

CREEK CONNECTIONS LINK

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Newsletter for CREEK CONNECTIONS

Based at
Allegheny College's
CEED
Meadville, Pennsylvania

Over 1,000 Creekers Participate in Symposia

by Nicole Mason, Creek Connections

Our first newsletter of the school year began, "You are part of something big, very big!" Just as the entire Creek Connections program has seen record numbers of students, teachers, and schools involved this year, attendance at this year's Student Research Symposia also shattered previous records. With nearly 500 students participating in the Pittsburgh Symposium and over 550 participating in the Northwestern Pennsylvania/Southwestern New York Symposium, attendance was up over 40% from last year! In this edition of the *Link*,

we highlight some of the exciting moments at this year's Symposia and hear what the students themselves thought of the events. Hopefully, all participants walked away from the Symposia with a renewed commitment and energy for watershed stewardship in their home towns. Remember, Creek Connections doesn't stop at the walls of your classroom--share your experiences with your friends, neighbors, and families and keep what you've learned in mind this summer when you go fishing, swimming, or boating at your local waterway.

Watershed Studies Celebrated at Allegheny College

by Nicole Mason, Creek Connections

The Henderson Campus Center was jumping on April 23rd as over 700 students, environmental professionals, teachers, and community members gathered for the 9th Annual Creek Connections Northwestern Pennsylvania - Southwestern New York Student Research Symposium. Representing 18 schools and the classes of 28 teachers, student participants at this year's event displayed high quality, innovative projects and insightful research.

The Symposium offered something for everyone, with poster displays, oral presentations, and opportunities to interact with other students and environmental professionals in the morning, as well as fun,

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Camp Kon-O-Kwee Bursts with Creek Projects

by Lindsay Herendeen, Allegheny Student

The Pittsburgh Symposium took place at YMCA Camp Kon-O-Kwee for the second year in a row. This year, displays were bursting out of the building! Schools from the Pittsburgh area had the opportunity to present their research and findings from the year to others, and most had more than one

display. The best part of the symposium was "knowing how hard people worked, then seeing it!" one student claimed. Indeed, hard work was evident at every turn in the building where projects were exhibited.

The symposium is the culmination of a year of hard work with Creek Connections and students were enthusiastic to share with others what they have learned. A wide variety of displays, from detailed scientific research about waterways, to cakes made to represent Pennsylvania's watersheds, were eagerly manned by their creators, anxious to share their findings. "We made a website about Salamanders," says Zack from West Mifflin. "There are lots of links." Other projects consisted of music composed to represent a creek during a storm, board games, case studies and comparisons of wa-

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Cheryl Kubelick, Program Officer of the Buhl Foundation, a generous sponsor of the Pittsburgh Symposium, welcomes participants to Camp Kon-O-Kwee.



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Watershed Stewardship Celebrated at Allegheny College- *continued from pg. 1*

hands-on activities in the afternoon. "Seeing all the different displays and learning more about the creek" were one student's favorite parts of the day, while "hands-on stuff" and "meeting new people" were highlights for others. The poster displays covered a variety of watershed-related topics, ranging from "I Spy Animals in French Creek," "Keep Your Creek Neat," and "Feeling Froggy," to "The Effect of Roloids (Alkalinity) on the Height of Aquatic Plants," "Water Filtration," and "How Fertilizers Affect Phosphate Levels."

Justin Brunet participated in Fish Prints for his afternoon activity. Brunet shared that he learned about "the origin of fish prints and how to make them." He and 20 other students worked with Allegheny College Environmental Science Professor, Caryl Waggett, to paint rubber replicas of common local fish and stamp them onto muslin fabric. Students went home with artful renderings of steelhead, rainbow trout, and bluegill, as well as snapping turtles and crayfish. Brunet thought that this activity was both "interesting and different, in a good way." He went on to say that the whole Creek Connections school year was enjoyable because it "made [him] aware of all of the dangers to our waterways."

Beth Nass of Fort LeBoeuf High School had the opportunity to participate in the "Town Hall Meeting" focus group activity. In this activity, she played the role of a stakeholder in a case where developers were considering building a mall in a wetland. Nass expressed that "It was nice to get different points of view on the situation." Nonetheless, the best aspect of the Symposium, in her opinion, were the student presentations.

The oral presentations were indeed "educational and entertaining," as one student described them. Maplewood High School students gave us a window into "A Day in the Life of Jake." The main character of this video showed us how so many different, seemingly mundane, aspects of our lives depend on or affect water quality. Have you ever considered what your morning bowl of cereal has to do with creeks? Well, Jake and his buddies pointed out that the cows that produce the milk we put on our cereal can have a detrimental impact on waterways if they are allowed to trample stream banks or defecate in the water.

