



Volume #24 Issue #3
March 8, 2019

Current in the Creek

2019 Student Research
Symposia

@ Allegheny College
April 5

@ YMCA Camp Kon-O-Kwee
April 12

Connections Made at Student Research Symposium

The upcoming Student Research Symposia (at Allegheny College and at YMCA Camp Kon-O-Kwee) present great opportunities to make connections with local environmental professionals. Creek Connections encourages any teacher who is interested in becoming a participating teacher to attend a Student Research Symposium to get an understanding of the scope of the program and especially to see the range of student projects and meet our environmental partners. Last year a relationship was established between West Liberty University Crayfish Lab grad students and one of our new participating schools, St. Edmund's Academy.

Kevin Hengelbrok, St. Edmund's Academy 7th and 8th grade science teacher, shares how he became interested in Creek Connections: "I was exploring potential citizen-science activities for my students at the end of last year. There is only so much you can do in a classroom and what better way to get students engaged in the content and their role in the community and environment than to get out in it and see what is going on. When I was in middle school, I participated in Earth Force, and we did water quality monitoring and discovered that our water quality in our local creek (Walnut Creek) could be better. We ended up doing research and ran a storm sewer stenciling campaign, which later evolved into a campaign to increase the amount of street sweeping in my local township (Millcreek) and neighboring city (Erie). I still remember making cold calls to companies for donations, planning and giving speeches in front of our township supervisors, city council and organizations such as the Audubon Society. This experience ultimately led me into joining local environmental groups pursuing a science trajectory and Masters in the Arts of Teaching degree at Pitt. I want to provide my students the same opportunities I was afforded."

Mr. Hengelbrok and grad students Audrey and Dan from the West Liberty University Crayfish Lab happened to sit at the same lunch table at last year's

By Laura Branby, Pittsburgh Area Educator

Pittsburgh Student Research Symposium. "He (Kevin) was curious about some of the outreach projects West Liberty's Crayfish Conservation Laboratory's outreach programs," Audrey says. "We told Kevin about an aquaponics system that we'd been tinkering with. By the time all was said and done, Kevin told us he'd be happy to be a guinea pig for our project."

"We came up with the idea of using crayfish in a small-scale, classroom setting. It would serve as a small-scale ecosystem that could be used as an educational tool that allows students to see how energy moves through the ecosystem and how interrelated living things are."

Next was incorporating the ideas into the classroom for the 7th and 8th graders. Mr. Hengelbrok said that he based it on his curriculum: "7th graders have a focus on ecology for part of the year and 8th grade focuses on chemistry, human body systems, and pollution's effects on our bodies—all with the goal of developing informed environmental citizens." What a great fit!



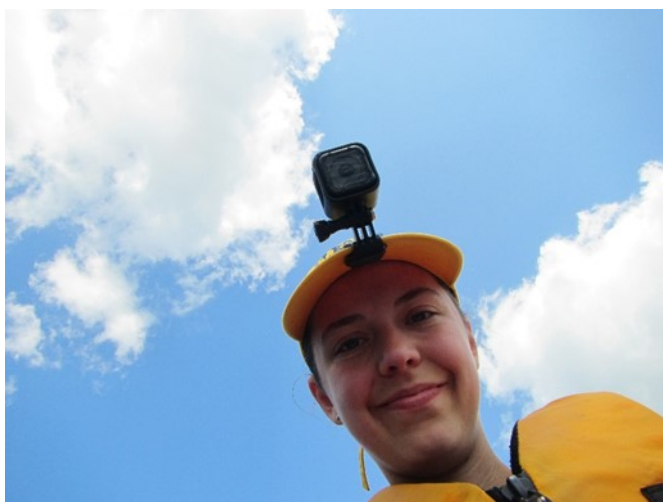
Above: St. Edmund's Academy Creek Connections students investigate crayfish from their stream with West Liberty University graduate student.

