

Cooks Current

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

Volume 14, Issue 2

Newsletter of the Cooks Creek Watershed

Spring 2017

2017 Events

Regular Board Meetings:

Springtown Fire House- 7:30PM

May 25, June 22, July 27, Aug.24, Sept. 28, Oct. 26, Nov.16 (3rd Thursday), Dec.21 (3rd Thursday). All are welcome! We appreciate your involvement!

Special Events

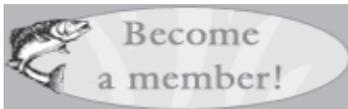
June 17, Mini Monster Mayhem

July 8, Native Plant and Invasive Workshop

Oct. 7, Fall Dinner

Oct. 14, Durham Community Day

Nov 11, Fall Clean-Up



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: Hans Reimann

Treasurer: Jim Orben

Communications Director/Recording Secretary/Editor: Lois Oleksa

Marketing and Public Relations: Lois Oleksa

Additional Members: Sarah Snider, Stephen Smith, MD,

Layout & Graphic Design: Ellie Scheitrum

From Across the Board...

Spring has sprung, the birds are singing, and our roads are cleaned up! I love springtime in upper Bucks County. Thanks for everyone who helped out on April 1, and subsequent weekends with our roadside trash pickup. I noticed that our cleanup weekends are getting fewer and fewer adult attendees, but more and more children. While I love it that kids find this important, we really would like to see more adults attend. It's only a few hours once a year, and it's always the first Saturday in April, and the homemade chili is AWESOME. It also makes you feel good. Really, it does. Please put it on your calendar for next year, we really could use your help. Perhaps you think this isn't a water quality thing? Actually, roadside runoff is one of the key sources of pollution to our creek. Keeping the roadside clean of debris helps reduce the impact that stormwater has. Not to mention that our oceans are filling up with plastic refuse at an alarming rate. Areas of floating garbage the size of Rhode Island are spinning around in the Pacific....you can do



Jim Orben collecting trash

your part to fix that without leaving Bucks County.

On Friday, April 21 I volunteered to host an Earth Day workshop at Durham Nockamixon Elementary School. Over the course of 3 hours, 6 classes attended my short presentation on watersheds and water quality. They ranged in age from kindergarten to fifth graders. The first thing I asked them when they settled down was "why do we celebrate Earth Day?" The answers varied from "I don't know" to "because it's Earth's birthday". Got

to love the little ones. To be fair, at least some of them knew that Earth Day was to learn about how to protect the Earth and its resources. As I always do, I made sure they understood that water was THE MOST important resource the Earth gives us. As quickly as I could I walked them through the hydrologic cycle, where our water comes from and how its quantity and quality are threatened by our actions. I think they had fun, and maybe learned a thing or two. I figure if even one of those 200 or so kids either takes up environmen-

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Update on the PennEast Pipeline

By: Lois Oleksa and Scott Douglas Information liberally excerpted from Mike Spille's website: <https://thecostofthepipeline.com>

It may seem quiet on the PE front, however, there are many things going on in the fight to STOP PennEast. This 120-mile line would deliver Marcellus Shale natural gas from Northeast Pennsylvania, would cross our Cooks Creek Watershed, go under the Delaware River from Durham, Pa to Holland, NJ and then proceed to Trenton, NJ. There have been many issues brought to light about this route which crosses through our Exceptional Value Watershed.

New Jersey residents on the preferred pipeline route have been very effective at fighting the PE Pipeline - 70% have not even allowed surveying of their properties. Despite this, the Federal Energy Regulatory Commission (FERC) has issued both the Draft and Final Environmental Impact Statements (EIS). Both the Corps and the NJDEP have issued statements regarding permit submissions that call out the gaps in the survey data. Environmental groups in NJ have also voiced considerable concern regarding Important Bird Areas (IBAs) in the path of the pipeline. PE has started to make it known that if NJ continues to object, they will dust off one of the alternative routes.

Alternative routes? Yes, alternatives that they are entitled to use if the preferred route is blocked, apparently without having to re-evaluate impacts. One of these is the defunct oil line (built and fought at the conception of our Cooks Creek Watershed Association) that runs south from Northampton County, across the main stem of Cooks Creek, up past the protected bat hibernaculum, and crosses the Delaware near the mouth of Gallows Run. Included in this alternative would be two other legs: one would cut through the Palisades in Upper Black Eddy running parallel to the Delaware River and again cross the Delaware between Milford and Frenchtown, NJ. Once it reaches the Lambertville, NJ area it would again cross back into PA to avoid the Baldplate Mountain IBA, cut across Solebury, and then cross the Delaware again near its termination in Mercer Co. PE has stated that this Alternative Route is not preferred; however, it is described in detail on the FERC docket.

