



CREEK CONNECTIONS LINK

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Newsletter for CREEK CONNECTIONS

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Meadville, Pennsylvania

Is It Getting Warm in Here?

By Perry Bruno, Allegheny College Student

I'm sure you have seen it on the news, on the radio, or even in the movies, it's the problem of global warming. Everyone talks about it. The movie Inconvenient Truth came out recently, which explores the facts of global warming. It was even shown in the Allegheny college campus center for everyone to come see. Many people have many questions about global warming and wonder if it's really here. Well, the evidence all points to yes, while everyone hopes for no.

To truly understand the problem you need to know what global warming is. Global warming is a theory that explains that the earth's temperature is gradually warming. Since the late 19th century the earth's temperature has gone up almost a whole degree. In the next century it is predicted that the temperature can go up from 2.2 degrees to 10 degrees. The causes of this temperature increase are both natural and man-made. Although the part done by man only accounts for 1/10 the total emission of CO₂, which is one of the main gasses causing the greenhouse effect, this 10% wasn't there years ago. The greenhouse effect is the term used to describe the atmosphere's gasses holding in the heat. This is necessary to have life on the planet. The problem is with the extra gasses being released into the atmosphere and creating a larger barrier and less heat is getting out, which as a result, we have global warming.

When people ignore these facts they are hurting not only themselves but also hurting future generations. The problems that this is causing are detrimental to everyone. Some of the problems, which have hit home, are hurricanes. The numbers of category 4 and 5 hurricanes have nearly doubled in the past 30 years. We all saw the devastation of Katrina. How bad are the hurricane seasons going to get in the future? Two hundred and seventy nine plant species have recognized the global temperature increase and have, as a species, slowly

changed location toward the poles and away from the equator. At the rate we are going we can look for many more problems to occur such as the sea level rising 20 feet with the loss of the ice shelf in Greenland and the poles. Three hundred thousand people are predicted to have their cause of death attributed to global warming. Summer heat waves will be more frequent and much more intense. The Arctic Ocean will be completely ice free by the year 2050 and also by that year it's predicted that a million different species will be extinct.

So what do we do about it? We change things. Some easy things that you can do at home are things like changing your light bulbs to CFLs (compact fluorescent light bulbs). You can also have your air filters changed in your house. Additionally, and maybe be the easiest, is turning your thermostat up two degrees in the summer and down two degrees in the winter. You can also do things to help while on the move. One thing that can have the biggest impact is using your car as little as possible. Do things that can benefit you while benefiting the earth like riding bike or walking to places that are close to home. When going to work find some neighbors and co-workers to start a carpool. So instead of driving 4 cars you only take one. If we don't do something to change the situation, the earth we know and love can have a whole new makeover for your kids and grandchildren.

Resources:
<http://yosemite.epa.gov/oar/globalwarming.nsf/content/index.html>
<http://www.climatecrisis.net/thescience/>

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Who's Tired?

By Tara Fortier, Allegheny College Student

It was cold and bright at 9AM on Friday October 6, as 200 high school students from Maplewood and Saegertown watched a female student disappear in a stack of tires. Had she fallen? Was she hurt? No, rather the tires were being stacked around her as part of an illustration of the dangers of tire piles.

This was the kick-off to a morning of hard work for the 200 students in attendance. These students had been organized at Bossard's Salvage Yard to load four semi-trailers with an estimated 8,000 tires that had been piling up for over thirty years.

Nathan Renaudin, Samantha Taylor, Kevin Sawatsky and Case Kunick, students of Jason Drake at Maplewood High School, organized the clean-up project. While each is continuing their study of different topics relating to tire piles, this collaborative effort was part of their senior projects.

The idea for the project formed when the students learned of the serious dangers posed by tires. Not only are tire piles a fire hazard; they are also a breeding ground for mosquitoes that may carry the West Nile virus. Furthermore, while the Department of Environmental Protection has a system to clean up piles of over 10,000 tires, many smaller piles go unnoticed.

Alarmed by what they learned, and at the inability of small business owners such as Bill Bossard's to dispose of tires properly without going out of business the four students decided to put "science in motion". In response to a grant proposal, they students received \$6,250 from the Milken Family Foundation for the project.

Armed with the funds, they seized an opportunity presented to them by Enviva Materials LLC who donated the service of transporting and processing the tires for recycling. The tires are brought to their facility in Youngsville, Ohio where the rubber is separated from the steel and turned into rubber mulch for use on playgrounds or on stadium tracks.

On this crisp Friday morning, the four students were joined by 200 of their peers, Mr. Drake, representatives from the Milken Family Foundation and Enviva Materials LLC and several Creekers from Allegheny College. Wearing identical t-shirts provided by the Milken Family Foundation they divided into four groups and dove into the massive pile of tires. Each group was responsible for loading a semi-trailer with as many tires as possible. Within four hours all 8,000 tires had disappeared into the four trailers and the group stepped back to survey their work and their now dirty t-shirts.



Seen Any Hellbenders Recently?

By Matt Knittel, Allegheny College Student

This summer Creek Connections kicked off an all-new program: Creek Camp. A weeklong adventure sponsored by the Bayer Foundation that was open to 10th and 11th graders for the small fee of nothing. That's right, this camp was absolutely free. Students ate and slept on Allegheny College's campus in one of its majestic dining halls and grand dormitories. The week was spent traveling to different streams, lakes, ponds, wetlands, farms, etc. where experts in various fields gave informative lectures before leading the students in hands-on activities that ranged from water quality analysis to electro-fishing and concluded with a presentation of a weeklong research project.

