

Centre County Senior Environmental Corps Newsletter December 2019



Kathryn Ferrigno – Marcellus Team 13

Pa Studies Impact of Fracking

Pennsylvania will spend \$3 million to study cancer cluster of DOZENS of children and young adults in counties where over 3,500 new fracking wells were dug in the last decade

- Since 2008, energy companies have drilled more than 3,500 new oil and natural gas wells outside Pittsburgh, Pennsylvania.
- The wells use a technique called 'fracking' to bore into the ground.
- Fracking can release toxic gases like benzene that have been linked to shortness of breath, wheezing and higher cancer risks.
- Dozens of young adults and children in four counties surrounding Pittsburgh have developed Ewing sarcoma and other cancers.
- Ewing has no known environmental cause, and gas industry officials say there is no evidence linking pediatric cancer to drilling.
- Families nevertheless suspect that drilling and hydraulic fracturing, the method that energy companies use to extract natural gas from shale rock, played a role.
- So far investigations have been inconclusive.

CCPaSEC General Supplies

Our regular December meeting was focused on planning for future fund raising since Nature Abounds can no longer support us with equipment or supplies.

Gary Moorman presented several proposals, and with special thank you for his successful effort, we obtained funds for new and replacement of equipment this year. However, grant monies do not cover the cost of our expendables, chemicals, reagents, batteries, etc. we need every year.

A subcommittee will be formed in conjunction with ClearWater Conservancy to develop a yearly budget to address our future needs for new equipment, supplies and for support publications.

CCPaSEC Holiday Luncheon

After the meeting we adjourned to the Gardens Restaurant at the Penn State for our holiday luncheon.



The luncheon was attended by 27 CCPaSEC volunteers, their guests and our special guests, Deb Nardone, Executive Director ClearWater Conservancy, Emma Keele, ClearWater Conservancy Americorp position, Laura Liermann, Assistant Research Professor, PSU in recognition of their help and support.

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PSU staff advisors to CCPaSEC



Dr. Susan Brantley

Dr. Susan L. Brantley was appointed to the U.S. Nuclear Waste Technical Review Board on September 25, 2012, by President Barack Obama. Dr. Brantley

is Distinguished Professor of Geosciences in the College of Earth and Mineral Sciences at Pennsylvania State University, where she also is Director of the Earth and Environmental Systems Institute.

Susan Brantley is a Shale Network steering committee member, a collaborative effort between Penn State, the University of Pittsburgh and the Consortium of Universities for the Advancement of Hydrologic Sciences Inc. (CUAHSI) to collect and analyze data on water quality in the Marcellus Shale drilling region.



Assistant Research Professor Laura Liermann

Penn State University Park, Earth and Environmental Systems Institute. Laura is our PSU Laboratory contact and is in charge of all of our Marcellus water sample laboratory analyses.

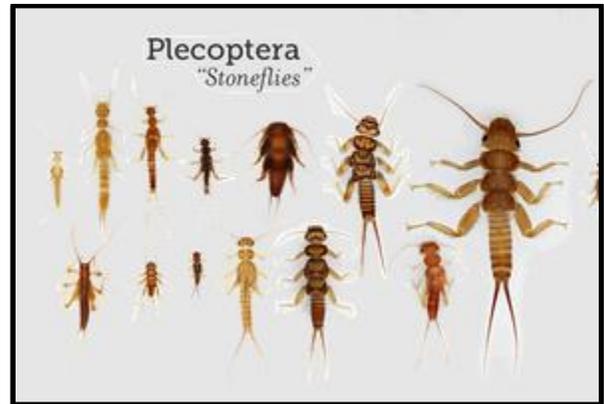
Lab Tests

Our two Marcellus teams are collecting water samples on rotation from **nine** of our 24 Beech Creek Watershed sites each month.

The Penn State ICP-AES lab. measure the "geologic suite" of cations, as well as pH, and may be able to measure conductivity and alkalinity in the future.

Thank you, Laura Jean.

Love those macros!



