

# Kettle Creek Watershed Association News

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## Growing Greener Awards \$147,000 for Kettle Creek

Pennsylvania's Growing Greener Grants Program announced awards on August 7 for the fourth round of Growing Greener. The Kettle Creek Watershed Association and Trout Unlimited (in partnership) were awarded funds totaling \$147,000 for two separate grant applications.

The two projects submitted to the Growing Greener program were a result of recommendations made in the recently developed *Upper Kettle Creek Fish Habitat Conservation Plan*. The first project, the "Kettle Creek Watershed Tributaries Assessment" was awarded \$130,000. Initial funding for the *Upper Kettle Creek Fish Habitat Conservation Plan* was only available to complete assessment of 30 miles of the mainstem of Kettle Creek and the mouths of five of its major tributaries. This project proposes to continue the fish habitat conservation plan with a more detailed assessment of the five main tributaries to Kettle Creek: Trout Run, Hammersley Fork, Cross Fork, Little Kettle Creek, and Upper Kettle Creek (Kettle Creek

above its confluence with Little Kettle). Further investigation in the tributaries is needed to allow for strategic selection of channel restoration and additional projects to reduce and manage sediment in order to maximize benefits for the watershed.

\$17,000 was awarded to the second project, the "Kettle Creek Riparian Forest Buffer Project." The awarded funds will allow us to get started with restoration of riparian buffer zones along Kettle Creek using native trees and shrubs. Approximately 40 miles of stream channel along Kettle Creek and its main tributaries are identified in the Upper Kettle Creek Fish Habitat Conservation Plan as having little to no riparian buffer zone.

More information can be found on the Growing Greener Grants Program by visiting the DEP's website at [www.dep.state.pa.us](http://www.dep.state.pa.us) and typing in "Growing Greener" as the directLINK. (Read more on recent Growing Greener developments on the next page of this newsletter.)

## Landowners Workshop in May was Well-Attended

Twenty-eight people registered and participated in the 2<sup>nd</sup> Annual Kettle Creek Landowners Workshop held on Saturday, May 4<sup>th</sup>. Funding for the workshop was provided through grants from the Dominion Foundation and RK Mellon Foundation.

Seminars included topics such as "Drought Management and Water Conservation" taught by Gil Hirschel (Susquehanna River Basin Commission), "Landscaping for Wildlife" taught by Amy Gottesfeld (KCWA/TU), and "Fluvial Geomorphology in Plain English" by Jonathon Klotz (Larson Design Group). Participants were sent home with a wealth of information ranging from tips on natural landscaping and gardening to basics of stream channel morphology, as well as the *Kettle Creek Watershed Conservation Guide: A Landowner's Handbook*. (Copies of the conservation guide are due to be mailed to all KCWA members and watershed property owners by the end of summer.)



## Upper Kettle Creek Fish Habitat Conservation Plan

The KCWA and Trout Unlimited have adopted the recently completed *Upper Kettle Creek Fish Habitat Conservation Plan* developed by Larson Design Group. The plan covers the area of the watershed upstream from the Alvin R. Bush Dam reservoir (the Lower Kettle Creek Restoration Plan addresses the lower Kettle Creek watershed). The plan provides an important tool for the decision making of the KCWA, TU, and partners in the Kettle Creek Fish Habitat Advisory Committee for the planning of long-term improvement strategies and implementing future projects for the watershed. The entire plan will soon be available for viewing on the KCWA's website at [www.kettlecreek.org](http://www.kettlecreek.org).

## **KCWA 2002 Annual Meeting Held on May 4**

The KCWA held its annual meeting this year on Saturday, May 4, following the Landowners Workshop. Topics discussed included the recently completed *Upper Kettle Creek Fish Habitat Conservation Plan*, led by Jonathon Klotz of Larson Design Group, and Joe McGurrian of National Trout Unlimited talked about TU's Home Rivers Initiative work in other areas of the nation. In addition to Kettle Creek, TU also works on other Home Rivers projects in the Beaverkill/Willowemoc Rivers of the Upper Delaware in New York, the Kickapoo River in Wisconsin, the lower Snake River in Idaho, and the Jefferson River in Montana. Amy Gottesfeld (TU/KCWA) discussed all the projects and activities accomplished to date and what to look forward to in the upcoming year.

