over 15 miles of tributary streams and remove significant loading from the main stem of Beech Creek. Several other "medium" priority projects have also been identified.

Electronic copies of this report are available from:
Hedin Environmental
195 Castle Shannon Blvd.
Pittsburgh, PA 15228
Telephone: 412-571-2204
Fax: 412-571-2208

Acid Mine Drainage is the number one source of pollution in the Beech Creek Watershed

Summer 2007 Project Work in the Watershed: Wolf Run & BAMR Avery Site

Dr. Md. Khalequzzaman, Department of Geology and Physics, LHUP, Dr. John H. Way, P.G., Bald Eagle Geotechnical Services, Lock Haven, PA

Funded principally by a Degenstein Foundation grant, student-interns John Woodward and Dustin Moore, along with their professors, Dr. Md. Khalequzzaman, Associate Professor of Geology and Dr. John Way, Professor Emeritus of Geology, Lock Haven University of Pennsylvania, carried out two separate, community-based, water-quality research projects this past summer. Both project areas lie within the 171-square-mile Beech Creek watershed, in the West Branch Susquehanna River basin, Centre and Clinton counties, northcentral Pennsylvania.

One project involved the study of both acid deposition and the impact of acid-mine drainage (AMD) on the water quality of the Wolf Run subwatershed and its subsequent impact on the main stem in the western portion of the Beech Creek watershed. For the other, the group revisited the Bureau of Abandoned Mine Reclamation's (PA DEP BAMR) $1.5-million-passive-treatment system, completed in the spring of 2006 in the eastern portion of the watershed. Following the same protocols for data collection and laboratory analyses as in 2006, the additional data serve as the basis for a two-year quantitative assessment of the effectiveness of this facility.

To date, the study has yielded data for major anions, cations, total acidity, alkalinity, oxygen-reduction potential (ORP), pH, and several trace metals. Data are analyzed in the context of local geology, hydrology, land cover, and land-use practices. The data from the Wolf Run project suggest that waters in Wolf Run and its tributary Little Wolf Run are characterized by acidic pH and low buffering capacity. Little Wolf Run exhibits higher amounts of acidity and trace metals as compared to samples collected from Wolf Run. However, as a result of normal, low flow in both branches, the waters from these tributaries do not appear to have significant impacts on the quality of water in the main stem of the Beech Creek.

Unusually dry summer conditions, in addition to other factors, precluded acid-deposition sampling this season. Modifications to the sampling protocols will be necessary before well-founded data can be collected. Nevertheless, air-quality data for the regional airshed was collected successfully.

A sampling of photos from this summer's projects on Wolf Run and the BAMR Avery Site

Relative to the BAMR AMD passive-treatment facility, geochemical analyses reveal unexpected water-quality variations from the intended design. Although the water quality of the discharge exiting the facility can be characterized as acceptable in terms of pH, alkalinity, and acidity, certain segments of the facility appear to be working better than others. In general, total alkalinity produced by various treatment ponds (buffering capacity) has declined substantially, and the amount of metals, including aluminum and iron, has increased compared to those recorded last year. This information will prove invaluable should any future modifications to the site be warranted.

The results of these projects were presented at the 2nd Annual Susquehanna River Symposium: *Pennsylvania Abandoned Mine Drainage Remediation: Seeking Common Ground Along the Susquehanna* at Bucknell University, Lewisburg, and at the February meeting of the Beech Creek Watershed Association. There is growing recognition among water-quality professionals that managing total water quality within watersheds is necessary if truly effective environmental protection is to be achieved. Successful implementation of watershed-management programs will require an unprecedented amount of scientific data in order to evaluate, monitor, and maintain specific levels of protection in each watershed. Generating baseline, water-chemistry data, as this research effort does, serves as an important step in the long-term goal of protecting and improving water quality within the Beech Creek watershed in particular, and in the West Branch of Susquehanna River watershed in general.

As a result of these projects, two LHUP student-interns gained valuable, hands-on experience with techniques and equipment currently employed in water-quality research involving AMD. Clearly, this experience will serve them well in their future endeavors. Our academic program also benefits from this work. In the quest to find solutions to AMD problems in the greater Susquehanna watershed, LHUP gains respect as having science faculty who are knowledgeable, experienced, and technically capable apropos these environmental challenges. Lastly, these individuals gain satisfaction in knowing that they have contributed to and served the community in which they live and work.

New ATV Trail—A Threat to the Beech Creek Watershed

Butch Davey, BCWA Member

At a recent BCWA meeting, Sproul State Forest District Forester Doug Damore and ATV coordinator Bob Fitterling presented a program outlining Phase III, a plan to expand the Bloody Skillet ATV area.

