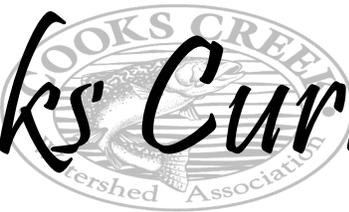


Cooks Current



"To protect, preserve and improve the quality of water, land and life in the Cooks Creek Watershed"

Volume 17, Issue 4

Newsletter of the Cooks Creek Watershed

Fall 2020

2020 Events

Regular Board Meetings: TBD Check our website for details

Springtown Fire House- 7:30PM

4th Thursday of the month except Nov. and Dec. which is the 3rd Thursday;

Nov.19 (3rd Thursday), Dec.17 (3rd Thursday) **All are welcome! We appreciate your involvement**

All Events: TBD please check our website!

Nov 14, second Sat. of Nov., **Fall Clean-Up**, 9-Noon, meet at Old Philadelphia & Rt. 212 & Gallows Hill Rd. TBD



See back for details!

We're on the web!
www.cooks creekpa.org

Cooks Current is a publication of the Cooks Creek Watershed Association.

Board Members:

President: W. Scott Douglas

Vice President:

Treasurer: Jim Orben

**Communications Director/
Recording Secretary/Editor:**
Lois Oleksa

Marketing and Public Relations: Lois Oleksa

Layout & Graphic Design:
Ellie Scheitrum

Additional Members:
Sarah Snider, Stephen Smith, MD,

From Across the Board...

As we enter our third quarter of COVID strangeness, I have to wonder about the resiliency of our society. Resiliency is the ability of an ecosystem to deal with change. That change could be from the physical world or the biological world. I have spent a lot of my career being an agent of change; a pot-stirrer in some people's minds. But in my eyes a good system can deal with change and become stronger; a weak system that cannot needs changing anyway. So, regardless of where we end up with this, the challenge is good, and if change is needed it will happen. The community of the Cooks Creek Watershed is pretty resilient. We've been here for a few hundred years, and still have a community and a watershed we can be proud of. We've moved from trading with indigenous peoples to resource extraction to agriculture and finally to largely a bedroom community for professionals. All the while we've managed to keep our community beautiful,



Orb-weaver spider eating spotted lantern fly. Photo by Lois Oleksa

and our watershed functioning extremely well.

We are dealing with the pandemic with grace and dignity, as best we can. We've had to cancel some of our events for safety, but people are still working together. While the Walk in Penn's Woods is virtual this year (<https://sites.psu.edu/walkinpennswoods/> also soon to be at Cooks Creek website and the Durham Historical Society website), our roadside clean-up will happen as usual on Nov 14. We didn't

have a Mini Monster Mayhem this year (first time in almost 20 years), but we did have an invertebrate workshop in September outside with the folks from Fry's Run Watershed and we have published teacher helps for conducting Mini Monster at home. Unfortunately, we did have to cancel the Community Days and our Fall Fellowship Dinner, but they'll come back next year when it's safe to do so. And our work on monitoring and pro-

(Continued on page 2)

(Continued from page 1)

tecting our watershed continued throughout the year. Inside is a report on the monitoring program, and I'm happy to say that we are still achieving the water quality standards in most places most of the time, just as we always have.

This is not to say we should let down our guard. There are still threats to our watershed and nearby communities from development, pipelines and quarry proposals. We need to stay aware and stay involved. CCWA continues to support the Delaware River Basin Commission (DRBC) ban on fracking in the Delaware Watershed, and we oppose the reactivation of the Adelpia pipeline in Durham and the construction of the PennEast pipeline in Riegelsville. We are working with our friends in the Watershed Coalition of the Lehigh Valley to oppose dewatering of the Bushkill Creek as well. I continue to watch the actions in Washington, and we should all be concerned about proposed changes to the Clean Water Act, Clean Air Act, Endangered Species Act and the Migratory Bird Act. It's important that these landmark environmental legislations be kept intact or much of what we have worked on over the years, and achieved, could be lost. If anyone wants to chat about ongoing projects, drop me a line at info@cookscreekpa.org.

Yours in conservation,

W. Scott Douglas, President



Botanical Focus: Jerusalem artichoke (*Helianthus tuberosus*) By: David Oleksa

This is the 17th installment in a series of articles on the flora of the Cooks Creek Watershed

The plant under discussion for this edition of "Cooks Current", is an interesting one. It is not native of the city that its name indicates and it is only distantly related to the vegetable used as the second part of its name. Instead, the Jerusalem artichoke is native to North America and although a member of the Asteraceae family as is the artichoke, it has no resemblance to it and instead of the flower bud being eaten as is the case of the artichoke, the Jerusalem artichoke is known for the quality of its tubers as a food source.



Clump of chokes on stalk

The Jerusalem artichoke originally grew in the mid-west of what became the United States and since it was an important food source for the Native Americans, they propagated it by transporting the tubers to many locations causing it to be found today from the Rocky Mountains to the east coast and from Minnesota to North Carolina. The tubers were also transported to Europe and it soon became a staple there both as a food source for humans and (especially in France) a popular stock feed.