Since this potential came to light, a group of concerned citizens representing PA watersheds and organizations met to consider actions. It was decided that continued outreach on the political side was needed, as well as a ramping up of the legal oversight. Some of these same people have met with our local Congressman Brian Fitzpatrick and the Bucks County Commissioners. Congressman Fitzpatrick is appalled by the possibility of eminent domain being used to take properties to build this Pipeline and the Bucks County Commissioners have stated to FERC that if this Alternative Route is chosen the

whole process of application and environmental studies needs to start from square one. There are multiple permits and okays that will need to be granted for the Pipeline to proceed. In the Final EIS there are about 60 recommended conditions before implementation is allowed. These permits are on a local level as well as Federal and State level; some minor, but others are biggies. CCWA had Curtin and Heefner evaluate the current status of the process, and give us a proposal to monitor and comment during the public review process for these permits.

The Pennsylvania Department of Environmental Protection (PADEP) has granted a Clean Water Act 401 permit. PE applied to the Army Corps of Engineers (USACE) for Clean Water Permits but the USACE issued a letter to FERC & PennEast stating that the application lacked sufficient information for the Corps to do anything with it, and they were refusing to do anything more (or even put together a timeline) until such time as PennEast gets the information USACE needs. That USACE letter was much worse for PennEast than it may seem. The Corps' letter was extraordinarily harsh and remonstrative to PennEast. They are sending a clear signal to PennEast that the Corps' does not look favorably on this project at all. In NJ, PennEast needs to apply to NJDEP for both the 401 and 404 CWA permits (NJ is one of the very few states to do 404 permitting; USACE does it in nearly every other case). PennEast did so the day before the FEIS was issued by FERC.

As you may know, the FERC board does not currently have a quorum since two members have resigned since the end of the Obama administration. So, while FERC is not likely to issue a decision on PE soon, the missing board members will eventually be replaced and they will have a quorum. Given the current administration's policies, it is unlikely that PE's Federal permit will be denied. Despite many letters that indicate that the USACE and NJDEP are not looking favorably on the project, the local permitting process is still moving forward on all fronts. It is especially important that the permitting process be carefully scrutinized in PA, since PADEP has proven itself willing to issue natural gas drilling and infrastructure permits based on incomplete or erroneous information. It has already issued a Water Quality Certificate for the project, something that NJDEP refused to do. This is one more nail in the coffin of the preferred route, which only skims a corner of our watershed. Since the alternative route runs straight through the heart of our Exceptional Value Watershed, we at the Board are even more concerned than before about the impacts of PE. Unfortunately, CCWA does not have the resources to fund the Curtin and Heefner proposal for the monitoring, which is estimated to cost between 8 and 10 thousand dollars. If you have any ideas for funding or wish to make a donation to our legal defense fund, please send us a note at info@cooks creekpa.org.

Botanical Focus: Kentucky Coffeetree (*Gymnocladus dioicus*)

This is the 3rd installment in a series of articles on the flora of the Cooks Creek Watershed.

By: David Oleksa

As the name suggests, the Kentucky Coffeetree is generally found in an area of the United States centered around the state of Kentucky. Its seeds were roasted and used by pioneers as a substitute for coffee. Although Pennsylvania is outside its normal range, there are a few scattered small populations in the Commonwealth. One of these happens to be in our Watershed. This small stand is presided over by a majestic specimen whose trunk measures 10 feet 8 inches in circumference.



Coffee Tree

The Kentucky Coffeetree is a unique tree. The female bears large woody pods and the male and female trees have leaves of a pink-bronze color that emerge in the late spring. The tree adapts to many types of soils and has virtually no insect or disease problems. The tree normally grows up to 60 to 75 feet in height although in some rare instances, specimens have exceeded 90 feet. The Kentucky Coffeetree belongs to the pea or legume family (*Fabaceae*) but unlike most members of the family, the Kentucky Coffeetree cannot convert gaseous nitrogen into a usable form.

Native Americans used pulp from the tree's wood to treat insanity and a tea made from the leaves and pulp was used as a laxative. As mentioned before, the seeds were used as a coffee substitute but they had to be roasted. The seeds and pods are poisonous, containing the alkaloid cystisine. The roasting process, however, neutralizes the cystisine. Cattle have been known to die after drinking water that had contained seeds and leaves from the tree. And Native Americans would sometimes "catch" fish by polluting a pool of water with the seed pods of the tree and collecting the stunned fish that floated to the surface. Because of this dietary problem, it is not recommended that grazing animals be allowed to pasture near any of the female Kentucky Coffeetrees.

The tree's scientific name, *Gymnocladus dioicus*, can be simply translated as "naked branch". After the leaves drop in late fall, there are virtually no small twigs on the tree and large coarse branches are all that remain.