Conneaut Lake High School students also put on quite a show with their version

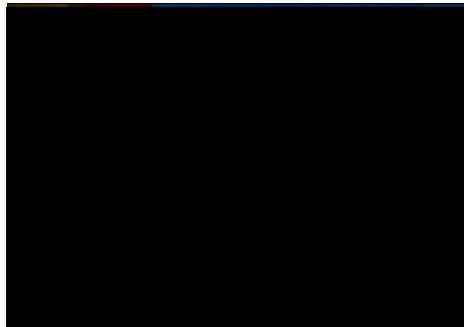
of "Captain Planet Saves the Creekers." Several other schools including Clymer Central, General McLane, Youngsville, and Cussewago Elementary also did an excellent job of conveying the results of their research to an attentive crowd of over 200 people.

The Symposium was an opportunity for students that had participated in Creek Connections all school year to reflect on their experiences learning about watersheds. Annie Kandrot of Meadville Area Middle School said, "It was interesting to learn about the local environment." "It was fun to learn something other than straight out of the book," added Teanna Green of Conneaut Lake High School. Elain Davis, also of Conneaut Lake, particularly enjoyed looking at other projects and wrote that they "gave [her] a better insight on what's in the water." Heidi Rhoades from Maplewood really liked Creek Connections because "you got to go outside and learn a ton!" One comment that came up repeatedly was that students enjoyed Creek Connections this year because it gave them an opportunity to learn about something that actually applies to them and has relevance to their daily lives.

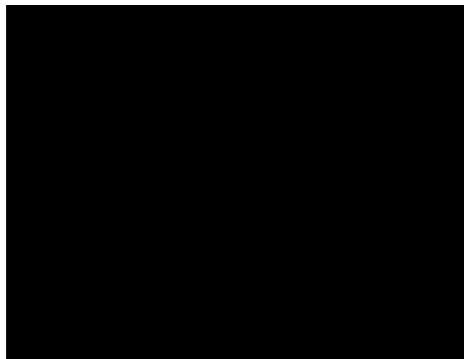
Creek Connections would like to thank all the students, teachers, Allegheny interns and volunteers, and environmental professionals that took part in both of this year's Symposia. These events and the entire Creek Connections year were a smashing success thanks to your hard work and dedication. Congratulations on a job well done and make sure you put what you've learned through Creek Connections to work in your schools and communities. You have made and can continue to make a positive difference in your watershed!



As always, the birds from the National Aviary were a big hit. This owl was a little shy but fascinated the countless students that stopped by to learn more about him.



Above: Interactions between students and environmental professionals are an important part of the Symposium experience. Here a student chats with Rich Neville of the Department of Environmental Protection. Below: Students from First District Elementary School took a walk up to the Campus Center to explore the displays, including this one on turtles.



BMP's, or Best Management Practices, are an important set of techniques for keeping our waterways healthy and robust and to minimize the impacts of agriculture on water quality. This student found the US Department of Agriculture's Natural Resource Conservation Service display particularly interesting. Riparian buffers and stream bank fencing are two BMP's that Creek Connections schools are helping implement in the field. (See page 4 for details.)

Camp Kon-O-Kwee Bursts with Creek Projects

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ter quality tests, and live critters to complement displays. Simply by walking around the display area, it was possible to get an idea of just how much time, effort, and excitement had gone into these projects.

Flooded with a multitude of excellent displays, Creek interns picked, with great difficulty, seven projects to represent the Pittsburgh area schools the following week at the Symposium held at Allegheny College. These projects included: "Reptiles and Amphibians of Pennsylvania" from Seneca Valley High School that thoroughly showed types of these creatures that could be found in northwestern Pennsylvania; "Name that Macro" from Seneca Valley High School, a macro guessing game based on clues and complete with gummy representations; "The Creek Connections Alphabet Book" from Seneca Valley Senior High School with different animals and bugs standing for each letter of the alphabet; "Carlos' Creek Critters," a pop up book from Seneca Valley Senior High school; "Creek Comparison" from Seneca Valley Intermediate High School showing a comparison of acid mine drainage on various creeks along with a model showing how acid mine drainage enters a creek; "Caddisflies" from Shady Side

Academy Middle School, a question and answer interactive display about these macro invertebrates; and "Salamanders: A Website" by students from West Mifflin Area High School. All displays were excellent, well put together and deserve a round of applause! Keep up the great work!

