

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.



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Inside this issue:

Brick Town Challenge	1
Beech Creek Clean Up	1
West Branch Research	2
Tree Planting	3
Education Tours	3
Education Tours	4
Contrary Run	4
Jonathan Run	5

Kayaks and Bricks What a Great Combination Vana Dainty, Beech Creek Watershed Association

The Beech Creek Watershed Association and Bald Eagle State Park present the **Second Annual Brick Town Challenge...** This is an amateur canoe and kayak race open to all skill levels ages 12 and up. The event will take place on July 10, 2009 rain or shine. The money raised is going to Brick Town Trail to help with matching money for a grant to get the trail started.

The races will take place at Bald Eagle State Park and begin and end on the beach area of the lake. The first Canoe/Kayak Race is all about speed and is for the more serious paddler. It is

an eight mile race with registration beginning at 8:00 a.m. and the race at 9:00 a.m. costing \$25.00 for one race \$30.00 for both. Then for those of you who

are less serious but love to kayak... there is a recreational race with registration starting at 10:30 a.m and the race at 11:30 am. This is



Photo provided by V. Dainty

Last year's winner of the 8 mile race were two brothers Jeff and Steve Rankinen.

a four mile race and once again begins and ends at the beach in Bald Eagle State Park. There will be

(Continued on page 2)

Beech Creek Watershed Clean Up Ann Donovan, Center County Conservation District

The Beech Creek Watershed Association participated in the annual Great PA Clean Up in April 2009. They joined efforts and combined

resources with ClearWater Conservancy in Centre County to clean up three major areas, two in the Beech Creek watershed and

one in the neighboring Marsh Creek watershed. Jamie Walker, president of BCWA once again arranged to place dumpsters in Orviston and Monument for the entire week-end of April 25 enabling residents to do their

own spring cleaning. ClearWater Conservancy covered the cost of the dumpsters and the trash was taken to the Wayne Township Landfill in Clinton County. Jay Alexander, General Manager of the landfill waived the tipping fee for disposal of the trash. Residents of Orviston and Monument appreciate this annual effort to keep their towns free of trash. Since the inception of this program, the Beech Creek Watershed Association has noted a significant decrease in illegal dumping in the watershed. BCWA members Bill Bailey, Sarah Edge, Jamie and Eliza-

beth Walker and Skip Frye joined with Clinton County Watershed Specialist Scott Koser and Centre County Watershed Specialist Ann Donovan to clean up an illegal dump site in neighboring Marsh Creek watershed near Romolo. ClearWater Conservancy and Stone Valley Construction supplied the equipment and an operator. BCWA supplied the labor! The clean up of this site is not completed and it has once again appeared on our list for 2010. We hope to acquire some larger equipment this year so that we

(Continued on page 3)



Photo provided by A. Donovan

Dumpsters have been placed in Orviston to try to discourage illegal dumping.

Research Continues and a Long-term, Water-quality Database is Under Construction in Impaired Watersheds of the West Branch Susquehanna River

Dr. Md. Khalequzzaman Dept. Geology and Physics LHUP

Coal mining combined with misunderstood and inefficient agricultural practices have resulted in significant adverse environmental effects to the West Branch Susquehanna River watershed for more than a century. The legacy of these activities in northcentral portions of the commonwealth continues to prove challenging to remediate. Long-term, negative impact are seen in the downstream waterways including the main stem and the Chesapeake Bay. Additionally, acidic deposition, commonly known as "acid rain," greatly effects aquatic and terrestrial ecosystems. Central and western Pennsylvania receives some of the most acidic rain due to combustion of fossil fuels, and production of sulfur dioxide - one of the chief components of acid rain.

Recognizing the role long-term data sets play in understanding the dynamics

of surface and ground-water systems in watershed management, Dr. Md. Khalequzzaman (known as Dr. K by many), Professor of Geology at Lock Haven University of PA, has been conducting ongoing, water-quality monitoring in the Fishing Creek (since 2002) and Beech Creek (since 2006). Working closely with the local watershed associations and the Clinton County Conservation District, Dr. K and his students regularly sample and analyze water for nutrients, sediment, and pollutants.

