Cooks Current

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

Volume 4, Issue 1 | Newsletter of the Cooks Creek Watershed | Winter 2007

2007 CCWA Events

Regular Board Meetings:
Springtown Fire House
7:30 PM
All are welcome!
Mar 22,
Apr 21, May 24, Jun 28,
Jul 26, Aug 23, Sept 27,
Oct 25, Nov 15, Dec 20

Spring Clean-up: April 14
Annual Meeting: April 21
Mini Monster Mayhem: Jun 16
Fall Fellowship Dinner: Oct 13
Fall Clean-up: Nov 3

See Back Page for Details!

We're on the web!
www.cookscreekpa.org

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

From Across the Board...

Winter has arrived, sort of, and with the long nights comes time to reflect on where we are in our lives. During one of those times, I was reminded of a story about a couple who faithfully went on walks together in a park. Every day, at one point in the walk they would pass a rose bush. The rose bush was overgrown and ragged, obviously untended, but the couple appreciated its rugged beauty nonetheless. Over the years they often remarked on the bush and wondered who was responsible for taking care of it. "Someone should get out and tend to that bush, it would look so much nicer with only a few hours work", one or the other would say. One day they came to the bush and saw that it had been carefully pruned and mulched. They stopped to admire the bush and remarked to a man standing nearby if he didn't think the bush looked so much nicer. "Yes", he said, "It is. It really didn't take too much time to do and it makes the place here so much nicer." "Oh", says the old woman, "Thank you so much for taking the time, I always meant to do it but I never seemed to get around to it". The moral of the story is this: If not now, when? If not you, who? It's easy to simply walk by and ignore the things that need doing, or to complain about the things that should be done. But what really makes life worth living is the joy one gets out of making things happen.

We have a particularly full calendar this year, with our annual cleanup and monster mayhem, spring meeting and fall dinner, as well as hosting the Regional EAC, there is something for everyone. New this year will be an invasive plants workshop, being organized by Hans Reimann. The workshop will include a learning component and a field trip to "search and destroy". I am particularly excited about starting our "Adopt a Reach" program, using the Palisades HS Stream Team as a springboard. One of Patti Raynock's students, Patrick Brown, has decided to take on a benthic inventory of the watershed. In December Hans and I took Pat and a bunch of his friends out to the 16 differ-

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Trees is the Answer

By: Jim Orben

Here in the Cooks Creek watershed we have a lot of trees and I take them for granted. In my experience there have always been trees, but when I look closely and study the forest it becomes obvious that between 75 and 100 years ago much of what I now take for granted was then a large field of stumps and not a forest at all. In January, in Lehigh University's Baker Hall, I heard a story of this same kind of deforestation and its effect on the people and the environment of Kenya. The story was told to us at this year's Leaders of Practice Lecture delivered by the 2004 recipient of the Nobel Prize for Peace. Kenya's Wangari Matthai told us about her life and the importance of trees. As a young girl she lived with her family in the country on a farm where they could grow the food they needed. When she became a young woman she was offered the opportunity to go to America in a program sponsored by John F. Kennedy and others where she earned bachelors and masters degrees in biology. She continued her studies after returning home, earning a PhD in Nirobi. By this time much had changed in Kenya. The British, who had ruled there were gone, and the new Kenyan Government was corrupt. The rivers that her people relied on for water ran brown with silt and could no longer sustain them. She discovered that the women had to walk great distances to get clean water and firewood so they could cook and feed their families. The forests in the watersheds had been clear-cut and the rainwater ran off too quickly, carrying the topsoil with it. It was 1976 when Wangari realized that the answer to this problem was trees, to both hold the soil and supply firewood. This is when she became the woman who planted trees. At first she got seedlings from the Kenyan Government, but as she organized more women to help, her demand for trees outstripped the ability of the government to supply them. In order to keep on planting, this small group of determined people, who were mostly illiterate women, learned to collect seeds and raise the trees they needed for themselves. From this effort the Green Belt Movement was born. From this effort 30 million trees were planted on small farms, on school grounds, on church compounds and on public lands. The planting of trees has spread from the Green Belt Movement in Kenya to the Pan African Green Belt Network where trees are being planted in many other African nations.