Once established, the plant is difficult to eradicate since a single left behind tuber can cause a new crop to reproduce. It is easy to spot stands of Jerusalem artichokes. The plants themselves grow to be 7 to 10 feet tall and consist of a multi-branched stem with a course exterior. In late summer to early fall, the plant produces numerous flower heads with showy bright yellow petals and a brown center, similar to small sunflowers to which it is closely related. Underneath the soil surface lies the most important part of the plant, the tubers. Never approaching the size of more popular potatoes, the tubers seldom grow to be more than 4 ounces in weight. To the consternation of most cooks and chefs,



(Continued on page 3)



(Continued from page 2)

the tubers unfortunately grow in many different shapes ranging from small smooth specimens which make for an aggravating peeling chore to larger but multi-branched specimens with a rough scaly exterior which make for an even more aggravating and time-consuming prep chore. The tubers range in color from tan to reddish brown and interestingly, they really resemble fresh ginger.



Flowers

In the United States, the Jerusalem artichoke is sometimes called a sun choke and the taste of the raw tuber is much like that of a chestnut. When cooked, they become much more like potatoes with a slight taste resembling artichoke hearts. During World War II when the Germans occupied France, millions of French people survived on Jerusalem artichokes when the Germans sent most of the other French food supplies back to Germany. It was an excellent survival food because of its relatively high caloric content yet being low in fat and virtually cholesterol free. The tubers contain dietary fiber, antioxidants and minerals and vitamins. They also are a good source of potassium and iron.

In Baden Wurttemberg, Germany, 90% of the Jerusalem artichoke crop is used to make a spirit called "Topinambur" and a brandy is also distilled which smells fruity yet having a nutty sweet flavor.

You would think this would be a dream crop with everyone clamoring to partake in some. However, the Jerusalem artichoke has one major drawback. It contains a dietary fiber called inulin. Although medically important to humans it has some downside effects. These are best summed up in the words of English botanist, John Goodyer: "...which way soever they be dressed and eaten, they stir and cause a filthy loathsome stinking wind within the body, thereby causing the belly to be pained and tormented and are a meat more fit for swine than men". Despite the graphic description given by Mr. Goodyer, it must be admitted that some individuals do experience some gastric disorder. However, this usually appears to lessen and then disappear once the body becomes used to the tuber.

Now back to the name of this interesting plant. The second part of the name probably came about due to the admittedly similar taste to the more commonly known artichoke but how did the name Jerusalem get attached to the plant? There are many possibilities ranging from mispronunciations of various words in European tongues describing the plant, to in my mind at least, the most probable explanation, the early Puritans named it after the New Jerusalem they believed they were creating in the wilderness.



Jerusalem Artichoke flowers

Continue this good work and renew your membership for 2020/2021

Cooks Creek is an important resource for our community. Don't forget to renew your membership and stay up to date on issues concerning our Watershed.

If you want to get more involved, come to a meeting and share your talents and interests!

Find the membership form on the back page.



Back to the Past: CHARLES LAUBACH *By: David Oleksa*

A column highlighting the natural history of the Watershed.

When considering the individuals who had a marked effect on the history of Durham Township, it would be hard to ignore Charles Laubach. His contributions to the Township's historical record are numerous and include areas of expertise as divergent as medicine, geology and archeology. He was a gifted speaker and organizer, being a founding member of the Buckwampum Society (an organization consisting of the finest local scientific minds of the time) and an active member of the Archeology and Paleontology Society of the University of Pennsylvania as well as a member of the Academy of Natural Science in Philadelphia.

He was a talented writer as evidenced by his numerous published papers on scientific and historical subjects. He was interested in local history especially that of the Native Americans that had previously inhabited what became Durham Township. As part of his interest in these people, Mr. Laubach collected numerous relics of the Native American (especially the Lenni Lenape) culture. Most of these were donated to the Bucks County Historical Society of which he was one of the most long-standing members.

Mr. Laubach was born in Durham on August 29, 1836, and died there on August 23, 1904. He grew up on his family's farm in Durham and received his early formal education from the local schools. He attended the Vandever Collegiate Institute of Easton and later studied phrenology (the study of how the shape and size of the human head influences character and mental abilities). He also studied ethnology as well as obstetrics and medical electricity, a popular concept of the time. He became known as the leading geologist in Bucks County despite being self-taught in this field. He became more and more interested in education and served as Superintendent of Durham Schools from 1879 to 1883, a period known for educational advancements.

Mr. Laubach became interested in a number of business ventures including leadership positions with the Durham Furnace (Durham Iron Works). He married Jane Raub of Riegelsville in 1860 and lost their only child (a daughter) in infancy.

It was said that Mr. Laubach was a Jeffersonian Democrat as far as his political stance was concerned but he took little notice of the politics of the day rather choosing to support the individuals he deemed most qualified regardless of political party.

The impact that he had on his community was immeasurable and there is little known concerning the history of the area written in the last half of the 19th century that did not show the influence of this important Bucks County native.

