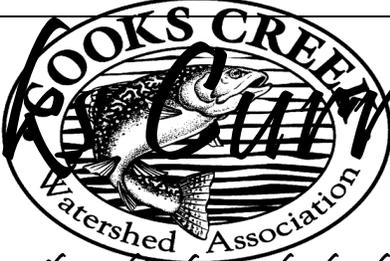


Cooks Current



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

Volume 17, Issue 1

Newsletter of the Cooks Creek Watershed

Winter 2020

2020 Events

Regular Board Meetings:

Springtown Fire House- 7:30PM

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

Mar. 26, Apr. 23, May 28, June 25, July 23, Aug. 27, Sept. 24, Oct. 22, Nov. 19 (3rd Thursday), Dec. 17 (3rd Thursday) **All are welcome! We appreciate your involvement**

Special Events

Apr. 4, first Sat. of April, **Spring Clean-Up**, 9am-4pm, Springtown Fire Company **Apr. 23**, fourth Thurs., **Annual Meeting**, 7:30pm, Springtown Fire Company **June 20**, Sat. of Father's Day weekend, **Mini Monster Mayhem**, 9:30am-Noon, The Douglas's, 3450 Rt. 212, Springtown, PA **Native Plant and Invasive Workshop**, TBD-**Springfield Community Day** - TBD **Oct. 3**, first Sat. of Oct., **Fall Dinner**, 5pm-9pm, Springtown Rod & Gun Club **Oct. 4**, first Sunday of Oct., **Walk in Penn's Woods**, TBD **Oct. 10**, second Sat. of Oct., **Durham Community Day**, Noon-3pm, Durham Mill Green **Nov 14**, second Sat. of Nov., **Fall Clean-Up**, 9-Noon, meet at Old Philadelphia & Rt. 212 & Gallows Hill Rd.



See back for details!

We're on the web!

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...

From Across the Board...

Things are typically slow this time of year for all of us. I use this time to take stock, look where I've been and where I want to go next. The weather has been reasonable, so long walks with the dogs are still doable and allow me to think. I saw a flock of bluebirds at Peppermint Park the other day, which always makes me smile. The native grasses are coming in nicely now, with the softer management approach, and I am hoping that more grassland birds decide it's safe to nest there next spring. We could be lucky enough to see Meadowlarks or Bobolinks joining the Grasshopper Sparrows already taking advantage of the opportunity. When I am up there I always take a few minutes to visit Hans' memorial and take some comfort knowing that how things are developing there would make him smile too.

As Hans would remind us, it's the little things we all do that make a big dif-



Cooks Creek flowing under Durham bridge with minimal snow cover this winter. Photo by Lois Oleksa

ference. Turn down the plastic bag, ask for a paper straw, eat a vegetarian meal, it all helps. Spring will be here soon, and we will be hosting our roadside cleanup as usual. Whether you are a regular helper, or newbie, have an hour or all day, we welcome your help! Make it a family experience, there are plenty of roadways to work on. Give me a call to tell me where you'd like to clean up, or just come to the firehouse on Saturday morning (April 4) and we will come up with some-

thing. We will have coffee and donuts or bagels for breakfast and a scrumptious homemade chili lunch for anyone who is willing to lend us a hand. Spread the word, it's more fun than you think, and very gratifying.

Later in the spring we will kick off our education program by helping out with Earth Day at the schools as well as hosting our Mini Monster Mayhem. This will be the 19th year that we've had youth come to the creek to learn

(Continued to page 2)

(Continued from page 1)

about watersheds, water quality and all the curious creatures of Cooks Creek. If you have not attended the event before, come on over, I guarantee that you will learn something, but just watching the kids in the creek will put a smile on your face. While we may not be the biggest or most well attended environmental event, I take pride in knowing that years later some of the kids we have introduced to the water decide to go into environmental science as a career. You never know who you might inspire.

On a more serious note, check out the essay inside that explains the latest proposal out of Washington to change aspects of the Clean Water Act. It's important to understand what is being proposed, what it will mean, and what we can do about it. My many decades as a professional in government tells me not to panic about this stuff, but in general, federal engagement is decreasing on environmental issues which means we need to be even more vigilant on a local level. Get educated, stay informed, and be wary of social media outbursts and unattributed sources of "information".

The pipeline saga continues with PennEast trying to stay alive in the process, and Adelpia managing to thwart efforts to force them to do their homework. It appears they may be joining forces to get an alternative route approved. I am convinced that we will eventually see something in the Watershed, unfortunately. However, I assure you we will be watching and in the event they do any construction here, we will make sure they do it in a way that minimizes any long term impacts. Remember that even if one of these partnerships gives up, they will likely sell the work they've done to someone else who will keep trying to get the permits and permissions they need. Often the second or third try is the charm, and someone without good resources behind them ends up with the prize. We will continue to oppose both projects.

