



# Stonycreek-Conemaugh River Improvement Project

## AMD Treatment Ponds are a “Hotspot” for Dragonflies

by Dr. Lane J. Loya

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Save the Date:

No SCRIP board meeting in December

Jan. 16– SCRIP Board meeting, Gander Mountain, 9 am

Jan. 24– CVC Member Outing– Ski/Hike, Laurel Mountain State Park Warming Hut, 10 am, RSVP required (See page 2 for details.)

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Bear Rock Run AMD remediation site, looking northwest. The first oxidation pond is visible in the foreground.  
*Photo by Lane Loya*

Although the improvements to water quality that come with treating abandoned mine drainage are well known, additional benefits to wildlife can also occur when passive treatment wetlands are created. These habitats are valuable to many different organisms, particularly aquatic insects such as dragonflies and damselflies (commonly referred to as “odonates” from the Greek word for tooth). Recent research by faculty and students at Saint Francis University has documented such a scenario occurring at the Bear Rock Run remediation ponds near Lilly, PA.

Appearances can be deceiving. Although they can look rather frightening and alien-like to some people, dragonflies and damselflies are actually quite beneficial to humans. As predators, they are important regulators of pest species such as mosquitoes, deer flies and black flies, which they capture in flight. Odonate larvae, which are aquatic and develop in ponds and streams, can also be useful in monitoring water quality.

And, contrary to rumor, odonates neither bite nor sting humans. All in all, they are both beneficial and beautiful animals, and important components of healthy ecosystems.

At Bear Rock Run, SFU biologists Dr. Lane Loya and Dr. Justin Merry and their students have been monitoring the site for both adult and larval odonates over the past six years. Surprisingly, the site has been shown to be one of the most diverse locations in the area for dragonfly and damselfly diversity. Nearly 50 species of these insects have been documented here, a dozen of which have not been recorded anywhere else in the county.

For comparison purposes, there are only about 70 species of odonates known to inhabit Cambria County and just 180 species in all of Pennsylvania. Considering that these AMD ponds are located on only about an acre of land, the site truly is an “oasis” for dragonflies and damselflies.

Ten of the odonates observed at Bear Rock Run have been designated as “species of conservation interest” by the state of Pennsylvania. Of particular interest is a beautiful red and green species known as the Comet Darner, which is considered critically imperiled in the state. *(Continued on page 2)*



A female Comet Darner, *Anax longipes*, observed at Bear Rock Run in May 2012.  
*Photo by Lane Loya*

## AMD Ponds and Dragonflies

(Continue from page one)

Interestingly, this is the largest dragonfly in the northeast, with a wingspan of over 4 inches. Although seen infrequently in most of state, the cometary darter is regularly observed at Bear Rock Run, and has even been shown to be reproducing here. The story of this species highlights the value of AMD remediation to organisms other than those directly inhabiting polluted streams: created wetlands are also ecologically-valuable habitats.

There are a number of reasons why this particular AMD remediation site may be so rich in dragonfly diversity. One important reason is that the site provides a relatively diverse set of microhabitats, with much variation in water chemistry, substrate, vegetation, and depth among the treatment ponds. Secondly, fish, which are predators of dragonfly larvae, are not present in the ponds and may allow some species to flourish that normally would be susceptible to fish predation. Lastly, the entire pond treatment system is surrounded on all sides by forests, which provide sheltering and perching sites for many of the larger dragonfly species. It is likely a combination of these factors that interact to make the site uniquely suitable to dragonflies and damselflies.

**Don't Forget to vote for the Loyalhanna Creek** as PA River of the Year 2015! One vote per email address until December 15. Vote at <http://pariveroftheyear.org>.

CVC Member Outing, Laurel Mountain Skiing/Winter Hike

When: Saturday, January 24, 2014  
10:00a.m.-???

Where: Laurel Mountain State Park Warming Hut (724-238-6568), Laurel Summit Road, Cook Township 15531

RSVP: By Wednesday, January 21 to [cvconserv@gmail.com](mailto:cvconserv@gmail.com) and provide your cell phone number. For cancellations call (724)858-0463.