Articles by Charles Laubach printed in the *Cooks Current*:

Winter 2018 and Spring 2018, *The Durham Iron Mines, Tunnels, &c. 1876*

Summer 2018, *Subterranean News, 1880*

Summer 2017, *The Valley of the Brandywine; A stream in Durham with a History Connected Therewith, 1883*

These articles are on our website; check them out at: <http://cooks creekpa.org/v2/resources/newsletter-archives/back-to-the-past/>

Benthic Community Assessments

By: W. Scott Douglas

In an earlier edition, I reported on the benthic community assessments that I performed as part of our Growing Greener grant. We are nearing the end of our grant period, and I have completed two more rounds of sampling of the benthic invertebrates from five locations in the Watershed. Samples were collected in Pleasant Valley upstream of the iron bridge, on the Fuller Preserve off Slifer Valley Rd., on Silver Creek in Springtown, and at our stream gaging stations in Durham and Springtown. I sampled once in each of the four seasons over the course of the three years.

The habitat at each of these sites consists of riffle run with decent riparian buffers. The stream bottom is pretty consistent with rocks and cobble predominant and very little fine-grained sediment. The width, depth and canopy covered varied somewhat between the headwater sites and the downstream sites as would be expected. A habitat condition score was calculated for each site and this varied from a low of 131 at Pleasant Valley to a high of 177 at Red Bridge in Durham. A summary of these data is provided in Table 1 below.

Sample Site	Wetted width (ft) (Dec 2018)	Depth (ft) (Dec 2018)	Aquatic Vegetation	Sediment Distribution (% boulder, cobble, gravel, sand, fines)	Canopy Cover	Condition Score
Slifer Valley	30	0.5-1	Algae	5,40,40,15,0	Shaded	159
Pleasant Valley	33	0.5-1	Algae and some rooted plants on sides	(40 percent exposed bedrock) 5,30,15,5,0	Partly shaded	131
Silver Creek (Springtown)	30	0.5-1	Algae	10,65,20,5,0	Partly shaded	173
Brunswick (Springtown)	82	1-2	Algae	10,50,20,15,5	Partly open	160
Red Bridge (Durham)	89	1-2	Algae	20,40,20,20,0	Partly open	177

Table 1. *Habitat assessment at benthic invertebrate sampling locations December 2018.*

To collect the invertebrates, I used the traditional kick net sampling technique at each site, disturbing the bottom of the stream upstream of a net for a minute in 5 locations along a 100 yd. long section of the Creek. I composited these five samples along with 10 “jab” samples taken in and around large debris, rocks and tree roots. This method was repeated at each of the five sampling sites.

Back at my laboratory, I emptied out the sample into a gridded pan and subsampled a portion of the debris, removed and counted the animals I found in a randomly selected grid. The amount of subsample depended on the number of organisms, with a goal of at least 200. In some cases, I took more than one subsample to check for bias and repeatability.

(Continued on page 6)

(Continued from page 5)

Then I identified each animal (to genus in most cases) and counted how many of each were in the subsample. It may seem that this would miss a lot of rare or uncommon taxa, but actually it works out pretty well; not every sample is exactly the same, but the statistics are amazingly consistent (based on duplicate samples) and it's a whole lot less work than picking and keying the entire sample.

Once I determined the contents of each sample, I entered all the data into a spreadsheet that calculated community metrics that told me about the health of the community; like the number of taxa present (richness), diversity, percent dominant taxa, and the number of sensitive taxa. I have shown one such metric, Taxa Richness, in Figure 1 below