Yours in conservation,

W. Scott Douglas, President



*** Botanical Focus: Eastern Skunk Cabbage (*Symplocarpus foetidus*) ***

* *By: David Oleksa* *

* *This is the 14th installment in a series of articles on the flora of the Cooks Creek Watershed.* *

* It's winter time; this is the winter issue of *Cooks Current* and plants are not being thought about on the most part. However, there is a very interesting plant that is making itself known even in the depths of winter. It has many interesting properties, habits and uses but most people are totally unaware of its existence. The Eastern Skunk Cabbage (*Symplocarpus foetidus*) is one of the most unusual plants that you may run across. It is found in the north-eastern quadrant of North America although a similar plant is also found in Washington, Oregon and California. It prefers wetlands and moist hill slopes and since we have many of these in the Watershed, the plants are easily found. The skunk cabbage may also be referred to as swamp cabbage, meadow cabbage or polecat weed, but because of the skunk like fragrance that it emits when its leaves are bruised, skunk cabbage is the moniker that is most frequently used. Despite its name, the plant is not related to cabbage at all but rather is a member of the same family that includes calla lilies, elephant ears (taros), philodendrons and native plants such as Jack-in-the-pulpit.

* The leaves are very large measuring about 22 inches in length and 16 inches in breadth. The plant flowers in late winter or very early spring, often while snow is still on the ground and this highlights one of this plant's most unusual features. The skunk cabbage is a thermogenic plant meaning that it has developed a method of producing its own heat. The process used is called cyanide resistant cellular respiration and is far too complex to be discussed here, but trust me, it works.

(Continued on page 3) *





(Continued from page 2)

What happens is that the plant generates a considerable amount of heat, as much as 60 degrees Fahrenheit above the air temperature. This allows the plant to melt its way through frozen ground and allows it to flower while there is still a considerable amount of snow and ice on the ground. You might wonder how the flowers are pollinated and this cyanide resistant cellular resistant process has the answer for this question as well. Carrion-feeding insects are attracted by the scent of the flowers and are doubly encouraged to make their way into the spathe by the warmth that the plant is producing. Their entrance and subsequent movement fuel the pollination process. The spathe is actually a speckled hood-like leaf which surrounds a knobby structure called a spadix. The spadix is a spike consisting of many petal-less flowers. As the flowers mature, the spathe opens more and more to release the afore-mentioned scent and allows the pollinating insects easier access.

Not only is the skunk cabbage thermogenic, it also differs from most other plants by having contractile roots. This means the plant roots contract into the earth, pulling the stem ever deeper into the mud or soil. In essence, the plant grows downward instead of upward. Every year (and some plants live for 20 + years) the plant grows deeper and deeper into the earth making it almost impossible to dig up well-established older plants. After the flowers are pollinated, a fruit develops containing pea-sized seeds and these pea-sized seeds fall into the mud and are carried away by runoff water or by animals to germinate and start the process anew.

The foul odor that the plants emit is not restricted to the flowers but as mentioned before, when the leaves are bruised or damaged the skunk-like smell can be carried for some distance. It has been proposed that this is sort of a defense mechanism to discourage large animals from disturbing or damaging the plants which, since they grow in soft wet soils, can be fragile in their juvenile state. The plant itself, despite the noxious odor, is not poisonous to the touch but the smell does an excellent job of attracting numerous pollinators including scavenging flies, bees, and stoneflies.

This pervading odor turns off most people but the plant has historically had many uses. During the 19th century, a drug “dracontium” was popular and was made from skunk cabbage. It purportedly was effective in the treatment of dropsy, respiratory diseases, nervous disorders and for joint pain from rheumatism. Native Americans used the plant both medicinally and as a seasoning for food. In modern times, survivalists and foragers report that the thoroughly dried young leaves can be added as a tasty ingredient to stews and soups and that the thoroughly dried rootstocks can be ground into flour with a consistency and flavor reminiscent to cocoa.

The next time you are exploring one of the many wetlands that can be found in our watershed, pay a little more attention to the skunk cabbages that you may find either by their purple spathes in late winter or by the lush leaves that are displayed well into the fall. You may not enjoy their odiferousness but after learning about them you may be attracted by their unusual attributes.

Inside the skunk cabbage



Skunk cabbage leafing out in spring



Children's Backyard: Sashiko Mending *By: Lois Oleksa*

Mend it – Don't throw it out! This should be the mantra that you should say when a hole develops in your old jeans. Instead of throwing out your old torn jeans (I know it's the style to have jeans that are "ripped jeans") mend them along with other torn articles of clothing and you'll be showing off your artistic side as well as saving money and helping the planet. Textile production is a gross polluter; inexpensive clothing has an enormous cost. From poor wages to environmental concerns, from working conditions to transportation obstacles, the mass global production of inexpensive throw-away *stuff* is expensive in a way that has nothing to do with our wallets. As with so many other concerns of the global economy, the best answer to issues surrounding textiles is literally in our backyard, our local community. Fibersheds, like local watersheds, are the producers in our neighborhood. In a local fibershed people grow raw materials and construct garments from the materials. You can be part of a fibershed by making a knitted garment from locally spun sheep or alpaca wool. However, if you do not construct your own clothes, the least you can do is mend the favorite clothes you have purchased. You can get a great deal of satisfaction in mending your own clothes. Learn the basics. Know how to sew on a button, learn some basic sewing stitches and how to darn a hole.