Spring and autumn each year, we use a net and a rake or hoe to scuffle around among the rocks, mud, sticks, and plants to capture the creepy-crawlies (macro-invertebrates, 'macros') that inhabit the streams we sample. Then we sort these macros by group and count them. We're always excited to see what we've got and for many of us, these samplings are the 'funniest' part our Senior Environmental Corps volunteer time. The number of different types of macros found (the diversity) and numbers of each different type are a gauge of the quality of the stream. Not only is it fun to catch, sort, and identify the macros, it's fun to look at the results over several samplings. Usually the diversity, that is the different types of macros found, really doesn't change very much from season to season or year to year. Crayfish, stoneflies, caddisflies, mayflies, sowbugs, riffle beetles, water pennies, snails, crane flies, blackflies, midges, scuds... if you find some of these at a particular site in the spring, it is highly likely that you will find them again in the autumn and again next spring, and the next autumn, year after year. Although there are different numbers and different sizes present of each type, usually you have the same diversity. To see this in our data, go to <http://www.ccpasec.org/index.php/data> and click on one of the streams. Pick a row, which corresponds to a particular sampling date, and scroll across that row and look at the rows above and below that row. What you notice is that there are numbers in certain columns almost every time and other columns are almost always empty or have zeros. Each column is a

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different type of macro. So, what you are seeing is that certain macros are usually present while others are usually not present. A particular type of macro is there because it can use the resources available in that location to live, grow, and reproduce. If you compare two very different streams, one with more silt and plants vs. one with rocks and gravel, the macros in one are probably different from those in the other. For a particular site, if you do find that there is a big change in the diversity of macros present from one sampling date to the next, you can almost bet that the environment was changed significantly. For example, the silt, mud, and plants at a site may have been scoured away by flooding, leaving rocks and gravel. If the environment in the stream is altered, then the resources available to support the macros is also altered and may no longer support the macros that had been present AND the stream quality ranking may have also been altered. Those of us who enter the data discover that the diversity of macros is almost more important than the numbers of each macro present in the stream quality ranking calculation. So, look at the data and think about what it tells you about your favorite stream.

Gary Moorman and Viqui Gildow, Team 16

Note: The process of collecting macroinvertebrates for categorizing and counting is somewhat hazardous and very time consuming. It requires two volunteers to enter the stream, one to hold a net, the other rake the stream bottom. This process may have to be repeated three times and each netting requires assessment.

"I used to think 50 was old. I was wrong, not even close." Harriet Anderson 79 the oldest female to finish the IRONMANN world Championship

Nature Abounds™ was the primary sponsor and provider of equipment and supplies for CCPaSEC. The ClearWater Conservancy and Centre County RSVP are major supporters. The following have provided additional support funding for special equipment for one field kit: Financial support for this grant is provided by the Dominion Energy Charitable Foundation which is dedicated to the economic, physical, and social health of the communities served by Dominion Energy companies. Western Pennsylvania Conservancy: This grant program was administered by the Western Pennsylvania Conservancy in commitment to its core mission of conserving Pennsylvania's diverse ecosystems through science-based strategy, leadership, and collaboration, Patagonia for the protection of water resources in Centre County, PIG Difference, a charitable initiative to salute our customers' passion for protecting habitats and preserving wildlife and our many individual contributors through Centre Gives.

Upcoming events

There will not be a meeting in January.

Reminder: February Elections. Each year we conduct an election for our officers for the new year. The election is for president, vice president, treasurer and secretary.

Member Admin Help?

We could use your help for tasks that do not require field work, for notifications, community involvement, help introduce new recruits, keep track of team members, data entry, technical review of our data and more

To join CCPaSEC, call the Centre County Retired and Senior Volunteer program (RSVP) Monday thru Friday 8:30 AM to 5:00 PM.

Phone 814 355 6819

To submit comments, corrections or news articles contact Ken Johnson via our website.

RSVP volunteer Luncheon Awards Update

October 24, 2019: The luncheon at the Penn Stater Hotel and Conference Center, sponsored and supported by the Centre County Board of Commissioners and the Corporation National Community Service, Senior Corps.

- **Jack Persing - 5 years of service with RSVP**