Symposium participants got to enjoy the beautiful weather later in the afternoon during the focus group hands-on activity sessions. "Thoughts on the Bank of a Creek," a creative writing session, was a big hit and described as "fun and interesting." Students who were lucky enough to participate in the "Mussels of the Conno-Q" activity learned "what is happening to make the mussels extinct," while "Life at the Surface" participants found it "creative and informative" to design their own critters out of wire and pipe cleaners that would float due to surface tension.

This comment by one participant sums up the experience of many of her fellow creekers: "It was very fun; I loved it! Let us stay longer!" We'll see what we can do about that for next year, but in the meantime, start thinking about what your next independent research project might entail.



Above & below: Students explored the poster displays designed by their classmates and kids from other schools. The variety and creativity of the styles, topics, and media of the displays were truly remarkable. The display on Northern Red Salamanders above and "Macro Calendar" below were just two of the outstanding projects produced by Creek Connections students from the Pittsburgh area.

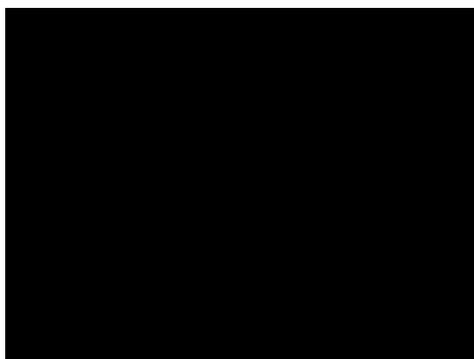


Above & below: Creek Connections staff checked out all the projects at the event and had a difficult time selecting displays to represent Pittsburgh schools at the Symposium at Allegheny College one week later.



Above: Mr. Miller, a teacher at Brashear High School, also led a focus group on PA birds.

Below: Students use wax, hot glue, wire, and pipe cleaners to design a bug in "Life at the Surface."



The Pittsburgh Symposium

by Ryan Stallard, West Mifflin High School

I recently attended the Symposium hosted by Allegheny College's Creek Connections Team. The gathering at Camp Kon-O-Kwee welcomed schools from all around the area. Students that attended ranged from the ages of nine to nineteen years old. Projects included videos, posters, models, and even water-quality related games. The Symposium was designed for people of all different water-knowledge levels. An experienced Creeker could go and be mentally fulfilled, as well as a person who has never been in or explored a creek. Every Creek Connections member had a "Focus Group" activity in which the teacher described a concept such as water buoyancy or riparian zones. Each activity was designed for an age group and included a game or challenge that was entertaining. Overall, the whole symposium atmosphere was pleasant and informative. Everyone who took part in it had a great academic experience!

Stream Healers: Schools Plant Trees to Save Water Quality & Lives

by Nicole Mason, Creek Connections

Western Pennsylvania is 2,800 trees greener this spring, thanks to the efforts of students from two Crawford County high schools. One hundred thirty Maplewood High School students planted about 2,300 of those trees on April 28th. Much of the morning was spent replanting Norway spruce trees that will one day constitute a “living snow fence” along I-79. According to Mark Lewis of the Department of Conservation of Natural Resources Bureau of Forestry, these sites were “not the best... When they plow, the snow comes over the bank and lands right here.” He added, “Some trees from last year didn’t survive so we are using bigger, hardier trees this year to give them a better shot of surviving.”

Tree planting has become an integral part of the Maplewood High School experience and has inspired many students, including senior Ryan Stover, to want to pursue a career in forestry. Ryan is headed to the University of Maine this fall after having participated in six tree-planting efforts. He described the I-79 living snow fence effort as “preserving riparian zones and saving lives.” Stover also mentioned that preserving riparian buffers around waterways

could reduce flooding, which also saves lives. Mandy Brown, a 9th grader on her second tree planting project, explained that before heading to the planting site, she and her classmates learned “how to plant properly and what the snow fence will do for the environment and people traveling on the highway in the winter time.” Stephanie Wilhelm, a 10th grader, added, “It’s a great experience—we can drive by and see the work we did when we’re older.” If you’re on I-79 Southbound between the Edinboro and Saegertown exits, you, too, will be able to see these students’ work—just look for plastic tube-like tree shelters and newly planted and flagged conifers.

Although the main goal of the I-79 project is to reduce the amount of snow that drifts and blows across the highway, thereby reducing the amount of salt that needs to be applied to roadways, the project also has important implications for water quality. Mr. Drake, the mastermind behind the effort, called the endeavor “a creek project—all that water eventually is going to end up you know where. The trees are going to have nice filtration properties.” The living snow fence project could not have been a success without the involvement of many partners, including the PennDOT Green TEEM (Transportation Employees for Environmental Management), Crawford County Conservation District (CCCD), the DCNR Bureau of Forestry, the Western Pennsylvania Conservancy, French Creek Project, the University of Pittsburgh, and Creek Connections.