Sashiko mending is a simple stitching technique. It was developed in ancient Japan. There is a whole history of this stitching technique and the fabrics stitched. Fabric was precious and scarce, as it was made by hand from home grown materials and clothes were mended over and over to give them a long life. The mending was meant to be visible. Clothing was passed down through generations, not as today, sometimes discarded after a season even though it is perfectly functional and in great shape.

Sashiko means "little stabs" or "little piercings" referring to the stitches. Worn spots are repaired with patches and decorative running stitches. Many geometric patterns were used to make common motifs like waves, mountains, diamonds, etc.

Children's Backyard Activity: Patch holes in your jeans using the Sashiko technique

Supplies: cotton embroidery thread, long embroidery needle, fabric for a patch, scissors, fabric chalk and of course your jeans.

Clean the hole in your jeans by removing the frayed threads and cut a patch large enough to cover the entire hole in the jeans.

Insert the patch inside the jeans and pin it into place. Mark sewing lines with the fabric chalk or just sew free-hand without markings. You will sew straight lines, the simplest stitching.

Sew using embroidery thread about 18-24 inches long. Knot one end and insert the needle from the bottom/wrong side, through the patch and then through the top of the jeans. Use a "running stitch" ¼ inch long, putting multiple stitches on the needle. When you reach the end of the row of stitches, go under the underside of the patch and start the next row by bringing the needle up through the top of the next line, keep stitching in parallel rows. When you run out of thread, knot it off underneath and start a new section of thread, again from the underside.

Use different colors of thread and try different stitching patterns and different colored/patterned fabrics. Your clothes will look like a piece of art and you won't be upset with a hole.



Back to the Past: Rotational planting on a Durham Plantation in 1775.

A column highlighting the natural history of the Watershed.

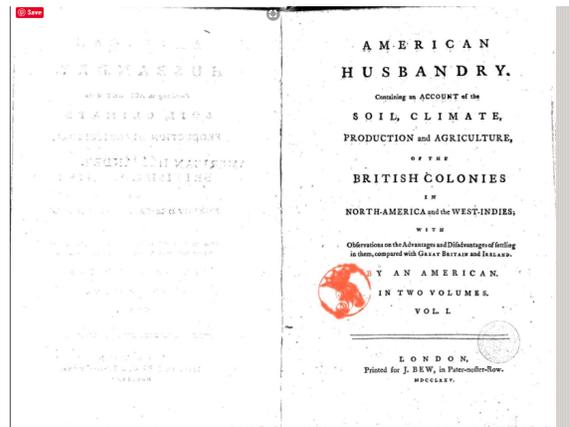
Pgs. 171 and 172 in *Animal Husbandry. Containing an ACCOUNT of the SOIL, CLIMATE, PRODUCTION and AGRICULTURE, of the BRITISH COLONIES in NORTH-AMERICA and the WEST-INDIES, with Obfervations on the Advantages and Disadvantages of fettling in them, compared with GREAT BRITAIN and IRELAND. By AN AMERICAN. In Two Volumes.*

Vol. I

LONDON,

Printed for J. BEW, in Pater-nofter-Row. MDCCLXXV.

This volume, one of two, talks of agriculture in the colonies just prior to the American Revolution. In a section containing two chapters on Pennsylvania (Pennsylvania) AN AMERICAN, the author, mentions “a plantation near Durham about fifty miles to the north of Philadelphia”. In 1775, plantations in Pennsylvania were “iron plantations” where furnaces and forges existed along with communities that were self-sufficient and which supported the iron industry. The large tracts of land suitable for farming came about when the land was cleared of trees for the manufacture of charcoal to power the furnace.



In farming the land in 1775, the author notes bad husbandry practices in which land was sowed with wheat until it could no longer bear wheat due to depletion of the soil. It was, however, recognized that other crops were necessary to build up the soils. The system involved a rotational system implemented over 14 years. After 14 years the land was left fallow perhaps due to the fact that most nutrients had been depleted. There was plenty of land available in the new country and most farmers just moved on to new land.

The whole volume along with volume II can be found here: https://archive.org/details/bub_gb_pc3ZJ8rPkkMC/page/n5

Enjoy reading, noting that the “f” is a “s” from the old English spelling.

(Continued to page 6)

(Continued from page 5)

AMERICAN HUSBANDRY. 171
mentioned bad management, and shall in speaking of their general conduct shew others.