The Green Belt Movement has done much more than plant trees. By paying five shillings for each tree that survives on public land the Green Belt Movement has provided income, fuel, building materials, education and improved and protected watersheds too. Here in the Cooks Creek Watershed we know the importance of trees. We know they hold topsoil, provide shade and increase habitat. Dr. Maathai told the audience that it takes ten trees to transform the carbon dioxide each person breaths out into the oxygen each person breaths in. She challenged each of us by asking, "How many trees have you planted?" and "Are you breathing from someone else's trees?" So let that be our challenge. Let that be our mission. Let that be our promise. How many trees will we plant? Will we stop at ten, or will we plant hundreds or even thousands of trees, creating forests that will do for us and for those who come after us the works we cannot do without trees. I think we will. I think many of us have already begun to answer the challenge and are planting trees so that others may breathe along with us. Please come to the April 21st Annual Membership Meeting of CCWA at Laughing Springs Forest Community and learn about the native trees and shrubs to plant in our watershed. We will have trees for sale and will direct you to local growers and nurseries where you can purchase more. Trees is the answer for Kenya and the rest of Africa just as trees is the answer here in the Cooks Creek Watershed.

CCWA 2007 MEMBERS MEETING

Saturday, April 21, 10:00 am

at

Laughing Springs
Forest Community

2915 Springtown Hill Road

Come hear what's happening in the Watershed and the surrounding townships.

Refreshments provided. Native trees and shrubs will be for sale.

Call for information:
Scott 610 346 1604
Hans 484 554 6829

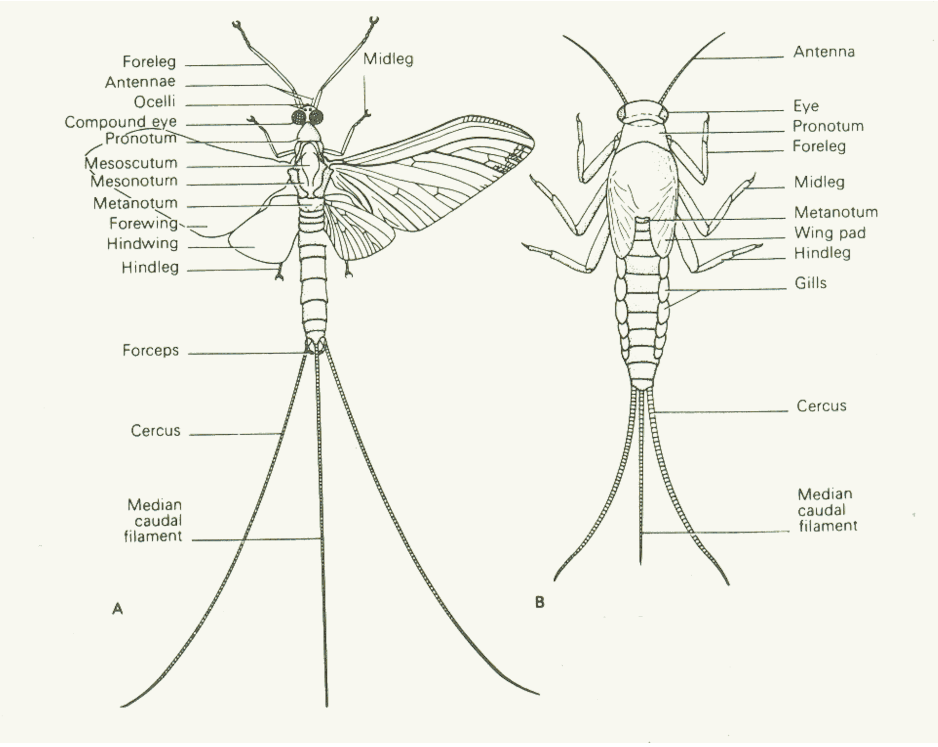
Plant a tree and collect up to $25

The Pennsylvania Horticultural Society is offering a special rebate this spring to all residents in Southeastern Pennsylvania who plant a tree as part of a program sponsored by the Department of Conservation and Natural Resources (DCNR).

Plant a tree before June 30, 2007 and you could receive a rebate of 25% off (maximum of $25 per tree). To participate, print out and fill in the form at: *www.pennsylvaniahorticulturesociety.org*. Trees must be purchased and planted in the Southeastern Pennsylvania. According to Tree Vitalize, a public private partnership spearheaded by the Pennsylvania Department of Conservation and Resources, our five county region has lost more than 8% of its tree cover in the past 15 years. Check out this web site at: *www.treevitalize.net*.