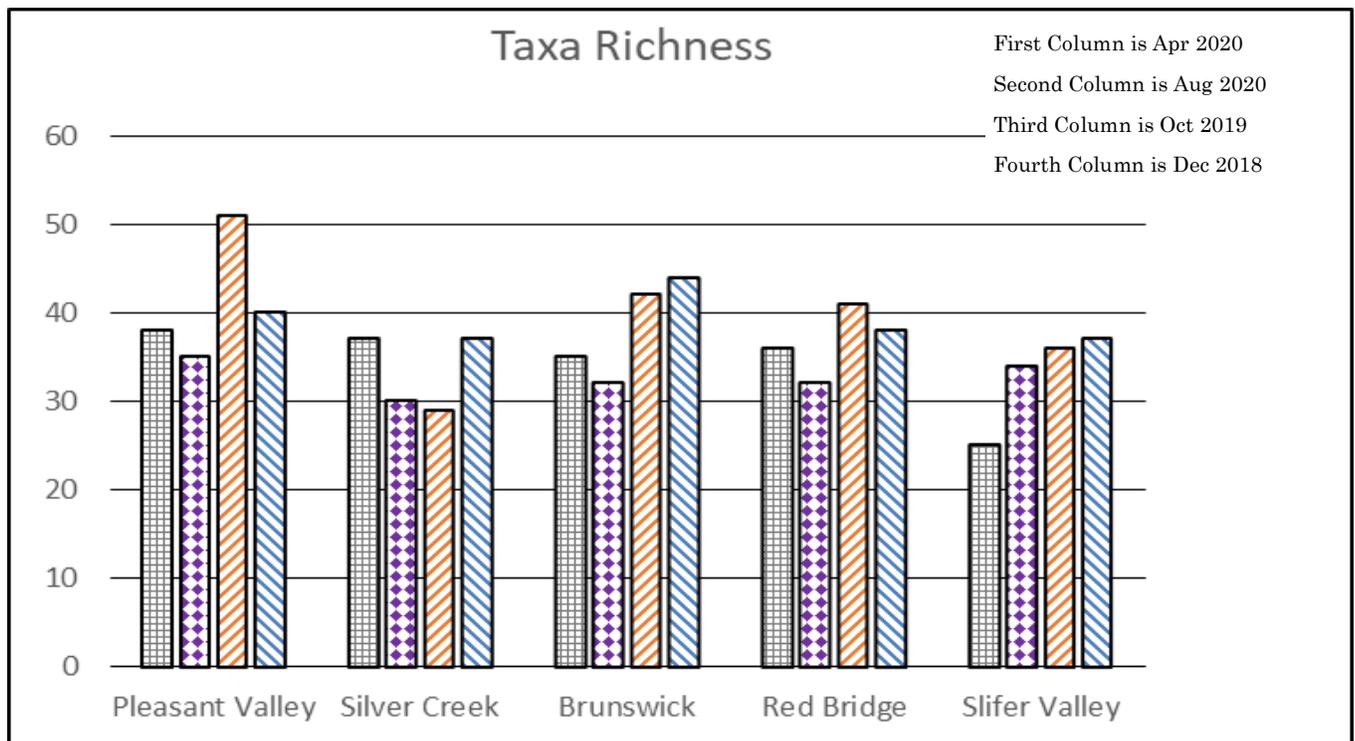


Figure 1. Number of distinct taxa collected at each sampling site.

As you can see, the number of taxa in a sample can range from 25 to more than 50, but 35 is pretty typical for our creek. What sort of animals did I find? What was in each sample did vary somewhat depending on the section of stream that was sampled, but all samples contained a large number of sensitive mayfly and stonefly nymphs and caddisfly larvae (see Figure 2). The health of the invertebrate community depends a lot on the number of these sensitive taxa that are found, which you can see in Figure 3 ranges from 10-22. I did see some taxa that I haven't seen before, which is always exciting. As you can see in Figure 2, the number of taxa for these groups (experts call these groups EPT) is pretty consistently high in our streams.

(Continued on page 7)

(Continued from page 6)



Figure 2. *Mayfly nymph (Ephemeroptera), Stonefly nymph (Plecoptera), and Caddisfly larva (Trichoptera)*