CVC non-members are encouraged to join us! We request a courtesy donation of \$10, or become a member on the day of the event.

Future research at this dragonfly “hotspot” will include more detailed investigations of the larval forms of these insects as well as more detailed comparisons of the diversity at the site to those of other AMD and non-AMD wetlands. Overall, studies such as these are nice reminders that the work being done to clean up our local waterways has value to both humans and wildlife alike.

*Lane Loya, PhD is an Associate Professor of Biology at Saint Francis University.*



A male Amber-winged Spreadwing, *Lestes eurinus*, observed at Bear Rock Run in June 2009.

*Photo by Phillip Harchack.*

A male Common Whitetail dragonfly, *Plathemis lydia*, observed at Bear Rock Run in May 2010.



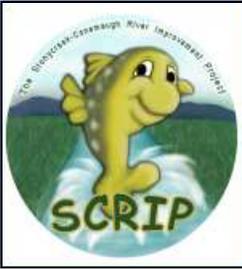
*Photo by Lane Loya.*



A male Black-tipped Darter, *Aeshna tuberculifera*, observed at Bear Rock Run in August 2014.

*Photo by Lane Loya.*

## Please Take Our Survey About SCRIP's Board of Directors



Are you interested in serving on SCRIP's Board of Directors? The only qualifications of a director are a strong interest in the mission and an availability to attend and actively participate in SCRIP meetings and SCRIP-sponsored activities.

SCRIP is open to changing what day of the week and what time of day it meets, depending on the response, so please don't let Friday mornings discourage you from tossing your name in the hat!

Please take our survey (if you have not already done so) and send your responses to Melissa Reckner at [mreckner@kcstreamteam.org](mailto:mreckner@kcstreamteam.org) or 814-444-2669:

1. Would you be interested in serving on SCRIP's Board of Directors if the meeting time was convenient?
2. If interested, what day (M, T, W, Th, or F) and time (morning, afternoon or evening) would you prefer to meet?

Thank You!

### IN MEMORIAM

SCRIP board member Joel Quentin Pontorero passed away on November 9, 2014 after a

tough battle with cancer. His thirty years at the Department of Environmental Protection (DEP) as District Mining Manager of the Greensburg District Mining Office and involvement with conservation groups made him an excellent candidate for the SCRIP board. He taught Mining Principles to new mine inspectors in the U.S. and Indonesia under a federal program and was recognized by Gov. Schweiker for his participation in the "9 for 9" Quecreek Mine Rescue. He was active in many local conservation groups, including the Casselman River Watershed Association, Wells Creek Watershed Association, and the Somerset County Conservancy, and was most proud of his part in helping to bring fish back into many Somerset County streams and rivers, particularly the Casselman and Stonycreek.

Malcolm Crittenden, a Watershed Manager with the Department of Environmental Protection knew of his involvement and accomplishments firsthand: "Joel used his influence as a DEP Manager to assist watersheds. During the 1990's Joel conferred with the Aust brothers about the need to address several acid mine drainage discharges that had damaged large sections of Wells Creek. In the summer of 1996, Joel assigned a summer intern to conduct a complete survey of a water monitoring point in the Wells Creek watershed. This stream survey became the basis of the first Growing Greener grant that was awarded to Wells Creek in 2000. It was through a series of three restoration grants that the Wells Creek Watershed Association restored the stream as a trout fishery."

In line with his wishes, the family requests that memorial contributions be sent to the Casselman River Watershed Association at [www.casselmanwatershed.org](http://www.casselmanwatershed.org) or the Somerset County Humane Society at P.O. Box 182, Somerset, PA 15501.