Creature Feature: Mayflies

By: W. Scott Douglas



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

Mayflies

Benjamin Franklin once wrote an essay called "Ephemera" that spoke of the stages of life from the perspective of a mayfly. Mayfly adult lives are measured in, at most, a few short days; they emerge, mate, lay eggs and die. In fact, the scientific name for the mayfly Order is Ephemeroptera (short lived flier). Franklin used the voice of an elderly (day old) mayfly to remind us that time is relative, and it matters not how long you live but what you do with the time you have.

Mayflies actually do live longer than just a few days, but most of that time is spent as a nymph grazing through algae and detritus on the stream bottom. Fly fishermen pay special attention to mayfly life cycles, as do the trout they pursue. A population of mayfly nymphs will reach maturity at the same time, all emerging within minutes of each other, in a phenomenon misleadingly named "hatching". Trout feed greedily on the mature larvae and newly emerged winged subadults (called *subimagos*), snatching up many before they have a chance to find a rock or plant to climb out on. For those that do escape the feeding frenzy, another molt soon follows and a sexually mature adult (*imago*) emerges and flies off to mate. Some fish have learned to leap out of the water and snatch the flying adults on the wing.

From a water quality perspective, mayflies, as a group, are the most sensitive to pollution and sedimentation of all the stream organisms. When a stream is stressed, the mayflies are the first organisms to be eliminated, followed by stoneflies and then caddisflies, making them a true "canary in the coal mine". This surely frustrates both trout and trout fishermen alike. Look for mayflies in the same way as stoneflies, by quickly lifting rocks from the streambed. Turn the rocks over and look among the scurrying insects for the ones with three cerci or "tails". If you *gently* place a few in some water and look at them under a magnifying glass you will notice that they have many gills along their abdomen, and they flutter them in a beautiful synchronicity.

Thank You!

Thank you to everyone that contributed to our winter 2007 membership drive! We are grateful to all of you who expressed support to the Cooks Creek Watershed Association through your generous donations and memberships. Many of you jumped at the limited time offer to take advantage of the premiums that were generously offered by local establishments. Our gratitude goes to The Springtown Inn, The Ferndale Inn, Vera's Country Café, Indigo Gardens, and to Almanac for their donations of gift certificates for our membership premiums. We are sure you will enjoy visiting these fine local businesses. Thank you, also, to Dr. Stephen Smith for donating copies of Thomas Hylton's "Save our Land, Save Our Towns". To all of our new members, WELCOME! We hope to meet you at some of our up-coming events. To our renewing members, we are grateful for your continued support. Also, we now have a few more LIFETIME members to add to our CCWA family! This is a wonderful opportunity to show support for what we do and it is greatly appreciated! With the expansion of our membership base comes the opportunity to apply for more funding and grants, which will enable us to expand our conservation projects in our neighborhoods in Springfield and Durham Townships. Because of YOU, CCWA is growing in size and importance!

Thank You!

From Across the Board

(Continued from page 1)

ent reaches in the network to take samples of the stream bottom. Patti has the kids sorting the insects, worms and other crawlies from the detritus and Patrick will be learning how to count and identify what they found. Some of the other Stream Team members will be taking our newly acquired groundwater model out to the elementary schools to teach them about groundwater and how to protect our drinking water supply. Finally, my son James and I will be completing the headwater survey this spring when the water table is high. This survey will hold a prominent place in the new zoning ordinance in Springfield Township, showing potential developers where the streams are that require a riparian buffer.

Administratively, we have a new Board member. Charlie Klein, from Durham, has agreed to join the Board with the plan to take over as Treasurer when Margaret McDonald steps down in April. Margaret has been a valuable asset over the years, especially in making sure that we were following all the IRS rules, but she plans to stay on the Board and make sure we keep our noses clean. Thanks for all you have done, and will continue to do, Margaret. Speaking of folks who stepped up to prune their rose, I would like to send out a congratulations to Ken Simmons, the chairman of the newly reformed Springtown Water Authority. Ken was recently recognized as a "Hometown Hero" by Senator Robert Wonderling for his tireless efforts to hold on to local control of our water supply. So, where and when will YOU step up and trim one of our many rosebushes? We're waiting….