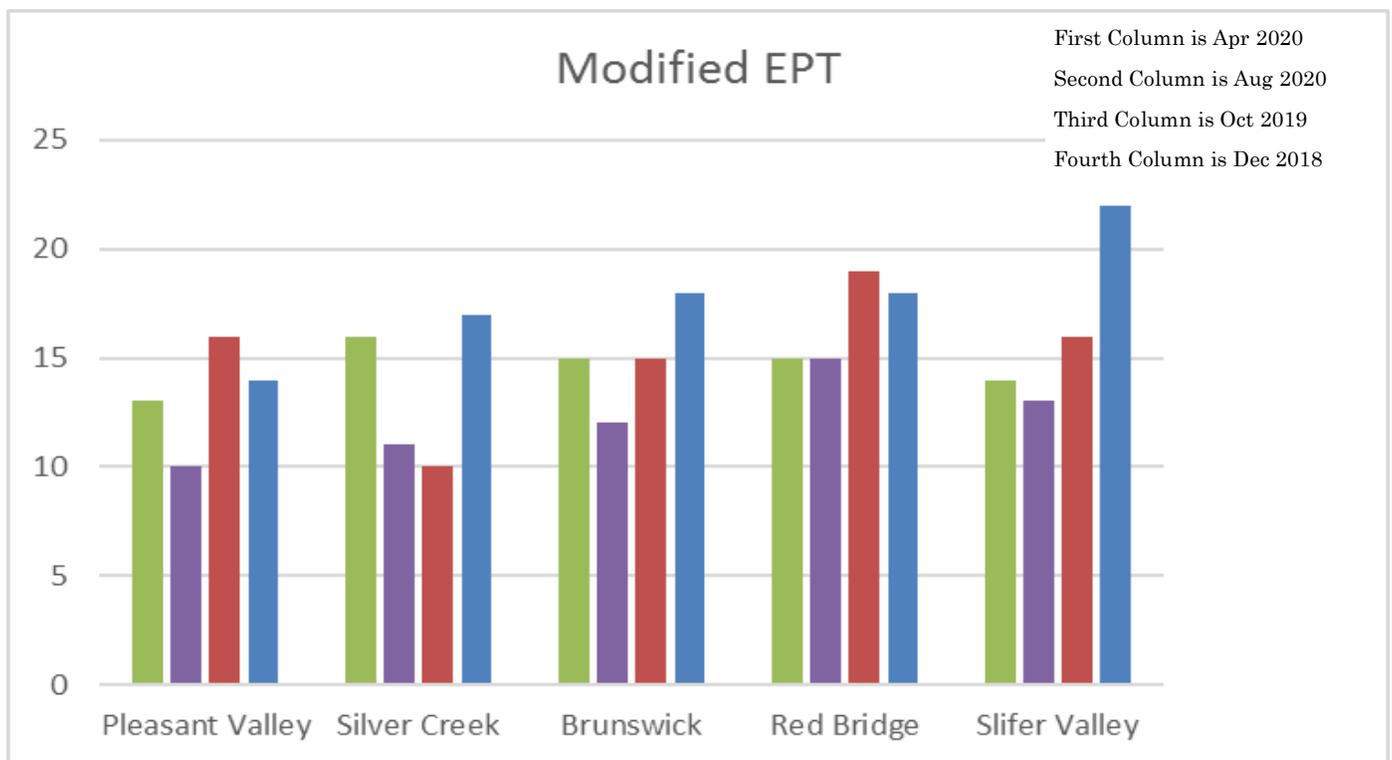


Figure 3. *Number of sensitive Mayflies, Stoneflies and Caddisflies found in each sample.*

All of these data (and more) were then fed into a mathematical model developed by the Pennsylvania DEP to evaluate benthic communities in the Commonwealth, called an Index of Biotic Integrity. The IBI scores observed for the five stations ranged from 58 to 90 (Figure 4). In every case except two, these scores are considered by PADEP to be attaining the aquatic life use standard of 63 for Special Protection waters. The fall 2019 and summer 2020 scores for Silver Creek appear to indicate that the site is marginally impaired for aquatic life use. However, this site is in the limestone section of the Watershed and is strongly influenced by groundwater. Sites such as these typically show a benthic community that differs from that used by DEP as a reference. Furthermore, the two sampling periods where the standard was not met are in the summer and fall, not the best time to sample invertebrates. Furthermore, while a lower score is not unexpected, the scores were nevertheless very close to the standard.

(Continued on page 8)

(Continued from page 7)

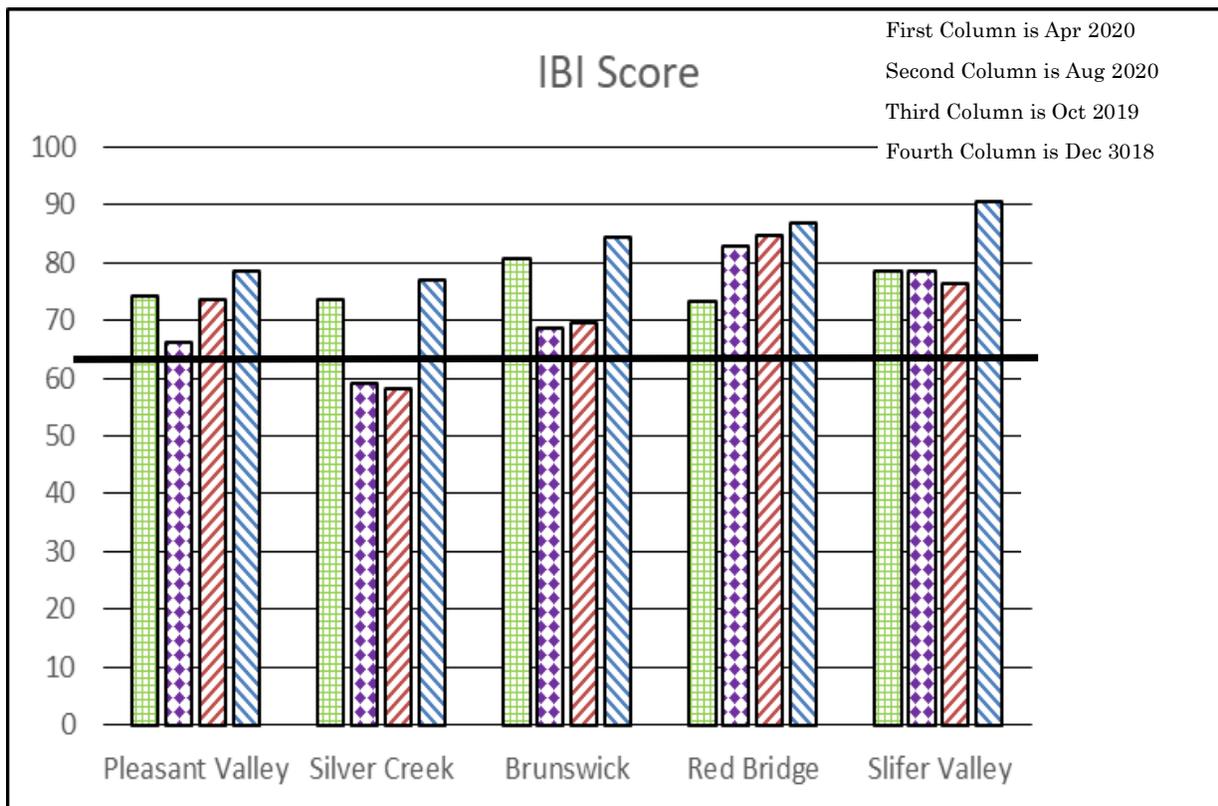


Figure 4. Index of Biotic Integrity scores for Cooks Creek (PA Freestone procedure, 2012. the horizontal line at 63 indicates that lower limit for attaining the aquatic use standard for exceptional value watersheds.