Their system which is a point of so much importance is like that I have mentioned more than once to the northward. They sow a piece of land with wheat till it will bear wheat no longer, then they sow barley on it till it will bear that no longer, and perhaps after that they will do the same by various crops of oats, buck-wheat, pease, &c. The following is the system that was pursued in a large new field in a plantation near Durham about fifty miles to the north of Philadelphia, the account was given me, among several others concerning the same plantation, by a person on whose accuracy I can depend.

1. Wheat,
2. Wheat,
3. Maize,
4. Wheat,
5. Wheat,
6. Barley,
7. Barley,
8. Barley,
9. Oats,
10. Barley,
11. Buck-wheat,

12. Barley,

172 AMERICAN HUSBANDRY.

12. Barley,
13. Oats,
14. Pease.

This is not only a proof of the planter's bad husbandry; it is also a proof of what excellent land it must be to yield such a succession of crops in plenty, enough to induce a man to sow them. After this system for fourteen years, it was left what they call a fallow for seven years more; that is, the land unploughed for whatever spontaneous growth comes; for some years there is nothing but weeds, but there afterwards appears some grasses thinly scattered which cattle eat, many sorts of shrubs and trees also spring up, which the cattle feed on also, and if the land was so to be left for twenty or thirty years longer, it would become a forest.

This absurd way of having an eye to nothing but exhausting the land as quick as possible by constant crops of corn, is pernicious to their interests: it is owing as I before said, to plenty of land, for new settlers always take up as much as they possible can, and far more than they know how to stock or cultivate: they can afford no care for manuring, nor yet to clear two pieces of ground for corn as long as one will

Benthic Community Assessments *By: W. Scott Douglas*

As part of our ongoing Growing Greener grant, samples of benthic invertebrates were collected and analyzed. In order to determine the quality of the benthic community, 14 samples of bottom debris were collected at each of five sites using a kick net. The net was placed in the stream and the rocks and other material disturbed upstream for a minute. Additional grab samples around snags and bank vegetation were also taken. The material was then examined carefully under a microscope and the organisms removed, identified and counted. Several hundred invertebrates were examined at each site, representing as many as fifty different types of organisms (see Figure 1 below).

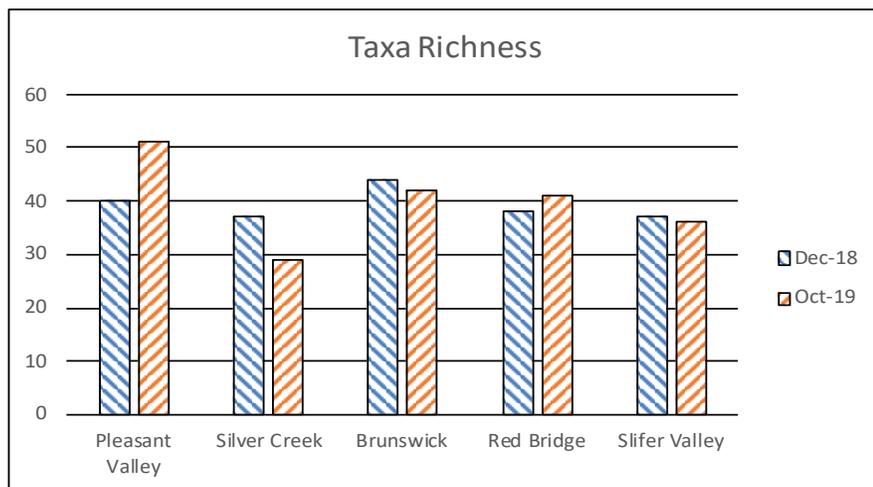


Figure 1. Number of distinct taxa collected at each sampling site. Left bar is Dec.2018 and right bar is Oct. 2019 for all locations in all bar graphs in article.

Several other biological parameters for the samples were calculated that score the sample based on number and types of sensitive organisms, community diversity and pollution tolerance. The data 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. In every case except one these scores are considered by PADEP to be attaining the aquatic life use standard of 63 for Special Protection waters. The fall 2019 sampling of Silver Creek appears 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. As such, a lower score is not unexpected. Note too that all sites showed a reduction in IBI score from the previous sampling period. This is due to the fact that late summer and fall benthic communities tend to be less robust than winter and spring communities. Additional data will be needed to determine if Silver Creek is indeed being impacted, and if so by what.