Creek Camp from a Counselor's Perspective

By Bella Petitta, Allegheny College Student

This summer was the first time I went to Creek Camp, but I was not a camper! I spent the action-packed week as a counselor. I had the ability to experience Creek Camp and share all the excitement with 10 high school students who had different backgrounds and interests. Although they all had different interests, they all shared an environmentally focused curiosity. I got to watch students develop an interest in topics that they hadn't been exposed to yet as well. At the end of each day, the campers were tired from all the scheduled events, but they still chose to spend time together, which expressed the deep bonds

they had formed so quickly. Teachers, encourage students to apply! They can experience the feeling of finding a hellbender, the sight of a bat flying out of a bat box, the silence of a barred owl flying overhead, and so much more! I am confident that there will be a scheduled event that each student hasn't done before. I experienced most events for the first time, such as watching a turtle eat watermelon during the reptile presentation. Spread the word, Creek Camp applications are open! The application can be found at <https://sites.allegheny.edu/creekconnections/creek-camp/>



Above: Bella captures all the action at Creek Camp 2018.



Above: Creek Campers and staff check out a stream during a tree hike.

Meet A Module: Groundwater Module

By: Brianna O'Neil-Hankle

The groundwater module is full of educational and fun activities such as Only a Drop to Drink on Earth, where students demonstrate water distribution on Earth and learn how very little is available for human use. Using a simulator, the My Drinking Water Well Isn't So Well activity allows students to determine the impact that groundwater contamination will have on a drinking water well. Another activity, Protect the Stream with a Groundwater Remediation Plan, involves students planning a groundwater remediation (clean-up) to protect a local stream. Students can test their groundwater knowledge with the Groundwater Creek Geek Knowledge activity, where students play a version of Jeopardy to review the main concepts presented in the Groundwater module. To supplement the activities, this module includes a video and educational websites. To use this module, check its availability on the Creek Connections website and then complete the online request form.



FEATURE CREATURE

Think that we have learned all there is to know about the world around us? Think again! There are new discoveries happening every day! Attendees of the Pittsburgh Student Research Symposium will remember Dr. Zac Loughman as a keynote speaker. His West Liberty University Crayfish Conservation Lab grad students have joined Creek Connections classes and campers at creekside to catch and identify crayfish in their creek. To date, the lab has identified and named 12 (!!) crayfish species.

As written by the West Liberty University Crayfish Conservation Laboratory on their Facebook page: In the words of Dr. Loughman himself, "I HAVE A FREAKING CRAYFISH NAMED AFTER ME NOW!!!!!!!!!!!"

This is a beautiful blue crayfish found in Cabell, Kanawha, Lincoln, Mason, and Putnam counties of West Virginia. It is a primary burrowing crayfish that shares several traits with its namesake, including reclusiveness and being hard to track down. They never back down from adversity and approach with arms flailing... Sound familiar? It was recently described in the Journal of Natural History by a group of researchers including WLU alumni, David Foltz and Greg Myers; WLU graduate student, Nicole Sadecky; and Mael Glon, a graduate student that Dr. Loughman is serving on a Ph.D. committee for. Dr. Loughman's crayfish colleagues, Jim Fetzner and Whitney Stocker, and two of Dr. Loughman's mentors, Stuart Welsh and Roger Francis Thoma, also serve as authors on the paper. Let's hear it for Zac Loughman! If you'd like to learn more about this and other crayfish, we can put you in contact.



See back page of the newsletter for the answer of this special edition of Creek Connections' Feature Creature!

Testing tip

By Grace O'Malley, Allegheny College Student

Not only are nitrogen and phosphate both nutrients and similar in their role they play in our waterways, but the way we test for them at Creek Connections is also very similar. As you may have noticed, they both use the color comparator black box to determine the concentration of each compound. However, for the nitrogen test, the light is shining through the box. The light actually comes through the window in the back of the container, so be careful to not cover it with your hand while reading the scale. For the phosphate test, the light comes from above and reflects off of a mirror in order for you to compare the colors. Make sure you do not have lids on the test tubes, or else the light will not be able to shine through and you will not have accurate readings!



Above: Creek Campers read the amount of nitrate nitrogen in their stream sample.



Above: Dr. Zachary Loughman, West Liberty University.

Contributed photo

Feature Creature Answer from page 3: Blue Teays Mudbug (*Cambarus loughmani*).

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CREEK CONNECTIONS

is supported by:

Allegheny College,
Allegheny County
Conservation District,
Dominion Energy
Charitable Foundation
Grant administered by Western Penn-
sylvania Conservancy, Grable
Foundation, Frick Fund of the Buhl
Foundation, and the Richard King
Mellon Foundation.



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