What does this all mean for our Creek? Well, it’s looking pretty good. I believe that little has changed over the last several decades I have been making observations; storm water and nutrient loading continue to impact the creek, but the community is surprisingly resilient. Efforts to reduce nutrient loading from Springtown would be a worthwhile effort to undertake, and we should continue to seek out opportunities to work with landowners to increase the width of riparian buffers and remove invasive species. We will continue to work with our partners from Princeton Hydro on the data collected over the last several years. For our next newsletter, I will report out on the stream gaging results and water chemistry data.

Creature Feature: Fireflies, family Lampyridae *By: W. Scott Douglas*

This is 54th in a series on the fauna of the Cooks Creek Watershed.



I'm sure you all remember the time when you had to know the State bird (ruffed grouse), State animal (white tailed deer), State flower (mountain laurel), etc. Did you know that Pennsylvania has a State Insect? It is actually the firefly, or lightening bug, *Photuris pennsylvanica*. Fireflies are one of the joys of growing up in a rural area; I still remember the first time I was allowed to stay up late and collect them as a kid and keep the jar in my room as a nightlight. The start of their nightly displays signals the start of summer for me, but for the

insect it's a call for a mate (or a call to dinner, depending on the species). PA actually hosts more than fifteen different species of firefly and they are so numerous here there is an annual firefly festival in western PA every June.

Fireflies, or lightening bugs, are actually not either bugs or flies, but beetles. The adults have their front pair of wings modified as hardened covers to the folded rear pair of wings. Fireflies belong to the family Lampyridae. The flashing light of a firefly is bioluminescence that is generated by an organ in their abdomen that contains luciferin. Luciferin is acted upon by the enzyme luciferase in the presence of magnesium,

oxygen, and ATP (cell energy) to create the pale green, blue, or orange light we see. Since there are over 2500 species of lightening bugs in North America alone, and they are nocturnal, the insects needed some way to make sure they were mating with others of their species. If you watch them for a while, you'll see that the flashing is not random, but patterned distinctly. Each species has its own signal. Some female fireflies actually mimic the signals of other species, to lure them in – for dinner! These predaceous lady fireflies are nicknamed “femme fatale” fireflies.



Lightening bugs are holometabolous, meaning that they exhibit a complete metamorphosis. The eggs are laid close to the ground and the larvae hatch 3-4 weeks later. Firefly larvae actually use bioluminescence as well, most people call them “glow worms”. They look a lot like miniature armored monsters out of a science fiction movie, and they are all actually predators of snails, slugs and other soft bodied invertebrates. After a few months (in warmer climates) or even a few years in colder regions, the larva pupates for up to 2.5 weeks before emerging as an adult. Some species feed on nectar or pollen as adults, but most are predators, either on their own kind, or other invertebrates.

Another interesting fact about fireflies is that they are foul tasting to most predators (except other fireflies). While this keeps predation to a minimum, fireflies across the world are in decline. This is because they are sensitive to habitat loss and to light pollution, both caused by development. If we want to keep our summertime night display, be sure to limit your use of pesticides in your gardens. Also, don't clean out fall litter, but leave it in place. This not only provides insulation for the plants you are encouraging, but provides a lot of shelter for lightening bugs and other beneficial insects.

Green Tip #49: Common Toxic Chemicals — And How To Avoid Them

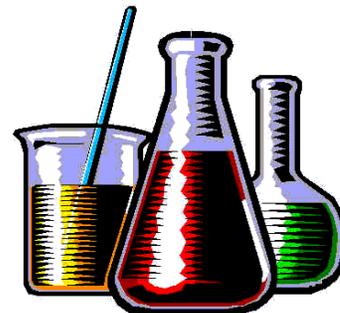
This is a series of articles on synthetic chemicals with recommendations in avoiding them. From: The Environmental Magazine, Green Guide by: Sam Heller, Dec. 17, 2019.

Part 4

Phthalates

Phthalates are a class of compounds used in the manufacture of plastics.

In recent years, there has been a tremendous amount of concern about their potential links to issues such as low IQ, diabetes, neurodevelopmental issues, impairment to the male reproductive system, autism spectrum disorders and type 2 diabetes.



Unfortunately, it is very hard to avoid phthalates. The fact that they are harmful has only recently become well known, and they are still present in many products. However, you can limit your exposure by avoiding any food product packaged in a container made from “recycling code-3” plastic, and products with the vague word “fragrance” in their list of ingredients. Putting effort into buying food products stored in glass containers is another good measure.

To learn more about phthalates, click here... <https://www.theguardian.com/lifeandstyle/2015/feb/10/phthalates-plastics-chemicals-research-analysis>

Perchlorate

Perchlorate is a compound comprised of four oxygen atoms bound to one chlorine atom. It has a wide number of industrial applications and is also a likely carcinogen and proven endocrine disruptor. It can be present in both food and water, and is now found in the bloodstream of nearly every living person.