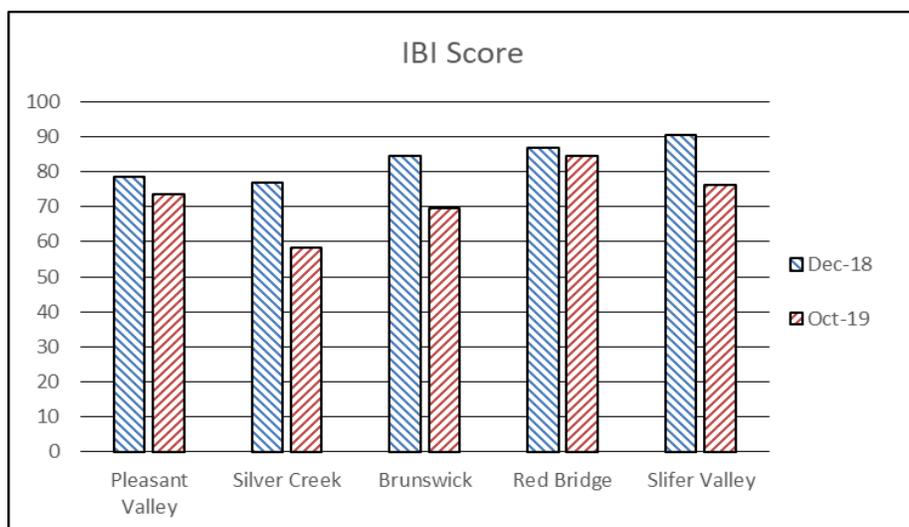


Figure 2. Index of Biotic Integrity scores for Cooks Creek (PA Freestone procedure, 2012) Left bar is Dec.2018 and right bar is Oct. 2019 for all locations in all bar graphs in article.

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

From: The Environmental Magazine, Green Guide by: Sam Heller, December 17, 2019 This will be a series of articles on synthetic chemicals with recommendations in avoiding them. Part 1

For better or worse, synthetic chemicals have become a ubiquitous part of our lives. Despite their many useful applications, plenty of these substances also have an extensive history of causing harm. Researchers suspect a good deal more of having similar negative effects, but have not conducted a sufficient number of studies to fully understand their levels of toxicity.

Though the exact danger of many of these chemicals is still unclear, the fact that they are getting into our bodies is undeniable. Indeed, a recent study by the CDC found that over 200 environmental chemicals were present in many Americans. Examples of such chemicals include arsenic, cadmium, pesticides, flame retardants, PFOAs, and perchlorate, all of which scientists have proven to be toxic. They, and many others, may be at least partially responsible for the sharply rising rates of autism, attention deficit disorders, obesity, diabetes, and other chronic illnesses.

For the most part, these toxins are of concern due to their carcinogenicity (tendency to cause cancer) or potential to disrupt the endocrine system. The latter class of effects can be particularly harmful for fetuses, infants, and young children. Even minor disruptions in the endocrine system of these groups can cause massive problems down the road. Issues with the structure and functioning of the reproductive system, drops in IQ, and other cognitive problems, have all been linked to toxin-related endocrine disruptions. These effects can be greatly exacerbated if exposure happens early in life. In fact, there are some toxins that will do relatively little to child, but can have huge consequences for the development of an early stage fetus. Therefore, pregnant mothers should take great care to shield themselves from dangerous compounds.

While it can be unsettling to learn and think about the dangers chemicals may be putting us in, doing so can help protect your health, and the health of your family. Thankfully, you can avoid exposure to many of the most common toxins through a few very simple measures. It is, of course, difficult to avoid something if you don't know where it is. Fortunately, ever more information is coming out about the products and materials that may contain these compounds, and which safe alternatives you can use as replacements.

The list below includes some of the most common toxins, along with potential routes of exposure, and precautionary actions you can take to avoid them.

Polyvinyl Chloride Polyvinyl chloride contains phthalates (discussed later on) which were actually banned from being used in the production of children's toys in the U.S. It can also contain lead and cadmium.

If you want to reduce exposure, minimize contact with PVC products, and make sure that your children do the same. PVC is still used in some school supplies such as lunch boxes, backpacks, and binders. Products containing it often carry the label "vinyl." It can also be worth testing water that may run through PVC pipes to insure it does not contain excessive levels of the substance.

The recycling number 3 indicates that a product contains PVC.

For more info on how to spot and avoid PVC, click on the links below...<https://www.state.nj.us/humanservices/opmrdd/health/pvc.html><https://www.epa.gov/sites/production/files/2016-09/documents/vinyl-chloride.pdf>

Fire Retardants Many types of furniture and other common items from around the house contain flame retardants. Unfortunately, a growing body of evidence indicates that they can cause serious health problems, including endocrine and thyroid disruption, cancer, and reproductive issues.

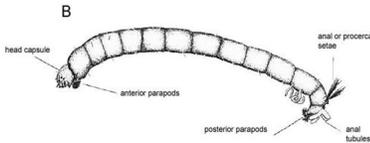
To avoid these compounds, you can buy furniture with labeling that indicate it is flame-retardant free.

To learn more about the various sources of flame retardants click on the links below...<https://toxicfreefuture.org/top-tips-avoiding-toxic-flame-retardants-home/>https://www.niehs.nih.gov/health/topics/agents/flame_retardants/index.cfm

Creature Feature: Midges By: *W. Scott Douglas*

This is 51st installment in a series of articles on the fauna of Cooks Creek Watershed.