Essentially, Phase III calls for seven miles of new ATV road construction crossing the Two Rock Run watershed and the main stem of Beech Creek. This plan also involves building two vehicular bridges capable of transporting emergency vehicles. The cost of Phase III is 1.5 million dollars not including administrative costs. The new construction will connect with the Kato Orviston Road, a township road in Snowshoe Township, Centre County. Several years ago the township supervisors legalized joint use of township roads for both ATV's and legal motor vehicles.

Both Sproul State Forest representatives readily admitted the existence and proliferation of miles and miles of outlaw ATV trails radiating from the Kato Orviston Road onto the Sproul State Forest land. These outlaw trails have accelerated soil erosion and resulted in sediment flowing into Beech Creek and many of its tributaries.

Adding seven miles of new ATV roads on State Forest land will add new opportunities for illegal outlaw trails, degrade water quality, and destroy wildlife habitat. Stream-side buffers, wetlands, and vernal ponds all are threatened. District Forester Damore also stated that no additional enforcement personnel would be forthcoming to handle the additional work load.

Every study conducted on public land from coast to coast has concluded that outlaw trails grow when legal riding areas are expanded such as that proposed in this Phase III plan.

Two Rock Run is designated as a Wilderness Trout Stream, and its water quality is classified as exceptional value. Currently, there are no public roads streamside of Two Rock Run. This is a walk-in, native Brook Trout stream and should remain so.

One of the commonwealth's criteria for a wilderness trout stream is that there must be a corridor 1250 feet wide on both sides of the stream and extending for a distance of two miles where vehicular access is restricted. This guideline is part of the Bureau of Forestry's Forest Resource Plan. Building Phase III by the Bureau violates this agency's own guidelines. Additionally no fill should be placed in the stream channel. Yet a vehicular bridge crossing Two Rock Run is on the drawing board. The second bridge across Beech Creek will provide nearly limitless opportunities for outlaw ATV trails.

The mission of the Beech Creek Watershed Association is to restore and protect the Beech Creek Watershed. Much has been accomplished, but much more needs to be done.

Two Rock Run Watershed

Clearly, acid mine drainage pollution is the most pressing problem throughout the watershed, according to the report from Hedin Environmental. However, a second major threat to the Beech Creek Watershed is soil erosion and subsequent sedimentation. Providing new, additional access to public and private lands for ATV riders is only going to accelerate erosion, and result in increased sediment and pollution runoff.

All public land in the Beech Creek Watershed is open to foot travel and access is assured for everyone who respects the values associated with the philosophy of treading lightly on the land.

Governor Rendell, local legislators, DCNR, and the Bureau of Forestry have received letters from the Beech Creek Watershed Association opposing Phase III. So far no one has acknowledged or replied to these letters.

We are only a small group of volunteers pitted against the money and clout from the ATV crowd. Please support the Beech Creek Watershed Association's efforts to prevail in halting the reckless features of Phase III. Use your voice and write letters to the individuals and agencies listed above on behalf of this initiative. We can do it, but we need your help.

Commentary by Butch Davey, BCWA, Flemington, PA

ATV's at Kato bridge.

Contrary Run Restoration

Michelle Merrow, Alder Run Engineering

The Contrary Run SM5 stream restoration and site reclamation project was developed to address acid mine drainage and abandoned mine lands located in the Contrary Run Watershed, which is found primarily in Snow Shoe Township, Centre County, PA.

The Contrary Run Watershed was identified in the Beech Creek Restoration Plan as one of the contributing watersheds to Beech Creek that has high restorative potential. Contrary Run is degraded by discharges from abandoned coal mine workings, and the discharges add acidity and metals, mainly aluminum, to the stream. Aquatic life is absent and/or severely impaired in the stream.

The SM5 project involves both private property and State Game Land 100. The water quality benefits of this project will be realized downstream on the Game Land, and the restored stream will be accessible to the public via the Game Land.

The project comprises the following: (1) the restoration of approximately 3000 linear feet of three stream channels to prevent non-degraded streams from contacting acidic mine spoil and becoming degraded, (2) the removal of mine spoil and refuse from floodplain corridors, and (3) the reclamation of approximately 8 acres of a hazardous, abandoned strip mine cut.

The project design phase has been completed, and the project is currently in the permit review stages. It is scheduled to be put out to bid in this spring, with construction to occur during in the dry periods of summer and fall 2008.

This project is funded by a National Fish and Wildlife Foundation Chesapeake Bay Small Watershed Program Grant and the Pennsylvania Growing Greener II Program. After the SM5 project is complete, additional projects to finish the restoration of the Contrary Run Watershed are planned.

BEECH CREEK WATERSHED ASSOCIATION

www.beechcreekwatershed.org

Beech Creek Watershed Association

PO BOX 286
MILL HALL, PA 17751

www.beechcreekwatershed.org

E-mail: info@beechcreekwatershed.org

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