Unfortunately, water filters that can remove perchlorate are difficult to find. If you’d like to reduce your exposure to the substance, consider researching whether it is present in your local water supply, and sourcing water from something other than your tap if it is.

Factoring a sufficient amount of iodine into your diet can help to reduce perchlorate’s negative effects.

To learn more about perchlorate, click here... <https://toxtown.nlm.nih.gov/chemicals-and-contaminants/perchlorate>

Glycol ethers

Manufacturers often add these substances to cleaning products due to their solvent properties. Exposure to small amounts of glycol ethers can damage the kidneys and liver. Long term exposure can negatively affect the blood, and can also lead to neurological issues.

Glycol ethers are present in some cleaning products and cosmetics.

To reduce your exposure to these substances, use caution when working with substances that have 2-METHOXYETHANOL, 2-ETHOXYETHANOL, and 2-BUTOXYETHANOL, in their ingredients list.

To learn more about glycol ethers, click here... <https://www.epa.gov/sites/production/files/2016-09/documents/glycol-ethers.pdf>

Children's Backyard: Why do some animals' eyes glow in the dark? *By: David and Lois Oleksa*



Have you ever been out in the car at night with your Mom or Dad and suddenly you see two glowing spots moving across the road in front of you? They may be yellow or red or green and they may seem spooky but there is a simple answer as to what these spots really are. They are reflections from the eyes of certain animals. If you've ever taken a close look at your own eyes in a mirror, you will notice a dark spot at the very center of the colored part of your eye. The colored part is called your iris and it usually is a shade of blue or a shade of brown. Occasionally, some people have green irises. The black dot in the center of the eye is actually a hole or an opening in the eye and it is called a pupil. The way we see is that light enters into the eye through the pupil and it travels to the back of the eye to a part called the retina. The retina consists of even smaller parts called rods and cones and these separate the light beams and transfer the information to your brain by means of an optic nerve. The brain is able to take this information and translate it to a picture of what you are looking at. Of course, this is all done so quickly that we don't even think about it. We just enjoy looking at things.

However, human beings are not able to see very well in dim light. Certain animals, on the other hand, are quite capable of seeing things in dimness. Animals such as those who do their hunting for food at night, like cats, raccoons, opossums, alligators, deer, certain fish and many others have something in their eyeballs that we don't have. Behind their retinas they have a thin sheet of membrane called the **tapetum lucidum** which assists them in seeing in dim light. The tapetum lucidum acts like a mirror and takes the light that shines on the retina and actually reflects it back a second time on to the rods to stimulate them and send additional information to the brain. This extra stimulation increases the visibility of images in dim situations. Some of the light that is reflected back through the retina by the tapetum lucidum goes back through the pupil of the eye and this is the cause of the eerie colored dots we can see at night when the car headlights light up an animal crossing the road.

Depending on the animal, the reflected light can be of various colors. For instance, if the animal happens to be a cat, the colored dots will appear to be yellow or green. Some dogs, especially schnauzers have tapetum lucidum that glows a beautiful shade of turquoise. Opossums, rabbits, rodents and some birds reflect red as do the eyes of alligators. Owls' eyes appear to be orange while bears', deer, and raccoons' are yellow. If you study these facts carefully, you will be able to guess the identify of many of the animals you may see crossing the road at night just from the color of the light reflected from their eyes.

Humans get many ideas from nature and the tapetum lucidum in animal eyes gave scientists and engineers a wonderful idea. Did you ever notice how road signs and speed limit signs glow brightly when the car's headlights shine on them? The same type of feature as is found in the tapetum lucidum causes this reflection. Scientists calculated that if they put a thin layer of glass beads on the street or speed limit signs and then cover it with a clear coating, the light from the car headlights would shine through the transparent coating, hit the glass bead layer and be reflected back through the coating making the sign seem to be illuminated. This is essentially the same thing that happens with the tapetum lucidum.

We've just passed the Halloween season and if you were scared by the glowing spots that you may have seen at night, I hope that now you can understand that they simply belonged to some poor animal that was out for an evening stroll looking for some food.

Activities:

Check out this website for more info on your eyes: <https://kidshealth.org/en/kids/eyes.html?ref=search>

Take a close look at your eyes in the mirror and also check out a family member's eyes.

While out at night walking the dog, check out the glowing eyes; your dog's eyes or the cat's eyes or maybe even a deer or an opossum.



Current Matters



Viburnum berries.

Soon you can check out more Mini-monsters and more information on the web:
www.cookscreekpa

Have you seen the woolly bully caterpillar this fall? Are the black bands bigger than the rust band? Does that mean a more severe winter to you?

Picture from National Weather Service



Bridge over Frya Run being replaced after being washed out last year.

Recycle! Local Recycling Information

Durham Township Recycling Center

Location: Municipal Building, 215 Old Furnace Rd, Durham

1st Saturday of every month (2nd Saturday if 1st Saturday is on a holiday weekend)

Hours: 9:00AM – 12:00 noon.