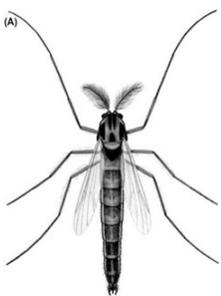
When I was in graduate school, I used midge larvae to evaluate the toxicity of pesticide laden storm runoff from farm fields. As many advanced degree holders can attest, one usually gets a blank stare when trying to explain one's graduate work to others. What the heck are midge larvae anyway? Well, as it turns out, midges are the largest and most diverse group of insects in our creek, if not any creek. Midges are the adult of the family of flies called Chironomidae. Of the estimated 2000 species that live in the Nearctic, nearly half are as yet undescribed. Entomologists think that there may be as many as 20,000 species worldwide, with only a quarter of them described. Part of the reason for that is that they are small and nondescript little wormlike larvae that become small nondescript little flies as adults. They don't bite, don't transmit diseases, and are not used by fishermen as bait. Even most aquatic entomologists avoid them because they are notoriously hard to identify to genus, to say nothing of species.



Despite all this, chironomids are perhaps the most important group of aquatic invertebrates there are, providing a food source for many other groups of insects, fish, salamanders, bats and birds as well as being a stabilizing source of diversity in many stream ecosystems. They are amazingly abundant in freshwater streams and rivers, sometimes occurring at densities as high as 50,000 per m², with as many or more species represented than all the other invertebrates combined. They are also the most widespread of any insect, inhabiting virtually every habitable corner of the earth from the polar regions to the Himalayas to the deepest portions of Lake Baikal, and tolerating temperatures from 39 degrees C to -15 degrees C. In addition to freshwater streams, they also live in estuaries, pitcher plants, wet soil, tree holes and even moist dung. Chironomids live in a wide range of water conditions of pH, alkalinity, salinity, dissolved oxygen, velocity, depth and temperature. While some species are so capable of tolerating pollution that they are the only insect present, others are so sensitive that they can be used to indicate the highest water quality.



The life cycle of midges is similar to other aquatic insects. The larvae are small, from a few millimeters to a few centimeters at full size. Most are pale in color, but some are brightly colored; the ones I used in my graduate work were bright red. The larva is segmented with a pair of prolegs at the thorax and a pair at the rear of the abdomen. The head is sclerotized and exposed. Some species have gills at the rear of the abdomen as well as a few setae. The larvae molts as it grows, usually through at least four instars which may take from a few weeks to several years. Once it reaches maturity, it will pupate. The adult emerges underwater and floats to the surface. The adult midge looks a lot like a mosquito, but it typically lights with its front legs up, whereas mosquitos stand with their hind legs elevated. The adult does not feed; but lives only to mate. Most adults will join a mating swarm over the creek or river from which they emerged, but some species prefer to "swarm" on a rock or log. I have seen these swarms when kayaking, sometimes they contain hundreds if not thousands of midges, making the rock actually look "fuzzy". Once fertilized, the female lays its gelatinous egg mass on the water or directly on overhanging vegetation. Both genders expire shortly after mating and egg laying is complete.



It's actually difficult for the lay ecologist to observe midges. Except for a mating swarm, the adults are small, unremarkably colored and usually not abundant enough to find and the larvae are small, slow moving and easy to overlook. If you are patient enough, you may be able to coax a few out from a handful of detritus placed into a white tray. A hand held magnifying glass will help with this. Look carefully on the leaves, pebbles and twigs for small, light-colored worm-like larvae. Or, you can ask any experienced aquatic entomologist for a look at one under a dissecting microscope. Just how important are the midges to Cooks Creek? Well, they are just as important for us here as they are around the world, but just as poorly studied, unfortunately. I have yet to master the art of midge taxonomy, so I usually just count them as "midges". What I can say is that I have noted

that there are representatives of the more water quality sensitive varieties present.

Current Matters

Hearing those snow geese migrating?

Upper Bucks has reported recent sightings. The state of PA has indicated the best spot to see them is Willow Creek Wildlife Management Center in Lancaster, where over 130,000 have been counted in one day! Morning and sunset are the best time to view them as they come back from the day's hunt for food. They are on their way back to the Arctic or subarctic to have their young.

You might also spot some Tundra Swans!



Snow Geese Migration Map



Garter snake sunning himself this winter

Snow Geese migration map and picture from https://en.wikipedia.org/wiki/Snow_goose

Check us out on the web for more information and articles from past brochures!

www.cookscreekpa

An Analysis of the Navigable Waters Protection Rule *By: W. Scott Douglas*

For the past several months there has been a lot of chatter on social media regarding the changes to the Clean Water Act proposed by the Trump administration. Since this administration has been known for its environmental “roll backs”, I thought it would be a good idea to take a close look at the proposed changes as they might have a dramatic impact on our efforts to protect the Cooks Creek Watershed. While I am not a fan of tinkering with one of the best pieces of environmental legislation ever written, there appears to be more to like here than not.