Wood from the tree is strong and heavy and can be used in general construction as well as for fine wood-working and cabinetry. It can be made into timbers or fence posts as well. The wood resists rotting and fence posts made from this tree have been known to last over fifty years.

There are a few cultivars that are available commercially. They are primarily male trees which bear no seed pods and are therefore less "messy" for the urban and suburban environments. The tree is relatively rare since the seeds have to have their seed coat broken by mechanical or chemical means before germination can occur. In prehistoric times, it is thought, that mastodons and mammoths were able to digest the pods and the grinding of the animals' massive teeth allowed the seeds to be able to germinate after passing through the digestive tract. In modern times, if artificial methods are not employed, it may take over two years for the pod to deteriorate enough to release the seed.

It is difficult to transplant the tree because it has an extremely long carrot-like taproot which if damaged, causes the tree to die. Most cospes of these trees today have sprung up from the subsurface roots of other coffeetrees.

If you happen to have one of these outstanding trees on your property, feel yourself fortunate. Protect it and enjoy it!

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tal science or participates in an environmental cleanup or restoration project at some point, my investment in time will pay dividends to the Earth. Possibly by orders of magnitude.

That same week, my daughter attended the Science March in Washington DC, protesting the current administration's apparent back turning on science as a basis for environmental policy. I'm sure it was an exciting event, with lots of passion and fascinating rhetoric, laced with sarcasm – just the thing for bright, energetic and engaged college students. I believe that actual physically attended (peaceful) protests are a good thing in this world of swipe left, social media rants and tweets. They show our leaders that we are aware and we do pay attention to what they say and do. Over the years I have asked you to be a voice for the environment, and it may seem that I have asked you to become political. Politics are important, no question there, but rest assured, marches and mailings are not enough. Doing and sharing are worth far more than words. For every letter you write, retweet or Facebook post, or march you attend, be sure to also DO something for the Earth. Educate yourself with a workshop. Read a book. Plant a tree. Choose organic produce. Pull out some garlic mustard. Buy local. Take a kid paddling. And remember, every day is Earth Day.

Yours in conservation,

W. Scott Douglas

President



NATIVE PLANT AND INVASIVE PLANT WORKSHOP

"A native plant is one which occurred within this region before settlement by Europeans. Native plants include ferns and clubmosses; grasses, sedges and rushes; perennial and annual wildflowers; and the woody trees, shrubs, and vines which covered "Penn's Woods" when the first settlers arrived. There are 2,100 native plant species known in Pennsylvania". *(Quoted from DCNR's website).*

Come learn more about our local native plant species and why planting them is so important.

When: July 8th Time: 9:30-1:30

***Where: At Laughing Springs,
2915 Springtown Hill Rd.***

Contact: 610-346-8229



Rattlesnake Weed-*Hieracium venosum*

Children's Backyard: Leaf Identification *By: Lois Oleksa*

Plants don't run or fly away so spending time looking at their leaves helps to identify what kind of tree, shrub, or flower you're looking at. There are many books on identifying trees and other plants. All these identifying books use characteristics to describe the plants.

Trees come in two simple types, broad-leaved and needle-leaved. Broad-leaved trees have wide flat leaves. Leaves can be simple or compound. A simple leaf has a single blade on a leaf stalk while a compound leaf has several leaflets on a single stalk. Some leaves are arranged opposite each other on the twig while others are arranged alternately on the twig.

Leaves may be oval, heart-shaped, fan-shaped, narrow, triangular, star-shaped, mitten-shaped, or canoe shaped. Leaves have lobes, which may be rounded or pointed. There may be three or five lobes. The notches between the lobes may be V-shaped or U-shaped. Leaves feel hairy, leathery or papery. Spring and summer leaves can be green colored but also other colors such as reddish, or purplish and some may be green on top with a white underside. Edges of leaves can be wavy, thorny, smooth and unlobed, or toothed/serrated. The leaf tips may be rounded, pointed, or look cut off. And, the leaf veins can be of three common patterns – parallel, pinnate, or palmate.