## SCRIP Elects New Board Member



A new SCRIP board member was elected at the last meeting. Kelsea Palmer is the Engineering Laboratory Manager at Saint Francis University. She earned her B.S. of Environ-

mental Engineering from SFU. Her interest and experience is water quality, specifically in passive treatment of abandoned mine drainage in Pennsylvania and in Bolivia, wastewater treatment and ecological engineering. She has also had experience in consulting and non-profit work in the Pittsburgh, Johnstown and West Virginia areas. She is active as a member of SFU's Center for Watershed Research and Service and is a strong encourager of hands-on projects in the labs, real-world class projects and student networking within and outside of the University. Professor Palmer plans to earn her Professional Engineering license, very much enjoys the outdoors and is excited to start being more involved in SCRIP.

## Economic Impact of Natural Resources by Len Lichvar



The Oven Run AMD abatement projects are just one of the examples of natural resource conservation projects that contribute to the economy in Somerset County and beyond. Photo by Len Lichvar

Economic impact of natural resource conservation is not always easy to determine. However, verified documentation does exist of its value and contribution to the local economy and job sustainability and creation.

At a recent Somerset County Chamber of Commerce event Western Carolina University Economist Dr. Steve Morse documented and determined that if it were not for tourism generated tax dollars each resident of Somerset County would pay \$564.00 more in state and local taxes. The data also documents that \$184, 681.00 is spent on the arts, entertainment and recreation every day in Somerset County.

The data was derived from the PA Department of Tourism through studies conducted by Oxford Economics in the Laurel Highlands region of the state.

Tourism dollars in Somerset County are generated from a variety of sources that include the Flight 93 Memorial, Quecreek Mine Rescue site, in proximity to the PA Turnpike and

major resorts. However, tourism is also generated from the improving natural resources such as land and water used for recreation now available more than ever before in the county today.

The Stonycreek –Conemaugh River Improvement Project (SCRIP) and its many volunteer and professional watershed partners work successfully to conserve and enhance those resources every day and have done so for decades that have garnered state and national acclaim. Portions of the economic impact of that effort are proven and documented. As an example, a mile of a trout stocked fishery, according to the PA Fish and Boat Commission, is worth \$73,986 a year to the local economy. A very conservative estimate of 16 miles of restored fishery in the county has largely been due to the projects of SCRIP and the Somerset Conservation District and the partners it empowers and supports which totals \$1,183,776 of economic value each year to Somerset County. It should be noted that neither of these organizations receive any Somerset County tax dollars.

A conservative and older document shows that five miles of restored whitewater rafting, now available, plus more on the Stonycreek River, is valued at 1.2 million dollars of economic value to the local economy each year. This impact too is derived **directly from the region's improving water quality** that has been the result of the local orchestrated resource conservation efforts.

*Special Note – Please see the Somerset Conservation District report “Future AMD Restoration Costs and Economic Benefits in the Stonycreek River Watershed” available on the District’s website.*

These documented impacts do not even include the less verified values **of the Somerset District’s technical assistance to the agriculture community that enables farmers to maintain and improve the economic vitality and conservation values of their businesses.** It also does not include the Erosion and Sedimentation Control Program that minimizes runoff **and pollution impacts to the county’s waterways thus sustaining and improving their ability to support both industrial and recreational use.**

Much the same can be said in regard the Cambria County Conservation **District’s efforts throughout the Cambria-Somerset region.** Dr. Morse **makes the point that “Years ago preserving open space and conserving water was believed to be a roadblock to economic development. Today, because of the outdoor adventure tourism market, these resources are now looked on as an economic asset by creating tax income and sustaining and creating jobs in the region.”** Dr. Morse also believes that, **“The potential for growth in the tourism market and its economic impacts is very possible and likely.”**

Because of the on the ground resource conservation projects generated by groups such as SCRIP, the Conservation Districts and their many partners, the combined impact of them has been a major contributor in the reduction of the burden of taxes on the Somerset County taxpayer and no doubt others throughout the region.