First of all, there are no real changes proposed to how the pollution language is written. The Clean Water Act has been so successful because, in part, its language is goal oriented. The goal of the Act is to restore and/or maintain “fishable and swimmable” conditions in our surface waters throughout the country. As our understanding of what makes water “fishable and swimmable” have increased or changed over the years, as has the best way to accomplish those goals, the implementation of the Act has evolved with it. This promotes good science over politics and clears a path for reasonable policy and regulation. The proof of concept is all around us; the Delaware River is a great example of how far a river can rebound from the brink of environmental collapse. So, if its working, why change anything?

The main issue today, and what has been at issue since almost the very beginning of the Act in the 1970s, is the scope of Federal jurisdiction. At heart is the definition of “waters of the US” or “navigable waters”. At the surface it seems simple; waters of the US are surface waters that are either traditionally used for navigation or commerce, and those water bodies that contribute to them. Where things get hazy is what constitutes a contribution of water. There have been many heated arguments in and out of court regarding certain types of wetlands, storm water conduits, ditches, and isolated ponds and such. At stake is usually development, but also agriculture, especially in the Midwest. A great example of the “grey area” is roadside ditches that become a home for wetland plants and animals. Are these protected under the Clean Water Act or not? Well, sometimes yes and sometimes no. And the answer often depends on who is reviewing the application and the current Administration’s policies. That’s not science and has resulted in an “us vs. them” approach that promotes hiding data and spin. Now the Act itself is frequently attacked, and may be in jeopardy of eventual repeal or descent into irrelevancy.

What the “Navigable Waters Protection Rule” being proposed appears to do is to clarify what constitutes “waters of the US” and what does not. The 340-page proposal is quite a good evaluation of this concept, how it fits in to the Act, the changes that have been made over time and case law you can read yourself at <https://www.epa.gov/nwpr/final-rule-navigable-waters-protection-rule>. It’s a bit much for the average lay person to wade through, so here’s what I think are the high points:

1. **Ephemeral Streams are to be excluded from the Waters of the US.** Ephemeral streams and features are those that are usually dry, but become wet and/or flow only as a result of precipitation. Further, there is no connection between that feature and groundwater.
2. **Man-made ditches and other features are to be excluded from the Waters of the US.** These ditches are those that were built solely to transmit storm water runoff, or have served that purpose and are only wet due to the artificial grading of the structure or during precipitation events. Note that any discharge from these features is still regulated for pollution as it likely enters waters of the US.
3. **Artificial ponds and other impoundments created for agriculture or mining activities are to be excluded from Waters of the US.** These features are only those created where there were no natural discharges, wetlands or streams.

It seems to me that focusing the Federal attention on the rest of the wetlands, creeks, rivers and lakes that are out there and contain valuable habitat is a far better use of our taxpayer dollars than arguing over what is likely habitat of questionable value. So why are the resource agencies and advocacy groups so upset?

I see two issues that are driving the resistance to this proposal (other than politics). First,

(Continued on page 12)

(Continued from page 11)

habitat everywhere is in jeopardy due to overpopulation and sprawl. There are precious few places left for wildlife to live and consequently even marginal habitats are being utilized. Even a roadside ditch with a few opportunistic cattails may host a rare or endangered species at some point during the year.

Second, ephemeral streams are often part of the headwater system of a watershed. Headwater systems can often be as much or more of the area or miles of the surface water system in a watershed than perennial and intermittent features. They are often the last parts of a watershed to be developed, and are critical to providing temperature and water quality control of storm water runoff. Not to mention that without somewhere for water to flow naturally, it will end up in places we don't want it, such as our backyards or streets. From there, storm water picks up lawn chemicals or street oils and then it is usually directed into surface water carrying its chemical burden with it. In many systems, like our beloved Creek, the most significant impacts we see are caused by the chemicals and nutrients carried by storm water.

So, if these two issues are real, why change the definition? Shouldn't we be upset at the proposed changes? Well, maybe yes, maybe no. In my mind we should be asking whether the Clean Water Act is the appropriate place to address these issues or not. In fact, the Clean Water Act already passes regulation of pollution discharges down to the State for implementation. This has been enormously successful, although it is arguable whether all States are performing equally. The Clean Water Act was never designed to improve or protect habitat, per se, so it really shouldn't be used for that purpose. It just promotes confusion and encourages lengthy and expensive lawsuits. The question that should be asked is how are we going to ensure adequate places for plants and animals to live? What sort of legislation should we have and where should it be controlled from (Federal, State or local)?

My biggest concern here is over storm water. Storm water caused by overdevelopment and poor control of impervious surface, as well as a tendency by engineers to see storm water as a waste to be shed rather than a resource to be managed, is problematic. Storm water management, however is really best done at a State or local level, where the very site-specific details of topography, geology and hydrology can best be addressed. Fortunately, we in PA have a very good State policy on storm water, and both Durham and Springfield have adopted the State guidance in their zoning rules. As long as someone doesn't get it into their head to alter our rules because of these proposed Federal rule changes, we will be ok here in PA. What will happen in other States remains to be seen.