A few examples of leaves:

- Heart shaped-red bud
- Fan shaped-ginkgo
- Mitten shaped-sassafras
- Lobed-white oak
- Cut off leaf tip-tulip poplar
- Spiny/thorny-thistle
- Parallel veins-grasses

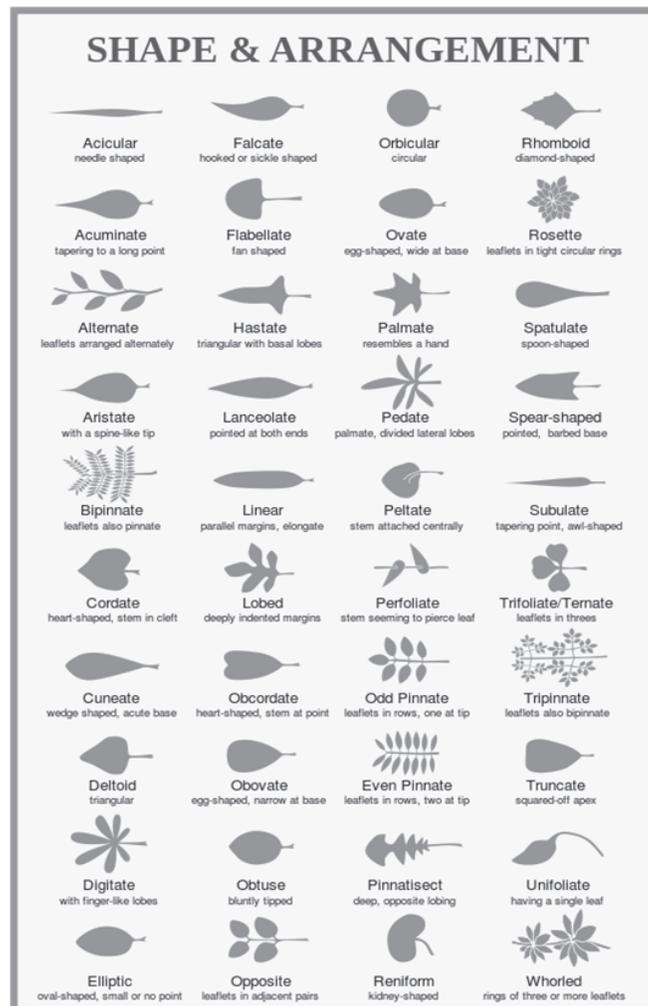


Chart from
https://en.wikipedia.org/wiki/Identification_of_trees_of_the_northeastern_United_States#/media/File:Leaf_morphology.svg

Children's Backyard Activity: Leaf Threading

By: Lois Oleksa

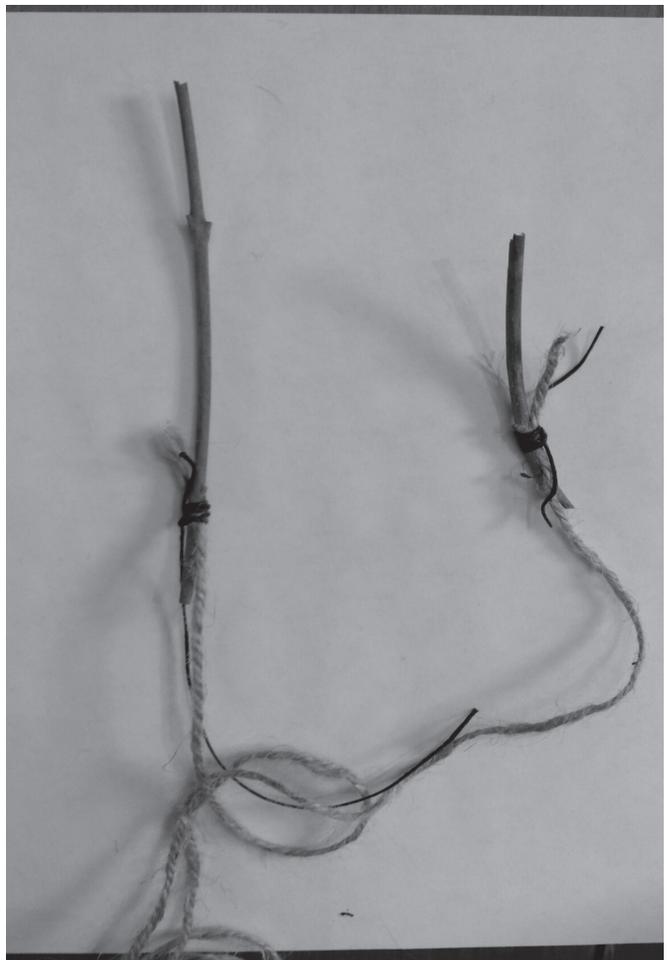
1. Collect bunches of leaves of different sizes, shapes and colors. Collect a few thin sticks that will be used as needles.

Fig. 1



2. Make simple needles by tying a long piece of jute twine between two sticks.

Fig. 2



3. Two people can work together to thread the leaves you've collected and examined. Push the stick needle through the leaves one at a time pushing them to the center of the twine.