Coupled with these projects, he and his students continue ongoing research at the Avery Big Run facility, a \$1.5-million-passive-treatment system constructed by the Bureau of Abandoned Mine Reclamation's (BAMR) on the Middle Branch of Big Run, in the Beech Creek watershed. Here, multiple seams of coal were mined by numerous operators over many dec-

ades starting in the 1940s and ending in the 1980s. In spite of post-mining reclamation, severe impact to the land and the watershed were seen at this site.

The Avery facility was designed to collect a portion of this site's polluted ground water. The water should move through a series of lined ponds and wetlands. Exiting from the system's outflow, treated water should flow into the Middle Branch of Big Run, currently impacted by AMD from other sites up-stream.

Data gathered over the last four field seasons at 10 stations throughout the facility and 6 off-site locations in the natural watercourse receiving drainage outfall from the treatment system indicate that although the process does raise pH and facilitates the reduction in metals of the water it collects, its effectiveness has declined measurably since it went online in 2006.

Brick Town Challenge Cont.d'

minor changes in the classes to align with PACK.

All racers in the recreation division can enter the Brick Town Gamble Poker Run. There will be 5 tokens to collect on the course... when you come back in you exchange them for a poker hand. The winning poker hand will win a new Red Emotion Glide Kayak.... (As an owner of an Emotion Glide I can tell you they are very nice kayaks.)

This is a day that promises to be fun and will help a very good cause. You can read the Brick Town Trail brochure at the following link for more information on the trail: beechcreekwatershed.com/bricktown/brick_town_trail_brochure.pdf

If you love to kayak and or canoe be sure and save the date so you can come out to join in the fun! Hope to see you there!



Monitoring projects in the Fishing Creek and Beech Creek Watersheds as well as at the Avery treatment facility show the impacts of abandoned mine drainage in the area.



Photos provided by Dr.Khalequzzaman.

Beech Creek Watershed Association Partners with Penn ReLeaf to Planting Tree Seedlings

Butch Davey, Beech Creek Watershed Association Member

On Saturday April 25, 2009 volunteers from the Beech Creek Watershed Association joined volunteer crew members from Penn ReLeaf for a delightful tree planting day. Tree species selected for planting were both native in Pennsylvania. The White Pine and Red Pine seedlings furnished by Penn Nursery were two year olds. The combined crew planted 4,000 seedlings within the scarified planting lanes.

Normally natural regeneration of over story trees is the preferred method of renewing forests. On the Sproul State Forest there needs to be more conifer trees to provide wildlife winter cover, food and provide diversity to the forest. These trees will help provide these ingredients.

The large somewhat remote plateau between Renovo and Snowshoe has been the scene of major forest disturbances for over 40 years. In the late 1960's there were three consecutive years of defoliation by native insects resulting in about 8,000 acres of tree mortality. About 15 years later gypsy moth arrived and there have been several episodes of massive defoliation and tree death. Mix in the tornado of 1985 and a 10,000 acre wildfire in 1990 has resulted in the need for tree renewal including volunteers planting seedlings. Heartfelt thanks go out to all

the volunteer tree planters who have toiled with smiles on their faces knowing that the work done was good.

Equipment operator Greg Swabick from the Snowshoe Division of the Sproul State Forest has skillfully prepared all the planting sites on the plateau for nearly 30 years. Additionally he operated a dozer used to pull a mechanical tree planter where the planting area was appropriate. Many thousands of these planted seedlings have grown to sapling and pole size trees. The work goes on and will for many years to come.

We will finish the planting started in 2009 on April 24, 2010. Penn ReLeaf will be there and we hope Beech Creek Watershed Association will join in this effort. Planters will meet at the far end of Hanna Park in Lock Haven at 7:30 am EDT on Saturday April 24, 2010 and convoy to Penrose Road. For those who know the planting site and wish to travel independently please meet at the Eastern States well site near Penrose Road at 9 am EDT. From Snowshoe drive north on Pa. 144 to Penrose Road and turn right. The Eastern States site is about ¼ mile down Penrose Road. From Renovo take Pa 144 south to Penrose Road turn left and proceed to the Eastern States site. A good time will be had by all.