Weaver Run Restoration Project Completed in October  
by Melissa Reckner



Weaver Run D8A Treatment System. Photo by Melissa Reckner

The Paint Creek Regional Watershed Association (PCRWA), in cooperation with the Kiski-Conemaugh Stream Team and PA Association of Conservation Districts, completed its *Weaver Run Restoration* project in October. Utilizing a Growing Greener grant, PCRWA had three open limestone beds designed and constructed for three Abandoned Mine Discharges that inhibited aquatic life in Weaver Run, a small, headwater stream that flows past Windber Stadium and into Seese Run behind the Subway in Windber. Seese Run is a tributary to Paint Creek..

The first and largest system, D10, was built in 2012. It took water with an average pH of 3.45 and improved it to an average of 6.82. The other two, identical systems, which are referred to as the “Twins,” were built this fall. They’re smaller, but are treating the associated discharges – 8A and 8B – as expected. While only one round of water samples were collected from the newer systems, we see that together, the three systems are removing an average of 201 pounds per day (ppd) of acidity, 11 ppd of Iron, 8.7 ppd of Aluminum, and 126 ppd of Manganese. Downstream, the pH on Weaver Run has gone from an average of 4.42 to a

6.24, a level that can support trout. With the two newer systems online, we expect the pH to increase a bit more.

Earlier this year, the Windber Sportsmen’s Club stocked Weaver Run with brook trout for the first time in over 80 years. All summer, PCRWA received reports of people catching fish in Weaver Run near the Stadium and even in Seese Run behind McDonald’s. The Stream Team will continue to monitor these systems to ensure they operate as intended. Hopefully next year, we can do biological surveys on Weaver to document the changes in this waterway.

These systems are the first on-the-ground restoration projects completed by PCRWA. If funded, PCRWA will next turn its attention to Babcock Creek in the Gallitzin State Forest and complete a feasibility study for several discharges along this stream.

PCRWA is also reinvigorating its membership, which is only \$5 for an individual, \$10 for a family, \$25 for a group, and \$50 for a Sponsor. If you would like to join PCRWA, please mail your check and contact info, including email, to 514 Shady Lane, Windber 15963. PCRWA usually meets the 4<sup>th</sup> Monday of every month at 5:15 at the Good Shepherd Lutheran Church in Rummel. You are most welcomed to participate! Call Rich Wargo, PCRWA’s President, at 814-525-0844 or me at 814-444-2669 to confirm the meetings are on, since we sometimes move them to accommodate board members’ schedules. Meetings will resume in 2015.



Marianna and Rafeala mix bentonite clay to help seal the weir. Photo by Kelsea Palmer

St. Francis Students Install Weirs  
by Kelsea Palmer

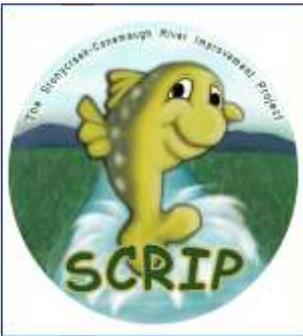
Hands-on experience for 30 of Saint Francis University's juniors! They worked together to install SIX different weirs near Indiana, Portage and Windber, PA in passive systems, mine discharges and streams. Weirs are dam-like structures that allow for easy measurement of water flow. This project is part of our fluid mechanics lab, and results from the weirs will continue to help watershed organizations monitor the flow and water quality.



Derek, Rafeala, Bruna, Ryan and Andrew standing in front of a weir during construction at the Swallow Farms treatment system out-fall in Shade Creek Watershed. Photo by Kelsea Palmer



Andre and Isabela prepping to start installing a weir on a discharge along the haul road of Penn Hills Passive Treatment system. Photo by Kelsea Palmer



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SCRIP is the Stonycreek-Conemaugh River Improvement Project, a coalition of grass-roots groups and local resource agencies working to restore and promote the Upper Conemaugh watershed.

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Make your check payable to SCRIP, or for a tax-deductible contribution, make the check to Southern Alleghenies Conservancy/ SCRIP.

\* If you are not sure of your membership status contact SCRIP's secretary at [mreckner@kcstreamteam.org](mailto:mreckner@kcstreamteam.org) or 814-444-2669.

Send donations to:  
 SCRIP  
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