Fig. 3



4. Try grouping the leaves in a pattern: group by shape, color, or size.

Fig. 4



5. Then you're done threading the leaves hang them under a tree or inside in a window.

Fig. 5



Creature Feature: Horseflies and Deerflies

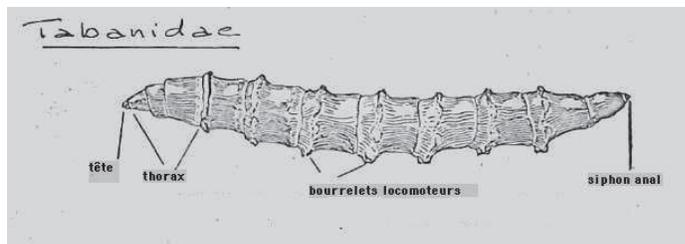
By: W. Scott Douglas

This is the 40th installment of a series of articles on the fauna of the Cooks Creek.

If you spend any time at all in the great outdoors, then you have experienced the seasonal annoyance of deerflies dive bombing around your head. As if the buzzing is not enough to drive you crazy, you know that when the buzzing stops it means they probably found a place to land - but you won't know where until the pain starts. Speaking of painful insect bites, horseflies may be a rare human pest, but since they tend to find you when swimming or sunbathing, there is a lot more skin area exposed. Since horseflies are two to four times bigger than deerflies, it's not surprising that their bites are excruciating. Even livestock have been known to injure themselves trying to get away from horseflies. Why are their bites so painful? Unlike mosquitos, that have a serrated tube that they stick into your skin, the mouthparts of a horsefly or deerfly are tiny sawblades that cut a messy wound that bleeds profusely. The thirsty ladies (only females bite) then suck up the blood using a sponge like appendage. In case you are wondering, the males are actually important pollinators as they only feed on nectar and pollen.

There are over 300 species of horseflies and deerflies in the family Tabanidae. Most aquatic horseflies are in the genus *Tabanus* or *Hybomitra*. Deerflies are actually a kind of horsefly, of the genus *Chrysops*. Other than size, the best way to tell them apart is that horseflies have clear or cloudy wings,

but deerfly wings are usually banded. All deerflies and some horseflies have aquatic larvae. The larvae are typically carnivorous, some even large enough to eat fish fry! The larvae in turn are preyed upon by fish and other large invertebrates like stoneflies, dobsonflies and dragonfly nymphs. The larvae are not much to look at; they are typically less than an inch in length and off white or brown in color with no legs. The ends are tapered with a tiny retracted head on one end and a respiratory tube on the other. This tube can be used to get oxygen when living in



puddles or at the edges of a marsh where dissolved oxygen levels are low.

The insects live as larvae for a few months in the case of deerflies, to a few years in the case of horseflies. The adults will mate in a swarm, meaning lots of males and females together in a cloud. The females select a leaf or blade of grass that leans out over wet ground or open water to lay their eggs (anywhere from a couple dozen to a thousand).

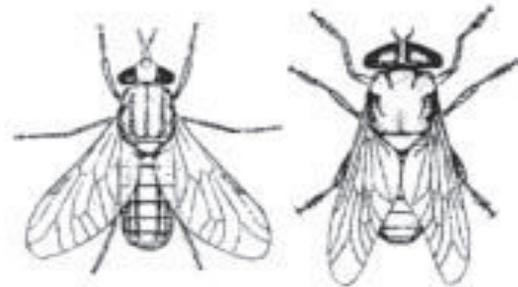
While it is unusual to find a large abundance of larvae in any one part of a stream, they are tolerant of a wide range of conditions and can be found in many microhabitats from leaf packs to marshy detritus along the stream bank. They do not seem to be particularly picky when it comes to water quality, so they are not used as indicators one way or another. Often they are captured by nets sweeping

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the underside of cut banks and logs or among shoreline vegetation. The adults, of course, have probably already found you if you are out collecting. It is not easy to discourage them from biting either; insecticidal sprays do little to dissuade them from buzzing about until they find a spot you missed. Best to get out of the sun and sit in the shade. All Tabanids are sight feeders, attracted to large dark objects. Livestock get relief only when they retreat to a barn or stable. Interestingly, horseflies like a

stationary target, deerflies only go for moving prey.



DEER FLY HORSE FLY



17th Annual

Mini Monster Mayhem



Join us as we celebrate water, watersheds, and the amazing creatures which crawl in, on and under Cooks Creek. Our own Scott Douglas presents a fun-filled, kid-friendly program featuring dinosaurs, comets, a mountain of mud, gummy worms, a toilet...and monsters! Come and spend the morning romping with us in the pristine waters of the Creek. Fun for kids of all ages.

*This event is free and open to the public
Bring your water shoes (or other suitable footgear),
We will be walking in the Creek!*

Children under 12 must be accompanied by an adult throughout the event.

RSVP by June 14, (610) 346-1604

9:30am – 12:00 noon Saturday June 17,
rain date Sunday.