Mr. Drake may hold the record for the number of tree planting projects completed, but he has also inspired other teachers to take on similar projects. Mrs. Spellman and 40 of her sophomore and junior environmental science students from Conneaut Lake High School completed their first riparian restoration project on May 13. Approximately 500 conifers and hardwoods were planted on the Rendulic Brothers Dairy Farm, which is part of the Shenango River watershed. Juniors TrisAnn Rendulic and Heather Cotterman spearheaded the effort and partnered with CCCD, DCNR, the Natural Resources Conservation Service (NRCS) and the Pennsylvania Game Commission to obtain project funding through the Forest Land Enhancement Program (FLEP).

The Rendulics installed stream bank fencing prior to the tree planting to keep cattle out of the stream. TrisAnn commented on the importance of the project: “The installation of the riparian buffer will aid the environment greatly. The fence will eliminate erosion from cattle walking in the stream and excess nutrients from manure will be reduced. The manure causes algae blooms, which eventually take the oxygen supply from fish. The trees planted along the corridor will provide shade during the summer. Cool water contains more oxygen for fish and other aquatic organisms, enabling more species to populate the area. The trees and grasses along the stream soak up extra nutrients, slow down the water running off the land, and reduce the pollutants entering the stream. Without excess sediment, more animals will form habitats in the gravel and rocks.” Amanda Loutzenhiser added, “The water is going to flow into Hartstown Marsh, then into the Shenango River, and eventually into the Gulf of Mexico. The work we’re doing is going to help a lot of people downstream.”

Hats off to all of the “stream healers” from Maplewood and Conneaut Lake who participated in both of these projects!



At left: Maplewood students hard at work replanting Norway spruce trees along I-79.

Above: With the Rendulic Brothers Farms in the background, Conneaut Lake students plant hardwoods.

Below: Brian Pilarcik of the CCCD confers with Mrs. Spellman as the project unfolds right on schedule.



PTI Reveals Poor Water Quality at Wyman's Run

by Nicole Mason, Creek Connections

A Pollution Tolerance Index conducted at Wyman's Run in Cochranon on April 28th confirmed suspicions of poor water quality in the creek. Wyman's Run is characterized by what Cochranon teacher Mr. Grzegorzewski called "unusually high erosion" and is particularly flood prone.

Sarah Shirey, a 9th grader at Cochranon, explained that she and her colleagues were "collecting bugs to see if the water is polluted. I think it will probably be pretty polluted," she added, "because of the flood we had. The water was up over the bridge and damaged many homes in the floodplain." Shirey's classmate commented on the how cloudy the water was during and after the flood and said that the low diversity and abundance of aquatic life was probably due in large part to this high turbidity. Another student noticed a strong smell of diesel fuel and hypothesized that it, too, might be polluting the water. The Wyman's Run watershed is predominantly forested with a few small corn and hay farms so nutrient pollution is not particularly problematic there.

Although the average PTI score of 18.2 was a bleak "poor" rating, the students were still excited by the sizeable craneflies they uncovered in the creek. "Whoa, that's awesome!" and "Eeewwuh!" were heard often throughout the afternoon. Mr. G.'s stu-

dents will conduct another PTI next fall to see if there are any significant differences from their recent analyses.