As someone who prefers local control, I'm not as upset as some might be with these proposed changes. However, I direct a skeptical eye to any regulatory roll back as my biggest concern is always "who is guarding the hen house now?". Most likely, these changes will not impact us here, given our high level of involvement, but I'm not so sure about the rest of the country. I am also worried about the Federal oversight of projects, like PennEast and Adelpia, that do not have to abide by local rules and regulations. If the goal of the Federal change is to give the control to local governments, then those local government decisions must be included and respected the same way that the Federal rules are. Again, where we end up remains to be seen. In the meantime, I will be sending my thoughts along to Washington regarding these rule changes and I encourage you to do the same.

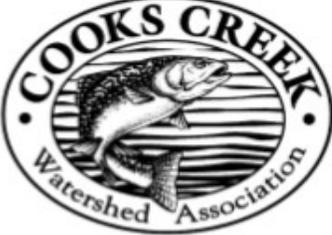
Continue this good work and renew your membership for 2020

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.

Your renewal will be appreciated!

17th  Annual

Spring CLEAN UP

SATURDAY APRIL 4, 9AM TO 4PM
 HOSTED BY
THE SPRINGTOWN FIRE COMPANY

Roadside Trash Pickup in Springfield, Durham and Lower Saucon Townships

Come on out in the spring sunshine with your friends and neighbors and help us clean up the winter clutter on our roadways. You provide the time, we supply everything else!

Trash Supplies and Disposal Provided by PennDOT

Coffee and Donuts for Breakfast, Homemade Chili Lunch provided free for all workers

For more information, to pick a roadway, or to register yourself or your group, please contact Scott Douglas at 610-346-1604

Notices!

It's Annual Meeting Time again!

Not just another Board Meeting, the Annual Meeting is a chance to discuss our year, plan for next year, elect officers and recognize the hard work of our members.

This meeting is a requirement of our 501c3 status, but is also a great time to "put in your two cents" about what the CCWA does with YOUR money.

Make a difference, plan on attending!

Thursday, April 23, 2020 @ 7:30 PM @ Springtown Fire Company

2020, the Beginning of a New Decade to Address Climate Crisis *By: Debra Orben*

We have numerous warning signs, traffic signals, flashing red lights, and emergency sirens that tell us when we need to stop, slow down, or change course. Most of the time we heed these signals and arrive home safely. We don't have someone in the back seat urging us to just keep going and try to run the next red light. That is not the case for climate change and caring for our planet. For years the fossil fuel industry has tried to muddle the facts and incite fear that our economy will collapse if we transition to modern, clean, renewable energy sources. So even in 2019 after numerous warnings from scientists and rising temperatures there were still a few people and too many of our leaders who didn't understand the urgency of our Climate Crisis.

Now we are celebrating not only a new year, but a new decade. I am hoping 2020 will be a turning point in our commitment to protect planet earth for our children and all future generations. To do that we need to realize that human beings are not in control of nature or apart from nature. We are an integral part of nature, a part of the vast web that extends out into the universe, a part of the beauty, mystery, and magnificence of the natural world.

What we do and how we use materials shapes our lives and the world around us. When we care for the water and soil, plants grow and thrive and our families have enough to eat. When we preserve forests, we save a place for wildlife and the forests give us oxygen to breathe. When we burn fossil fuels we add pollution and carbon to the atmosphere that results in warming temperatures and rising seas.

Right now climatologists are telling us two essential truths. First it is our actions that have created a Climate Crisis. That crisis threatens vulnerable lives and endangers numerous species. That crisis creates more destructive floods, droughts, and fires. Second, and most importantly, there is hope. We still have time to mitigate not all but much of the damage, if we transition away from obsolete and destructive carbon based energy.

If you care about your children and grandchildren, the birds in your backyard, or the safety of your food, air, and water, 2020 is the time to heed the warning signs about our Climate Crisis. We can't all be Greta Thunberg and speak about the urgency of acting now to the United Nations. We can't all be student activists that have joined Greta in ongoing strikes, insisting that adults stop threatening their future. We can't all be Jane Fonda who has decided that going to jail every week is one way to alert our leaders to the seriousness of our planet in peril. We can't all afford electric cars or solar panels but we all can do something, something essential. We can make 2020 the year when everyone stops debating the reality of climate change and starts planning ways to address it.

We can educate ourselves by reading books from our local libraries, perhaps *On Fire, The Burning Case for a Green New Deal* by Naomi Klein or *Climate Justice* by Mary Robinson. We can research climate change on our computers or watch documentaries such as *Chasing Ice, Years of Living Dangerously*, or *This Changes Everything*. We can bring the Climate Crisis into our daily conversations and insist that our politicians do the same. All of us are a part of nature and we can use our courage and imagination to protect our home planet and make 2020 the beginning of a new decade where we see clearly and work together to create a more just, peaceful, and sustainable world.

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