Dick Sodergren, a busy man of many hats (he serves as the KCWA Vice-President, Chair of the Kettle Creek Fish Habitat Advisory Committee, and President of the Kettle Creek TU Chapter) spoke about plans for implementing native trees and shrubs along the mainstem of Kettle Creek and restoring the riparian buffer zone through volunteer plantings and partnership. If you or members of your residence or camp are interested in becoming a "Planting Partner for the Kettle Creek", please contact Dick Sodergren at [ktlcrik@aol.com](mailto:ktlcrik@aol.com) or (814) 355-9798 (or you might have an easier time finding him fishing at the delayed harvest area or near the Road Hollow Bridge!).

## **Trout Unlimited Continues Support of Kettle Creek Projects with New Field Coordinator**

Beginning July 1, 2002, Trout Unlimited contracted Neil Wolfe as the new Field Coordinator for the Kettle Creek Home Rivers Program. This position serves to assist Amy Gottesfeld, the Kettle Creek Watershed Director for TU/KCWA, with the ever-increasing scope of work and management of projects in both acid mine drainage remediation and stream habitat improvement projects. Neil will be assisting in the monitoring of AMD remediation projects and conducting field studies, as well as on-the-ground project oversight and administrative work as needed.

Neil is a recent graduate of Lock Haven University with a Bachelor of Science degree in Applied Geology. He has interned with the DEP's Bureau of Abandoned Mine Reclamation and has logged many hours as a volunteer with the KCWA. Neil can be contacted via email at [neilw@cub.kcnet.org](mailto:neilw@cub.kcnet.org).

## **Thermal Study**

Last April 2001, graduate students from the PSU Center for Watershed Stewardship installed 22 HOBO temperature gauges throughout the watershed. The gauges are electronic devices submerged in the water that are preset to record water temperature once every hour. Water temperature was monitored on the mainstem from the headwaters of Kettle Creek down to just below the confluence of Kettle Creek with Beaverdam Run, including sites on the main tributaries (Cross Fork, Germania Branch, Little Kettle Creek, Hammersley Fork, and Trout Run).

This year the thermal study is being continued by the Kettle Creek Watershed Director, Amy Gottesfeld. Twenty-four HOBO temperature gauges were installed throughout the watershed - some at the same locations as last year and others at new locations. Sites were determined based upon temperature findings from last year. For example, warm temperatures were recorded near the mouth of Little Kettle Creek (as high as 77 degrees Fahrenheit), so several gauges were placed along Little Kettle beginning from the headwaters area down towards the mouth for the purpose of finding out where significant temperature increases begin.

A report on the findings will be generated following final temperature collection this year.

## **PA's Growing Greener Program Funding News**

DEP Secretary David Hess announced on July 1, 2002, that the PA state budget appropriated \$1.3 billion to the Growing Greener Program and has extended the program to 2012. The extension and funding for the Growing Greener Program was made possible by the adoption of a new \$4/ton tipping fee on solid waste disposal in PA's municipal waste landfills. The first \$50 million of revenue from the fee this fiscal year will go to Growing Greener and all revenue generated next fiscal year and thereafter will be dedicated to Growing Greener. However, keep in mind that every time the General Assembly changes or budget changes are proposed, the funding for Growing Greener Program becomes vulnerable and may be subject to change because the funding priorities are not set in stone.

To date, the KCWA and Trout Unlimited have received a total of \$1,033,139 funding through the Growing Greener Program for projects in stream habitat improvement and acid mine drainage remediation. Much of the work that has been accomplished to date by the KCWA and Trout Unlimited would not have been possible if the Growing Greener Program did not exist.

# ***News on AMD Projects in the Kettle Creek Watershed***

## **Surface Reclamation to Start Soon**

Following more than a year's worth of frustration and disappointment due to problems with obtaining permission from a private landowner, we can finally celebrate and anticipate construction beginning on the Twomile Run surface reclamation project sometime in late August or September. As of May 17, 2002, the private land that once bordered state forest land in Leidy and Noyes Townships of Clinton County has become the property of the DCNR Bureau of Forestry Sproul District #10. The KCWA, Trout Unlimited, and all other partners in Kettle Creek AMD remediation praise the DCNR Bureau of Forestry, particularly the Sproul District #10 and its District Forester, Robert (Butch) Davey, for their continued support and commitment to restoring the lower Kettle Creek watershed.