Beech Creek Watershed Clean Up Cont.d'

can finish the job. Jeff Sturniolo of Glenn O. Hawbaker is site coordinator and equipment will be donated by Hawbaker. We calculate that approximately 40 tons of trash remain in this drainage area and we are optimistic that we can remove a

major amount of it this year on Clean Up Day. This year's Clean Up Day is scheduled for Saturday, April 17 from 8 to 12. Please contact Ann Donovan at am-donova@co.centre.ps.us if you are interested in helping!

Education Tours Rebecca Dunlap, Trout Unlimited

There have been many efforts and subsequent successes in the battle to restore the West Branch Susquehanna watershed from AMD. However, these improvements are often shadowed by the daunting amount of work that still needs to be completed and many local residents appear apathetic to both the successes and restoration work that still lies ahead.

This apathy has had a direct stagnating effect on the membership of watershed associations who are a key component to on-the-ground remediation.

Recognizing this apathy Trout Unlimited (TU) has been working with watershed groups throughout the West Branch Susquehanna watershed to develop a series of public information sessions that detail the current abandoned mine drainage problems, remediation activities, and economic

benefits of remediation. The Beech Creek Watershed Association will be participating in this program by hosting a field trip for Mount Nittany Middle School science students on April 23rd and hosting a free AMD-



Photo provided Trout Unlimited

Participants of the Anderson Creek Watershed Association Education tour.

workshop for area residents in conjunction with the Brick-Town Trail Challenge on July 10th.

Watch for upcoming announcements about the workshop and contact Rebecca Dunlap at 570-748-4901 or rdunlap@tu.org if you are interested in volunteering for either of these events. For more information about previous AMD-workshops, visit <http://www.wbsrc.com/educationgrant.html>.

Join or Renew your membership today!

Visit:

www.beechcreekwatershed.com/

Contrary Run Update Michelle Merrow Alder Engineering

BCWA has two ongoing projects in the Contrary Run Watershed. The Contrary Run SM (SM stands for surface mine) 5 project has been ongoing for several years, and construction is planned for the low flow periods this summer. The SM5 project will include surface reclamation of a hazardous water impoundment and construction of several stream channels to replace channels destroyed by prior coal mining.

The second project began in 2009, and is ongoing at areas SM7 and SM8. These areas contain abandoned highwalls and lowwalls, unreclaimed open strip mine cuts, and piles of poorly-vegetated mine spoil. When the mining was done in area SM7, a diversion ditch was constructed to divert a good-quality unnamed tributary around the cut. In the years following mining, the diversion ditch has breached, and the

stream flows over the highwall into the cut, and then disappears into the former pit floor. The stream re-emerges as a series of AMD discharges to Contrary Run.

Proposed remedial/restorative measures at SM7 and SM8 include reclamation of abandoned surface mines, removal and reuse of coal refuse, and re-establishment of pre-mining drainage patterns. The proposed permanent source reduction measures should eliminate most of the need for treatment of AMD discharges in this area, but a limestone drain and settling basin system may be necessary to treat discharge from the SM8 abandoned pit area.

The SM7 and SM8 project will result in water quality improvement in 1400 feet of stream, namely in reduction of acidity and metals loadings by eliminating sources of AMD. Additional benefits of this project in-



Photo provided by M. Merrow

A stream disappears into the spoil pile in Contrary Run area.

clude reclamation of 300 feet of dangerous highwall on State Game Land 100 and reclamation of 23 acres of abandoned mine lands. Most of this project area is poorly vegetated, and it will be re-vegetated to create a variety of wildlife habitats during the project.

BCWA has several other projects under development in the watershed, including reclamation of an extremely hazardous highwall area

with AMD discharges to both Sandy Run and Contrary Run. Unfortunately, these projects were not funded by the Growing Greener Program this year. The PA Game Commission had also planned for the removal of a large coal refuse pile located in and along Contrary Run, but these plans may also be on hold now that the proposed waste coal facility in Karthaus is no longer being constructed.