Six students participated in Creek Camp this summer. The students arrived Sunday afternoon and were thrown into the week by receiving a crash course in GPS using their own brand new units that they received upon arrival. As Sunday faded into Monday the students were off to visit various farms that had undergone riparian zone restoration. This section was led by the Crawford County Conservation District's Brian Pilarcik. Other adventures included a trip to the Pymatuning Reservoir area to learn about wetlands from the DCNR's Linda Armstrong and then the afternoon was spent electro-fishing and seining with Andy Turner from the Pymatuning Lake Ecological Laboratory. An

evening project included studying the effects of different levels of dissolved oxygen on fish respiration rates, which was presented by Doug Krings of the Bayer Corporation. Possibly the most memorable event for the campers and staff was our reptile and amphibian hunt in French Creek where two of Pennsylvania's rare and native hellbenders were found – much to the pleasure of everyone. April Claus and Patti Griest brought several specimen's of reptiles and amphibians for the campers to observe and learn about in the classroom before heading out on the hunt. After searching the creek we also went to the forest and pond areas of Allegheny College's Bousson research area outside of Meadville. Thursday's adventure was a six-mile canoe trip down French Creek from Saegertown to Bicentennial Park in Meadville. Gerry Lang, a regional freshwater mussel expert, as well as other environmental experts accompanied the campers on this canoe trip. Despite hitting a little rain along the way, the trip went well as we cruised down the stream flanked by great blue herons and at least two bald eagles.

The week finally came to an end, when exhausted – but happy – campers presented their research findings to their parents at a luncheon. While the week was packed full of activities from 7 in the morning until 9 or 10 every night the campers and staff all enjoyed it. I for one am looking forward to next year's camp, and even greater ad-



Creek to Creek: Images from your creeks. Fall 2006.



Above: Students from Meadville Area Middle School search for aquatic macroinvertebrates in Mill Run.



Above: Students from Seneca Valley Intermediate High School run chemical tests on the water from Little Connequenessing Creek.



Above: Students from Conneaut Lake Jr. High School search for aquatic macroinvertebrates in Inlet Run.



Above: Students from Frick International Studies Academy run chemical tests on the water from Nine Mile Run.



Above: Students from Shady Side Academy run chemical tests on the water from Glade Run Creek.



Above: Teachers get a stream geology lesson from Dr. Rachel O'Brien at this year's Summer Institute.

Feature Creature

By Matt Knittel, Allegheny College Student

I am a very small creature, but I am easy to see. I begin life as an egg and when I hatch I swim around in small pools and ponds until I am developed enough to walk around on land. Later in my life, I will return to these small pools and ponds to spend the rest of my life there. I am known as an insectivore because I eat mainly insects. Mmm You're most likely to see me if you're wandering through a forest with soft, moist soil – especially after a rain. Like I said, I'm easy to see – my bright red spots and neon orange skin point me out. Don't worry though – predators leave me alone. The bright colors of my skin and spots acts as a warning to other creatures that I taste bad. If something tries to eat me, I emit a nasty tasting poison that will make predators sick. Eventually, my bright orange skin will turn an olive color and I will return to my pond. Do you know who I am?



Testing Tip

By Kaitlin Mueller, Allegheny College Student

Remember to Record the Weather

What is the first thing you do when you reach your water-sampling site? Do you begin to collect water for chemical testing? Take the water temperature? Look for crayfish? Well, if you begin by doing any of these things, you have forgotten to do something very important. The data collection sheet asks for important information that is often disregarded. At the top of the sheet, the date, time, site name, site number, school, and names of testers are often recorded. Below that information, however, is a section that asks students to make a few observations about their water-

One of the most important observations to record is the weather. The weather conditions of the past 24 hours can help you figure out why the chemical tests turned out the way they did. Rain, for example, may cause lots of soil and sediment to wash into waterways. This will make the water appear dirty, muddy, or turbid. If your stream is located in a rural area, heavy rains may also cause agricultural runoff to be deposited into your stream. The nutrients in fertilizers and animal manure will cause the levels of phosphorous and nitrates to increase in your waterway. Air temperature is also important to note. If the weather has been warm, you might expect the temperature of the water to increase also. It is also important to remember that water temperatures affect dissolved oxygen levels. Higher water temperatures cause dissolved oxygen levels to decrease.



As such, the weather offers helpful hints for understanding your chemical test results. Being attentive to the weather, and the chemical changes it causes, will help you to learn about the many different things that affect water quality in your local waterway.

2006-2007 Creek Connections Staff



From left to right: Standing: Katlin Mueller, Kelsey Mitchell, Tara Fortier, Wendy Kedzierski (Project Coordinator), Sarah Culver, Sarah Dippold, Cassandra Hamilton, Jim Palmer (Project Director); Sitting on bench: Lindsay Herendeen, Carrie Kean, Emily Ricotta; On Ground: Perry Bruno, Matt Knittel; Not Pictured: Laura Branby (Pittsburgh Field Educator), David Cass, Dan Conant, Nicole Scatena.

To see a full color version of this newsletter go to <http://creekconnections.allegheny.edu/newsletters.html>

FEATURE CREATURE ANSWER:

This issue's Feature Creature (pg. 5) is a red spotted newt, *Notophthalmus viridescens viridescens*

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