The KCWA and Trout Unlimited's largest project to date in the Kettle Creek watershed – totaling \$576,712 with funds from PA's Growing Greener Grants Program and the Department of the Interior Office of Surface Mining – aims to reclaim 57 acres of poorly reclaimed and abandoned surface mines in the Twomile Run subwatershed of lower Kettle Creek. AMD discharges that emanate from the old "Robbins Hollow Surface Mine" contribute the first source of AMD to Twomile Run. Upstream from these incoming flows of AMD, Twomile Run supports healthy populations of native brook trout and other aquatic organisms. However, with AMD flowing into Twomile Run with a pH of around 3.1 and high levels of toxic metals such as aluminum (42 mg/L) and iron (77 mg/L), it is not difficult to understand why no life can survive in Twomile Run downstream from this point.

*Fish and most aquatic insects cannot survive in water that has a concentration of dissolved aluminum greater than 0.5 mg/L in combination with a pH less than 5.5.*



This surface reclamation project is an important component to the overall strategy for restoration of the lower Kettle Creek watershed. It will result in permanent vegetative cover to the Robbins Hollow surface mine that is a significant source of AMD to Twomile Run, and in turn to lower Kettle Creek and the West Branch of the Susquehanna River. Once vegetation has been established at this site, we expect to see a significant reduction in the base flow and metal loadings to Twomile Run at this site and conditions will be more conducive to further remediation efforts in this area (i.e. passive treatment system to treat small remaining discharges).



*The old "Robbins Hollow Surface Mine", site of the surface reclamation project.*

### **Huling Branch Collection System and Remediation Plan Project**

Field investigations on Huling Branch acid mine drainage (AMD) discharges continue to add to our ever-changing understanding of this complicated site. Late this summer or early fall, piping will be installed along highwalls upslope of the impacted area for the purpose of monitoring water quality and flow rates. It is hoped that intercepting this water will dry up lower kill zones and prevent clean surface water from entering the system. However, since mine maps are not available for this area, it is not certain what role underground mine workings play in the discharge area. We do look forward to finding the answers to many of these unknowns through the airborne remote sensing survey. Funding for this Huling Branch project is provided through the Growing Greener program and Western PA Coalition of Abandoned Mine Reclamation. Hedin Environmental is the contracted consulting firm for this project.

## **More News on AMD Projects**

### **Airborne Remote Sensing Technology Study Underway on Lower Kettle Creek**

Trout Unlimited and the KCWA have contracted the Department of Energy's National Energy Technology Lab in Pittsburgh to conduct an airborne remote sensing survey of the acid mine drainage (AMD) in lower Kettle Creek watershed. Funding has been made possible by the the Growing Greener Grants Program and the Army Corps of Engineers. This study uses infrared and geophysical instruments suspended from an airplane or helicopter to gather data on the location of AMD.



*A helicopter is seen here with suspended geophysical instruments.*

The thermal infrared component of the survey uses heat or infrared radiation to locate groundwater seeps. This works on the principle that when the ground is frozen, groundwater will be relatively warmer and thus shows up as a hot spot on the imagery. Although it cannot determine if the water is good or polluted, it is still a valuable tool in locating the diffuse and often remote AMD seeps. This portion of the project was flown using an airplane in late March 2002.

The geophysics portion of the project uses an array of instruments (flown over via helicopter) that take advantage of the physical characteristics of AMD (e.g. electrical conductivity) will provide data on where the AMD is and most importantly where the mine pools are located. With this technology mine pools can be located up to 300 ft underground. This information is particularly valuable because mine maps are not available for much of the study area.

Trout Unlimited and the KCWA are very excited that the Kettle Creek watershed is the site for this airborne remote sensing study. It is the first time this cutting-edge technology has been used on such a large area (approximately 50 square miles). In addition, the possibilities for applying this technology to other environmental concerns reach far beyond acid mine drainage studies.