At the Douglas', 3450 Rt. 212, Springtown

A Report on the Pennsylvania Forest Landowners Conference

By: Jeff Heehs

Pennsylvania's vast, 16 million acres of forest are ailing under multiple threats including irresponsible timber harvesting, lethal pest infestations, exotic plant invasions, burgeoning deer population, fragmentation, and climate change. The long-term health of our woods depends on the collective responses of some 740,000 private landowners who own 70% of the state's forested land. Complex, structured forest environments rich with native plant and wildlife diversity are the goal and the method to sustain thriving woods for future human generations. It's impossible to catalog all of the benefits, seen and unseen, that forests endow to us. Without thoughtful intervention by landowners, soon, our woods can only decline with increasing velocity.

These and many other sylvan topics were the focus of the third Pennsylvania Forest Landowners Conference in Altoona on March 24 and 25. Under the title theme *Enriching Woodland Values*, 600 conference attendees took in nearly 100 separate workshops, exhibits, and keynote presentations. The biennial conference is organized by Center for Private Forests at Penn State. Established in 2011, the Center is an outgrowth of Penn State Extension's 25 years of experience training and growing a volunteer network of Pennsylvania Forest Stewards.

Opening comments by Dr. Jeff Larkin, animal biologist at the Indiana University of Pennsylvania, provided broad and, for this neophyte, startling context around how forests and forest wildlife are so closely intertwined. A bird expert, Mr. Larkin opened my eyes to the loss of bird habitat in forests through "reduction in expansive forested landscapes, [and] unbalanced forest age classes in forest that remain" leading to woods with inadequate structure to support healthy, diverse bird populations and breeding.

Birds and wildlife need the woods, and woods need the birds and wildlife. Significantly, natural forests that best support diverse wildlife are interspersed with differing age classes of growth: older stands, younger stands, or stands newly cleared by fire or storm damage. Many birds at different individual life stages require trees, plants, insects, and other food sources that vary across a range of differing forest types and ages.

Birds (and forests) are in trouble because, "many of our forests are too simple.....and now we (and many forest-dependent wildlife) are paying for it. In one massive sweep, we lost thousands of years of structural diversity in the making!"

We saw data suggesting that the woods across Pennsylvania are dangerously uniform in age, with most forest trees in the range of 80-100 years old and few younger than 60 years or older than 120. This is the result of human use and abuse of forests over the last 200 years. The forests have regrown impressively, but lacking in desirable variation of stand age. Animals have evolved to need more varied forest environments.

Looking at a range of forest animal research, Larkin notes, "Collectively, there exists substantial evidence that suggests forest bird [and forest] conservation . . . is *intimately* tied to:

- 1) landscape context (i.e., stand age class interspersion)

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2) within-stand structural complexity” [spatial and species diversity of native plants]

The fundamental takeaway for me: “Sustainable forestry provides a continuum of forest conditions for all bird [and other wildlife] species.” Healthy woodland supporting diverse wildlife must feature structural and progression complexity within the ranges of animals inhabiting it. “Providing a balance of forest age classes is not only important to forest-bird conservation . . . it’s also a goal of foresters and forest managers, in general!”

I didn’t go to the forestry conference with much specific curiosity about birds but, after hearing Professor Larkin speak, most other conference topics that interested me keyed off of these concepts, providing a critical and surprising ‘why’ to underpin the ‘what’ and ‘how’ of other workshops. Surprising because, intuitively one would think forest conservation means not cutting trees. Here we find that cutting selectively and managing for appropriate regeneration is exactly what’s needed for much of our wooded landscape.

From the PA Bureau of Forestry 2015 Draft State Forest Resource Management Plan:

“The current age class distribution of the forest is unsustainable in the long term. There is an overabundance of acreage in mature age classes, and early successional forest habitat is lacking. One of the bureau’s primary silvicultural goals is to balance the age distribution of the forest in the multiple resource/commercial land base so that each year, a relatively consistent number of mature acres can be harvested, regenerated, regrown, and reharvested in perpetuity.”

Faced with the familiar conference conundrum, trying to decide which of 99 sessions to attend over nine available timeslots, I chose topics of interest to me as steward of our paltry 10 acres (about seven in woods) in upper Bucks county. I spoke with others who have hundreds or thousands of wooded acres to oversee. Then again we’re in the majority of Pennsylvania forest landowners of whom two thirds, nearly half a million, own 10 acres or less.

Water quality is another huge motivation for preserving forests while keeping them healthy and sustainable. With the focus of the Cooks Creek Watershed Association on the wellbeing of our local stream watershed, I went to a session covering The Importance of Woods to Water, prepared by Brian Swistock and delivered by Diane Oleson, both of the Penn State Extension Water Resources team. The talk introduced me to the interplay of rainfall, plant uptake, evaporation, soil water, runoff, and groundwater regeneration feeding streams and rivers.

