

# Centre County Senior Environmental Corps Newsletter December 2017

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## *Holiday Luncheon*

On Dec. 13th many of volunteers and their guests renewed acquaintances, shared experiences and enjoyed a luncheon to celebrate the Holidays at the Penn Stater.



A brief meeting was held at the Willowbank prior to the luncheon where we welcomed and introduce Justin Kozak who is our new Centre County Watershed Specialist.



Welcome Justin

Justin has a Bachelor's degree from Penn State in Wildlife and Fisheries Science and earned a Master's degree in the School of Forest Resources Prior to joining the Centre County Conservation District, he served six years as the Mifflin County Watershed Specialist.

## **ANOTHER GROUP OF STREAM-WADERS**

Each of our CCPaSEC teams develops, over time, a sense of "ownership" toward the particular site(s) we monitor and how we do the job. When someone else works in "our" stream we're at least curious about what they're doing. Team 7 has monitored two sites along Buffalo Run for more than 15 years. In recent years a new group is taking a somewhat different look at monitoring that same stream and sites.

Students of the PSU upper-undergrad course, ASM/ERM 309, taught by Professor Heather Gall, have installed continuous monitoring equipment at our two site locations. They use a pressure transducer, a dissolved oxygen sensor, Campbell scientific data logger, and a tipping-bucket rain gauge. At the conclusion of a six week monitoring period, they analyze and draw conclusions from the data gathered. They also do the standardized macroinvertebrate counts much as CCPaSEC does.

Culmination of this literal "getting-your-feet-wet" exercise is a semester report. In addition, these ASM/ERM students also participate in a Campus and Community Sustainability Expo, held this year on December 7 at the State College Municipal Building. It's inspiring to watch these budding environmentalists in action!

To enhance the shared mission of our group with the PSU class, Professor Gall has invited me to speak with her class about what CCPaSEC is all about.

*Larry Hutchinson, Team 7*

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### **EPA Ammonia criteria:**

The Pa Environmental Quality Board proposes to amend Chapter 93

This proposed rulemaking fulfills the Federally-required triennial (every 3 years) review of water quality standards as mandated by the Federal Clean Water Act. The water quality standards include the existing and designated uses of the surface waters of the Commonwealth, along with the specific numeric and narrative criteria necessary to achieve and maintain those uses. The EPA urged the Department in a letter dated January 21, 2013, to include the Federally-recommended ammonia and recreational water quality criteria (RWQC) into the Commonwealth's water quality standards to address the issues of total dissolved solids, most notably chlorides, ammonia, and recreational criteria" in its next triennial review. The EPA recommendations for Aquatic Life Ambient Water Quality Criteria for Ammonia can be accessed at:

<https://www.epa.gov/wqc/aquatic-life-criteria-ammonia>.

The EPA tells us Freshwater unionid mussels are found in many states of the continental United States and many of these mussels are Federally-listed as endangered or threatened species. Freshwater mussels are broadly distributed across the United States, as are freshwater nonpulmonate snails. Both of these sensitive groups are now included in the ammonia criteria dataset. There are approximately 65 species of unionid mussels in this Commonwealth, including many that are rare or endangered. The two most sensitive genera in the chronic dataset are also unionid mussels, and are both found in this Commonwealth. These criteria are considered appropriate for Pennsylvania be-

cause they provide sufficient protection for the most sensitive fauna in this Commonwealth.

The TAN (total ammonia nitrogen) effects concentrations of salmonids and other fish drive the acute criterion magnitude at lower temperatures. The Pa Environmental Quality Board determined it is appropriate to use the acute criteria equation for the sensitive salmonids as the most stringent criteria.

The acute criterion will not be detrimental to any current dischargers because the proposed acute standards will be less restrictive under all temperature and pH conditions.

The chronic criterion becomes more stringent as pH and temperature increase just the same as the current chronic ammonia criterion does. The new chronic criterion is typically more stringent than the existing criterion in streams with low pH and temperature. These are typically smaller headwater streams where it is less likely for a discharge to exist.

The Department recommends that these revisions be adopted by the Board and published in the Pennsylvania Bulletin as a proposed rulemaking with a 60-day public comment period including three public hearings to be held in the Harrisburg, Pittsburgh, and Wilkes-Barre areas. Other public hearings and/or meetings will be scheduled if sufficient interest is shown during the public comment period.