### **Technical Assistance Grant Received for AMD Assessment of Robbins Hollow Headwaters**

The KCWA has been awarded a Technical Assistance Grant (TAG) from the DEP to assess AMD in the headwaters of Robbins Hollow, a tributary to Twomile Run. Samples will be collected from fifteen sites (seep zones) once every other month and flow will be monitored at each location on at least a monthly basis. This assessment will complement the Robbins Hollow Passive Treatment System (funded by Growing Greener, Office of Surface Mining, and Trout Unlimited) that is scheduled for construction in 2003 and ensure that the design accounts for all discharges in the Robbins Hollow watershed. Stream Restoration, Inc., of which Hedin Environmental is a part, is the technical assistance provider for this project. The total cost of the project is \$11,800.

*What is the TAG Program?*

In April 2001, \$2.4 million in grants was awarded to technical assistance providers (i.e. Canaan Valley Institute, Western PA Coalition for Abandoned Mine Reclamation, Stream Restoration, Inc.) through the Growing Greener initiative to provide technical assistance at no charge to watershed associations and other Growing Greener grantees. The technical assistance ranges from engineering and monitoring to program management, with limited assistance of legal counsel and data management. More information can be found on the DEP's website at [www.dep.state.pa.us](http://www.dep.state.pa.us) (directLINK: Growing Greener).



## Volunteers Plant Native Trees and Shrubs along Kettle Creek

Many thanks to the volunteers representing the Kettle Creek TU Chapter and KCWA who showed up, ready and willing to plant their day away despite rainy and chilly weather on the morning of Sunday, April 28.

Approximately 200 native trees and shrubs were planted along the regraded streambanks and within the riparian buffer zone at the delayed harvest area, Kerlin property, and Deb's Place Restaurant project sites, as well as along the streambank upstream of the Road Hollow Bridge (Rt 144). Plant species included redosier dogwood, silky dogwood, winterberry, spicebush, red oak, and sycamore, among others.



*Volunteers plant native trees and shrubs to restore the riparian buffer zone at stream habitat improvement project sites along Kettle Creek.*



**FYI:** This year's 2002 PA Watershed Conference is being held September 20-21 at the Sheraton 4-Points in Greensburg, PA. For more information go to [www.pawatersheds.org](http://www.pawatersheds.org).

## New Committees Formed to Address Bridges and Dirt & Gravel Roads

Under the guidance of the Kettle Creek Fish Habitat Advisory Committee, two new sub-committees have recently been established to promote inter-agency/organization communication and address concerns relating to dirt and gravel roads and bridges within the Kettle Creek watershed. The Bridges Sub-Committee had its first meeting with representatives from the Potter and Clinton County maintenance divisions of PennDOT on June 11. The first meeting of the Dirt and Gravel Roads Sub-Committee was held on July 23. It is KCWA/TU's hope that by working together (i.e. townships, PennDOT, Bureau of Forestry, watershed association) we can protect the watershed's aquatic resources while at the same time maintaining and improving the bridges and roadways throughout the watershed.



## Stream Habitat Improvement Projects Update

The Headgate Project that was originally scheduled for construction last summer 2001 will begin sometime by late August. In-stream construction consisting of a series of J-hooks, rock vanes, and cross vanes, and narrowing of the stream channel is expected to take approximately one month to complete. Construction will be followed by several phases of planting native trees and shrubs to establish the riparian buffer zone. Funding for this project is through the Growing Greener Grants Program, PennDOT, Wildlife Forever, and Fish America Foundation. The U.S. Fish & Wildlife Service has provided the project design and will be performing construction.

The stream habitat improvement project planned for the downstream end of the PA Fish and Boat Commission's Delayed Harvest section of Kettle Creek is scheduled to begin on August 26. The project includes construction of an overhead cover deflector that will minimize streambank erosion, narrow an overwidened channel and provide overhead cover for fish; and multi-log deflectors to help in narrowing the overwide channel and minimize bank erosion. Funding for this project is through the PA Fish & Boat Commission. For questions or comments regarding this project, please contact Dick Sodergren at [ktlcrik@aol.com](mailto:ktlcrik@aol.com).

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Kettle Creek  
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***Watershed Director***- Amy Gottesfeld  
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If you have any questions or comments regarding Kettle Creek projects, please contact the Kettle Creek Watershed Director, Amy Gottesfeld. Amy can be reached at (570) 726-9907 or via email at [agottesfeld@tu.org](mailto:agottesfeld@tu.org).

Membership contributions and donations should be sent directly to the KCWA at  
P.O. Box 317, Cross Fork, PA 17729.