In short, there is no better landscape than forest for maintaining healthy watersheds and ample supplies of clean groundwater. That matters in Bucks County where we are among the heaviest users of groundwater statewide. As the frequency and severity of heavy rainfall events are projected to increase steadily in our region, forests are also unrivaled at slowing runoff to prevent floods, erosion, and soiling of streams and rivers.

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Back to the Past: TOBACCO AND ITS CULTURE IN BUCKS COUNTY

A column highlighting the natural history of the Watershed

Excerpt from: Full text of "A collection of papers read before the Bucks County Historical Society"

REMARKS BY DR. B. F. FACKENTHAL, JR. page 621

Transcribed by: Jim Walter

My elder brother advises me that he recollects very well that in 1863, Peter L. Nicholas of Kintnersville, Bucks County, planted a large field of tobacco; the field lying on the north side of Gallows Run, partly in Durham and partly in Nockamixon Townships. He employed an old Negro (whose only name was Henry), an experienced tobacco grower, who came up from Virginia during the war. Henry took entire charge of both the cultivation and curing of the crop. The tobacco was hung up in the old factory building which had been erected by Abraham and Henry Houpt in 1848, for the manufacturing of starch, and known as the "Starch Factory," where the manufacture of starch was carried on successfully for a number of years; later the building was used as a carriage factory and still later by Alonzo Nicholas as a hay pressing plant. The culture and curing of the tobacco was much the same as that described by Mr. Scheetz, except that it was seasoned but a few months, for in the spring of 1864 they began to manufacture it into cigars. Henry Souders and his two sons, practical cigar makers, were employed regularly at this work; William Lind, a Dane, was also employed there part of the time, as was also Philip Overpeck, who carried the cigars around in large clothes baskets to find a market for them. The price, as my brother recollects, was 31 cents per 100 cigars, of course there was no excise duty at that time. The experiment was doubtless not profitable, at any rate Mr. Nicholas did not repeat it a second year.

The Bucks County Intelligencer of fifty years ago (1876) records that: Four carloads of leaf tobacco grown in the Penn's Manor vicinity were shipped from Tullytown to be sold in New York. This tobacco was grown on the farms of Daniel Lauderback, John Brooks, John Green and Onias Mershon, and was sold from 14 to 20 cents a pound, making a total of \$12,000.

I remember at later periods, when small crops of tobacco were grown in upper Bucks County, but not on a commercial scale. When quite a lad the boys of our neighborhood had a small tobacco patch of their own, planted in a field belonging to my father. We planted, housed and cured it in the approved way and during the following" winter rolled it into cigars. We continued this planting for several years. In the year 1887, Cooper & Hewitt, owners of the Durham iron works, which included five large farms, planted about ten acres of tobacco, getting the seed from Lancaster. A special shed was erected in which to house it. The manner of cultivation and treating was about the same as that described by Mr. Scheetz, though it was allowed but one year to cure, when it was stripped and put in cases. Lancaster dealers came to Durham to inspect it; they opened up the cases and selected a hand at random from each case, and relied on that for the quality of the entire case and classified it accordingly.

This crop was sold to a Lancaster dealer in 1888, and we were told that it was of especially good quality. I had 1,000 cigars made up by the Lancaster purchaser to distribute among the workmen at the furnace, and, of course, sent a box to the New York office of Cooper & Hewitt, which was polite enough to say that the cigars were of good quality. The experiment was not a financial success, and was not repeated, and the tobacco shed was put to other uses, principally for storing farm implements and machinery, bricks, etc., for the iron works.

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As presented in the workshop:

“Woods are water processing machines!”

- Canopy and leaf litter store water and reduce energy of rain drops
- Thick litter layers and undisturbed soils = high infiltration
- Result: high evaporation rates and moderated stream flows

“Woods help to protect water quality”

- Roots prevent erosion and sediment
- Infiltration through soil filters out pollutants
- Riparian trees maintain cool [stream] water and habitat

According to the Alliance for the Chesapeake Bay, watershed health is linked to:

- Forest Extent - *amount of forest in watershed or urban tree cover*
- Forest Location - *“critical” forests: riparian, wet woods/wetlands, steep slopes and erodible soils*
- Forest Condition - *age, growth, health, etc.*
- Forest Stewardship – *ownership/management*

By these sources, one cannot overstate the importance of healthy adjoining forests to watershed and stream conditions. Where mitigation of stressed streams or rivers becomes a challenge, among the most critical tools will be increasing and restoring surrounding woods and riparian buffers.

Continued next issue: Forest regeneration, invasives control, climate change impacts. and applications for a small woodland in Durham.