*There are 3 ways to submit comments.*

*Go to the website.*

<http://www.dep.pa.gov/PublicParticipation/EnvironmentalQuality>

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## Membership

The Centre County Senior Environmental Corps is looking for volunteers. Help us develop our monitoring and reporting procedures and help support teams of seniors who gather water quality data and macroinvertebrate populations that are published on our public website.

### Our important contribution

CCPaSEC's Teams began monitoring in 2002 under the original government-sponsored program by the Environmental Alliance for Senior Involvement (EASI). Since the discontinuance of EASI in 2007, we have, with the assistance of the ClearWater Conservancy, the Centre County Conservation District, Nature Abounds™, and other environmentally concerned organizations, continued to keep the public and our Centre County leadership informed about the condition of our local streams.

CCPaSEC has about 70 active volunteers serving on 13 teams who assess the habitat and who perform field measurement of various water parameters. Each team visits one or two sites each month.

Two of our teams monitor nine of 22 remote sites in the Beech Creek watershed each month since 2010. They help determine 'before and after' quality of the surface water in the Marcellus shale area where deep gas well fracking is underdevelopment. The teams perform field measurements and collect and deliver water samples to Lock Haven University and Penn State University for detailed chemical analysis.

All of our CCPaSEC data is subsequently included in the national Shale Network initiative by PSU that focuses on water quality.

<http://www.shalenet.org/>.

Join Us. CCPaSEC is not just about water quality. We offer a means of those over 55 or retired to form new friendships, learn new things and meet folks with a wide variety of backgrounds and experiences. The teams become a "family".

Some teams (including spouses) continue to meet at different restaurants. They celebrate anniversaries and holidays at gatherings, sometimes in each other's homes, go on social outings together, and support each other when one member is ill.

Our volunteers visit sites each month to perform water surveys knowing they are contributing to the preservation of our environment whilst enjoying the companionship, a little fresh-air outdoor exercise, and the changes of the seasons. Social interaction contributes to psychological and physical wellness. People can express their feelings and share their problems to cope with stress and major life changes.

We welcomed five new members in 2017.

New monitored sites:

Muddy Creek - Penns Creek Rd.

Muddy Creek - Reeder Rd.

North Fork Beech Creek - Pancake Rd.

New teams are being formed all the time. Come join us and find new friends.



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## CCPaSEC Quality

Our Quality (QC) Team provides users with information about the value of our data.

Each February the QC team collects our teams' field kits to ascertain condition, perform any maintenance and to determine the Percent Recovery (PR). Percent Recovery is an indicator that tells us and users of our data about the ability of our equipment to perform the measurements. The Nature Abounds™ Quality Plan established PR goal is to be between 90% and 110%.

The team also conducts duplicate field testing with each team. The purposes are to review team test and safety procedures and to collect duplicate data in order to determine our collective Relative Percent Deviation (RPD).

The tests do not tell us which of the two test results is most accurate. The QC Team does not publish individual team comparisons.

The RPD is one measure of the quality of our posted data. We are not using laboratory certified equipment and we cannot expect laboratory level results. The Nature Abounds Quality Plan sets a goal for the RPD to be less than 20%.

Nature Abounds recognizes that some of our supplied field equipment cannot attain the RPD and PR goals. They recognize that some of their SEC teams' data may be substandard but is useful for seasonal and yearly comparisons.

Our Quality Team's yearly report is posted on our website.

## FLOW METER

Calibration is not needed; assure the hand set is set for "Average" and "cm/second". Setup instructions should be in the instrument case.

Please do not disconnect the cable from the hand unit.

The turbine (looks like a little fan) needs to be pushed completely onto the wand tip.

Inspect the turbine. It should spin easily with just a breath of air. All four of the blades must appear to be uniform in shape and pitch (the angle they are set at). The pitch is one centimeter per revolution.



Please remember to turn the unit OFF after use.

To join us: Please call the Centre Counter RSVP  
(Retired and Senior Volunteer Program)  
Monday – Friday 8:30 am - 5:00 pm

Phone (814) 355-6816

The CCPaSEC newsletter is published quarterly except for special events. To contribute news articles/corrections, please contact Ken Johnson via our CCPaSEC website.

*“Joy in looking and comprehending is nature's most beautiful gift.”* Albert Einstein