Accepting newspapers, magazines, junk mail, phone books, glass, tin, food grade plastic, aluminum and cardboard, and CFL bulbs, rechargeable batteries (during office hours).

Please note that this facility is just Durham Township residents!

Contact Dani McClanahan at the township building for more info. 610-346-8911

Springfield Township

Location: Township Building, 2320 Township Road. Note: Springfield residents only. Cloth/clothes only at Springfield Fire company.

Paper/cardboard Recycling Bin Available at Township Building.

A Recycling bin was recently placed here and is available to anyone. Cut down on trash and help the township earn extra money. You can drop off: Magazines, Shopping Catalogs, Phone Books, Newspapers, Office and School Papers, Mail.

Please do NOT include: Plastic, glass, metal, trash

Hours: Anytime; See website: www.springfieldbucks.org or call 610-346-6700.

Blinderman & Son

Location: 1320 Whitaker St, Hellertown. 610-838-9221

Hours:
7:30AM – 4:00 PM, Monday – Friday

7:30 AM – 11:30AM, Saturday

Accepting cardboard and most metals.

City of Bethlehem Theis/Cornfeld Recycling Center

Web site: www.bethlehem-pa.gov/recycle/services/theis_cornfeld.htm

Location: 635 Illick's Mill Rd., Bethlehem

Phone: 610-865-7082 Hours: Weekdays: 9AM to 5 PM, Saturday 9 AM to 4 PM, Sunday 11AM to 4 PM

Accepting glass, cans, plastics, newspapers, all books, magazines, catalogs, cardboard, mixed office paper, metals, textiles (clothing, shoes, etc.), large appliances (certified freon-free). Call or go to the web site for specifics.

Bonus!! They provide FREE on site shredding services for businesses and private individuals. If you have 4 or more boxes, call 610-865-7082 to schedule an appointment.

Schedules of Local Government Meetings

Springfield Township:
www.springfieldbucks.org
610-346-6700
2320 Township Road

Supervisors: 4th Tuesday @ 7:30 PM
Planning Commission: 1st Wed. @ 7 PM
Environmental Advisory Council:

2nd Thurs. @ 7:30 PM
Open Space Committee:
As required

Historic Commission:
2nd Wed. @ 7:00 PM

Durham Township:
www.durhamtownship.org
610-346-8911
215 Old Furnace Road

Supervisors: 2nd Tuesday @ 7:30 PM
Planning Commission:
1st Tues. @ 7:30 PM
EAC: 3rd Tues. @ 7:30 PM

Lower Saucon:
www.lowersaucontownship.org
610-865-3291
3700 Old Philadelphia Pike

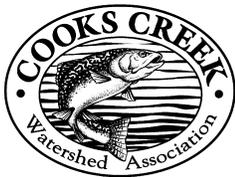
Council: 1st and 3rd Wed. @ 7 PM
Planning Commission:
4th Thurs. @ 7 PM
EAC: 2nd Tues. @ 7 PM

Williams Township:
www.williamstwp.org
610-258-6060
655 Cider Press Road

Supervisors: 2nd Wed. @ 7 PM
Planning Commission: 3rd Wed. @ 7 PM
Land Preservation Board:
4th Tues. @ 7 PM

Richland Township:
www.richlandtownship.org
215-536-4066
1328 California Road

Supervisors: 2nd Mon. @ 7 PM
Planning Commission: 3rd Tues. @ 7 PM
Preservation Board: 2nd Wed. @ 7 PM



Cooks Creek Watershed Association
 P.O. Box 45
 Springtown, PA 18081
 www.cooks creekpa.org

If you hold precious the beauty that surrounds us in the Cooks Creek Watershed area and would like to be actively involved in its preservation, then consider joining our association as a member. Reach out to your community! We would love to hear from you! Please drop us a line at info@cooks creekpa.org

CCWA is a 501 (c) (3) non-profit organization.



Find us on Facebook

Please Join Us... Cooks Creek Watershed Association-Membership Form

All of us who reside in the area enjoy the beauty of Cooks Creek.

Those of us who are fortunate enough to live here are dependent upon this watershed not only for the beauty of the creek but our wells, the wetlands, the wildflowers and all of the beautiful landscapes in our townships.

It's up to all of us to protect this treasure. The Cooks Creek Watershed Association asks that you become a member and help in the task of protecting this special resource.

Name: _____

Other household members: _____

Address: _____

Phone: _____ E-mail: _____

Interests: (circle)

Newsletter	Website	Roadside Cleanup	Event Planning
Membership	Fundraising	Stream Studies	Wherever I'm Needed

Individual Membership Fee: \$ 15.00 per year _____

Family Membership Fee: \$ 25.00 per year _____

Student Membership Fee: \$ 10.00 per year _____

Donation: to legal defense fund: _____

Total:

I wish my membership and donation to remain anonymous in our board minutes. Check box.

Please detach and mail to Cooks Creek Watershed Association, (CCWA)

P.O. Box 45, Springtown, PA 18081. **THANK YOU!**

Checks can be made payable to Cooks Creek Watershed Association.

CCWA is a 501 (c) (3) non-profit organization.