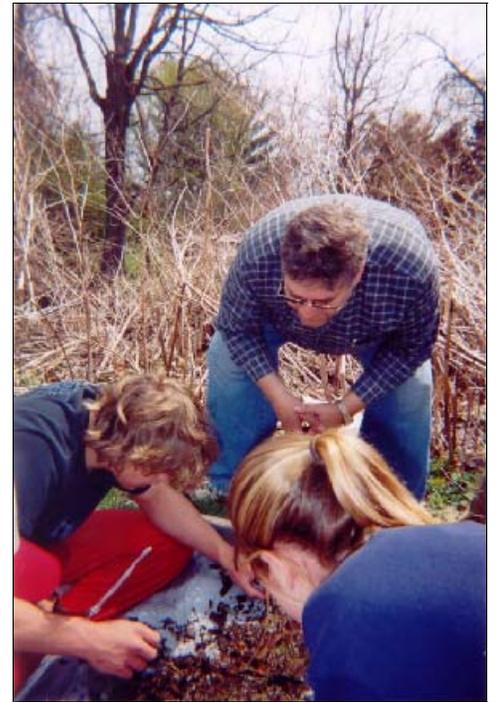
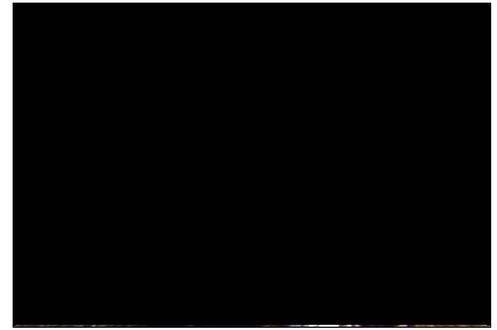
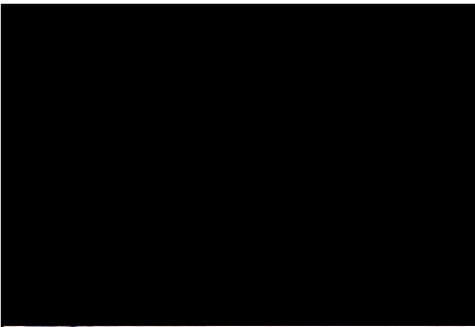
After having completed their Pollution Tolerance Indexes, Cochranon students grabbed garbage bags and did an impromptu stream bank clean-up, collecting debris and garbage along the waterway.

In addition to analyzing Wyman's Run biologically, Mr. G. explained that his Science National Honors Society students will be "monitoring erosion along the banks to see if they need to put in some remediation measures." To do so, they will be driving rebar stakes into the bank up to one mile upstream and quantifying the amount of material that erodes from the banks over the course of one year.

Cochranon isn't the only school conducting macroinvertebrate studies this spring. As this newsletter was going to print, classes at Conneaut Lake High School, Sherman Central School, Frick International Studies Academy and Seneca Valley Intermediate High School all had biological monitoring outings planned. Mr. Preston will even be bringing his Carmalt Elementary School students up to French Creek for the day to explore how the biota of this waterway compares to what they found down in the Pittsburgh area.

Top: Cochranon students wade into the turbid waters of Wyman's Run to kick net.

Bottom: Students pick through their nets to see what kinds of critters they collected.



Top: One small group records the results of their Pollution Tolerance Index.

Bottom: Mr. G. takes a look for himself and helps students identify macroinvertebrates.

Winding Through Sherman

by Ms. Paul, Sherman Central

As you may be aware, French Creek begins in Sherman, New York, and winds through the village before heading on towards the town of French Creek and into Pennsylvania.

The 5th graders at Sherman Central started out the year with a presentation from our Allegheny College partners in the school's John Butler Auditorium. Next, we discussed how French Creek flows from Sherman, into the Allegheny River, Ohio River, Mississippi River and out into the Gulf of Mexico. At this point we also discussed what tributaries are and talked about them in science and social studies.

We have flown over French Creek in our flying machines and Wright Brothers aircrafts that we built; written about the fish that we might find in the creek and in Chautauqua County; did a macroinvertebrate study with the Audubon Society, and we are

going to start looking at the animals and insects that would be found in the area.

One thing that we have done is walk the trail that goes along the creek to see the changes that take place with each season. The children have been very observant while enjoying the differences in the environment with the changing of the seasons.

With 52 children doing the testing this year, we would not be able to do the program without the help of our Allegheny partners. We thank them very much for making the trip to Sherman to help us.



West Mifflin Monitors for 6th Year

by Ms. O'Lare, West Mifflin Area High School teacher

Ninth graders at West Mifflin Area High School continued the sixth year of monitoring of Thompson Run. Students visit the creek after school to collect the water and run the initial round of tests. Eight classes of Earth and Space students then run more tests the following day. Every student analyzed two water quality factors and composed a final lab report. Some students expanded on this report for their Symposium project while others developed their own ideas for projects.

Participants at the Symposium presented projects entitled "An Edible Model of a Creek," "Salamanders Website," "Gone Fishin'," "Salamanders of PA," "Water Quality Factors Calendar,"

"Thompson Run," "Creek Critters," "Freshwater Jelly Fish," "Comparing Lakes, Ponds, Rivers and Streams," "Creek Tour," and "Book of Frogs."



Students collect water samples at Thompson's Run.

CLARIFICATION:

The first edition of the last issue of the *Link* featured an article on CAFOs and erroneously used the terms "CAFO" and "factory farm" interchangeably. It has been brought to our attention that although many large CAFOs are indeed factory farms, "CAFO" can refer to smaller operations as well; therefore, the terms are not synonymous.



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