Renew Your Membership

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.

Green Tip #38: Galvanized Metal in Your Garden

By: Lois Oleksa

This Spring I had a chance to visit a new garden that a friend had created using the raised bed method. What intrigued me most was the use of not wood, but plastic and galvanized window well covers to hold the soil. I thought "how clever" but then I started to question the use of the galvanized metal. This metal is made by coating its surface with zinc. Is zinc harmful; does it leach into the soil? After doing some research, I found that you would NOT want to use a galvanized tank for your aquatic production of fish and perhaps NOT for potted plants but for the garden it seems to be okay. Of course, raised beds from cedar or white oak lumber are great. Read the following article published in the *Rodale's Organic Life* website, *When Sheet Metal Meets Soil* by Deb Martin, November 13, 2014.

Q. Is it safe to use galvanized sheet metal to build raised garden beds? —*Susan Taylor, Monticello, Utah*

A. Over time, compounds used in the galvanizing process will leach from galvanized metal into surrounding soil. Climate and soil conditions such as moisture and salinity affect the rate and the amount of leaching. While the by-products of corrosion are unlikely to occur in amounts that pose any risk to human or plant health, gardeners who are considering growing in galvanized containers or metal-framed beds should be aware of the potential for zinc and other materials to transfer into the soil.

Zinc, the main ingredient in the galvanizing "bath" used to prolong the life of steel, is an essential micronutrient that occurs naturally in North American soils at an average background level of 0.07 milligrams of zinc per gram of soil. For the sake of comparison, the Daily Value (an approximation of our dietary need) for zinc established by the FDA for adults is 8 to 11 milligrams.

While studies of zinc levels in the soil next to galvanized structures have found increased amounts of the element, those levels often are comparable to background levels and within EPA guidelines, says Dan Barlow, a corrosion engineer with the American Galvanizers Association. Zinc does not migrate readily through soil, so elevated zinc levels tend to be found only in the immediate area of a galvanized container or structure. Soil pH, organic matter content, and other soil characteristics affect zinc's ability to be taken up by plant roots. As much as 90 percent of zinc in soil may be unavailable for uptake by plants.

Due to zinc's limited bioavailability in soil, there is little chance of ingesting too much zinc through plants grown in proximity to galvanized metal, says Eric Van Genderen, Ph.D., manager of environment and sustainability for the International Zinc Association. "You will likely never get even your recommended daily allowance from your produce, much less too much," he says. Because galvanized metal corrodes faster as pH decreases, Van Genderen says it's probably not the best container material for plants that require acidic conditions.

Other corrosion by-products may show up in the surrounding soil, Van Genderen says. He notes that levels of other metals found in galvanized surfaces, such as nickel and bismuth, typically would be "so low that you'd probably never see a difference in the amount coming from the galvanized metal versus the background levels."

The health of beneficial soil microorganisms that are exposed to galvanized metal is another consideration. "There is no question zinc can kill some of the soil's microbes and that others love it," says Jeff Lowenfels, author of *Teaming with Microbes: The Organic Gardener's Guide to the Soil Food Web*, Revised Edition (Timber Press, 2010), and *Teaming with Nutrients: The Organic Gardener's Guide to Optimizing Plant Nutrition* (Timber Press, 2013). "I am willing to let the arbuscular mycorrhizal fungi take up excess zinc, feed the plants what they need, and hold the rest," Lowenfels says. His research has convinced him that "any damage done to the soil food web [by excess zinc] is quickly corrected by it if the soil food web is a healthy one."

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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: 8:00AM – 12:00 noon, 1:00PM-4:00PM, (call ahead)

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

Please note that this facility is available to all, not just Durham Township residents!

Contact Joe Kulick at the township building for more info. 610-346-8911

Springfield Township

Location: Township Building, 2320 Township Road

Paper 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: 2nd Tuesday @ 7:30 PM

Planning Commission: 1st Wed. @ 7 PM

Supervisors/Planning Commission

Work Session: 3rd Thurs. @ 7 PM

Environmental Advisory Council:

2nd Thurs. @ 7:30 PM

Open Space Committee:

1st Tuesday @ 7:30PM

Historic Commission:

3rd Tuesday @ 7:30 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:

3rd Thurs. @ 7 PM

EAC: 1st 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:

3rd Mon. @ 7 PM

Richland Township:

www.richlandtownship.org

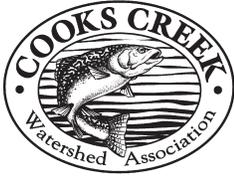
215-536-4066

1328 California Road

Supervisors: 2nd and 4th Mon. @ 7 PM

Planning Commission: 3rd Tues. @ 7 PM

Preservation Board: 2nd Thurs. @ 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:

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.