Bricktown Trail Update Jamie Walker Beech Creek Watershed Association President

The BCWA is continuing to search for grant resources to complete the master site plan for the trail. In the ab-



Photo provided by J. Walker

A possible site for a stream crossing Bricktown Trail. This crossing is the only physical barrier for the trail.

sence of a large funding source, We have begun to assess the weakest link in the proposed trail which is a pedestrian crossing from Maple Avenue to old route 220. BCWA is working with McTish, Kunkle, and Associates of Montoursville to develop a proposal to assess the abandoned bridge site between Ma-

ple Avenue and old route 220. This is the only physical barrier that needs to be addressed to link Beech Creek and the Bald Eagle State Park. Possible options for crossing the stream include, recycling a historic bridge, design and construction of a new bridge at this location, or looking for a better site for a stream crossing. The assessment work will be possible with grant funding from the Clinton County Commissioners. Volunteers are always welcome to assist in the development of the trail.

Mark your calendar

Beech Creek Clean Up Day
April 17, 2010

Beech Creek Tree Planting
April 24, 2010

The Second Annual Brick Town Challenge:
July 10, 2010

Jonathon Run Assessment and Restoration Ken Flanigan, Beech Creek Watershed Association

The Jonathon Run Assessment and Restoration Plan Project was conducted from 1999-2004. Jonathan Run is a tributary to the South Fork of Beech Creek and is located east of Snow Shoe in Centre County, PA. Prior to the construction of Interstate-80, Jonathon Run was a popular native trout stream with good water quality. The character of the stream changed dramatically with the construction of I-80 in the 1960's.

During the construction of I-80, the stream channel was relocated and rerouted through a box culvert. The headwaters, which were originally located in a wetland area, were filled in with excess sandstone, possibly the Burgoon Sandstone, that contained the mineral pyrite. Also, the site was used for a concrete plant and as a staging area for the huge amounts of borrow & fill that would be used in the construction of I-80.

The pollution to Jonathon Run and its Watershed was caused exposure of pyrite bearing sandstone rocks to the atmosphere and water. Minerals in the sandstones reacted with atmosphere and water to produce the

acidity that polluted Jonathon Run, this is similar to the process which creates Abandoned Mine Drainage. The pH values in Jonathon Run in 2000, ranged from 3.92-5.58, much below that of a healthy stream.

Work in the Jonathon Run project began in 1999 when the Hawk Run District Mining Office started a water quality monitoring program for Jonathon Run by establishing 18 sampling stations from the headwaters to the confluence with Beech Creek.

During 1999 the Beech Creek Association applied for and was granted a \$300,000 Growing Greener Grant to do an assessment of the Jonathon Run Watershed and to begin some of the restoration. Hedin Environmental was contracted

for project management, assessment, and design. Project partners included DEP, the Hawk Run Mining District Office, and the PA Dept. of Transportation.

The project's main goal was reducing the amount of acidity and aluminum and iron loadings to Jonathon Run. This required limiting the contact with the acid containing fill material. The was done by returning the stream to its original channel and the construction of new limestone channels to redirect surface water around acid-bearing materials and to affect an alkalinity boost to the water.

Major project accomplishments include: aerial photographing for mapping and survey work, elimination of pooling of water along the I-80 berm, improve-

ments to the box culvert under I-80, and reclamation on the south side of Jonathon Run was completed by Quality Aggregates, and PennDot. Additional tasks included 1.) The reconstruction of 600 feet of Jonathon Run stream channel that was buried with shallow fill. 2.) The construction of 2,500 foot long diversion channel above the rock pile. 3.) The establishment of vegetation on the large rock pile.

In April of 2003, a collection system from several of the culvert discharges was installed and piped to a pilot-scale self-flushing limestone treatment system that was installed north of the Devil's Elbow Road. These self-flushing pilot-project systems consist of limestone which can be flushed using siphoning

devices to remove solids that form on the limestone aggregate. These systems were monitored and sampled by Hedin Environmental, Inc. for the duration of the grant and later by volunteers from BCWA (Jim Gillman, Mary Vuccola, and Ken Flanigan) until 09/04/2004.



Construction of I-80 in the 1960's near Jonathon Run.



A box culvert was used to allow Jonathon Run to pass under I-80.



Storage area for fill, and concrete plant.



The self flushing pilot-project systems in place at Jonathon Run.

Photos Provided by : K. Flanigan



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