W. Scott Douglas

President

Lyme Disease: Questions and Answers

By: Stephen H. Smith, MD

From a fourteen physician panel published as "Clinical Practice Guidelines by the Infectious Disease Society of America," 11/2006

What is Lyme Disease?

Lyme disease **(not** Lymes), was named after the town on Connecticut where it was first discovered. It's an infection caused by a type of bacterium known as a spirochete, specifically *Borrelia burgdorferi*. It is transmitted to humans only by the bite of a tick. In this geographic area the tick is *Ixodes scapularis*.

How can one prevent Lyme Disease?

There are several recommendations. First, avoidance of exposure to tick bites which means using insect repellent with DEET, tucking in clothing including pant cuffs into socks, and staying away from tick infested areas. (To those reading this newsletter, these are impractical, and frankly, other than the last, remain scientifically unproven.) More reliable and more practical is to inspect all parts of your body daily during the outdoor season and removing any ticks immediately. If a tick is removed within 24 hours of attachment you will be very unlikely to contract Lyme disease from its bite.

The use of prophylactic (preventative) antibiotics when a tick bite occurs remains somewhat controversial but the panel agreed that if the tick has been attached for at least 36 hours, if the tick can be reliably identified as *Ixodes scapularis*, **and** the antibiotic can be taken within 72 hours of the time the tick was removed, then it was reasonable.

If all the above criteria are met what antibiotic regimen is recommended?

From left to right: The deer tick (Ixodes scapularis) adult female, adult male, nymph, and larva on a centimeter scale.

www.medhelp.org/NIHlib/GF-596.html

A single dose of doxycycline 200mg orally is the agent of choice, but should not be used in children under 8 years of age or in pregnant or lactating women.

What are the early signs and symptoms of Lyme disease?

In the acute setting a red patch at the site of the tick bite, 5 centimeter (2 inches) or greater, is the most common and convincing evidence of early Lyme disease. This patch generally occurs 7-14 days after the tick detaches. The medical term for the patch is **erythema migrans**. It typically expands gradually and may clear in the center, resulting in the infamous "bull's eye" lesion. It does not itch and is not as a rule associated with the type of tiny blisters seen with poison ivy dermatitis (or large blisters with poison oak dermatitis). Sometimes multiple red patches may occur as a result of spread of the spirochete through the blood. Flu like symptoms with headache, aching joints, and fatigue are commonly noted.

A note of caution: a local reaction to a tick bite with a small area of redness, occurring while the tick is still attached or soon after the tick is removed is common and is not a sign of Lyme disease. This is generally well under the 5 cm seen with erythema migrans and occurs much earlier.

What tests should be done to confirm Lyme disease?

A two-tier testing process should be ordered if confirmation of the disease is needed. The first tier is the polyvalent ELISA test, which will be reliable only two weeks or more after the infection. If positive or equivocal, the same serum specimen is retested by immunoblot tests in order to confirm the disease. (Note: Clinically, a tick bite by the tiny Ixodes tick followed by the large red patch (erythema migrans) a week or two later, with or without flu like symptoms, is enough to make the diagnosis, and treatment should be started without resorting to further

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Lyme Disease

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testing).

PCR (polymerase chair reaction) testing can be done on joint fluid when a joint remains swollen with fluid despite adequate antibiotic treatment. When negative, Lyme is a very unlikely cause of the arthritis.

Does chronic Lyme disease exist?

The panel concluded: "There is no convincing evidence for the existence of symptomatic chronic B. burgdorferi infection among patients after the receipt of recommended treatment regimens for Lyme disease." So, in short it does not exist, and other reasons for achy joints, fatigue, headaches, etc. should be sought.

How about long term antibiotic treatment?

Unfortunately, there are a number of practioners who would have patients believe that this is indicated. They are clustered in areas where Lyme is endemic and offer dangerous and ill advised treatment for symptoms arising from, in the overwhelming majority of cases, something other than Lyme. There are a number of non-proven and non-indicated treatments offered by various practioners, holding themselves out to be experts on Lyme.

Are there post-Lyme syndromes?

Some of my closest friends are convinced that they are suffering from a post-Lyme condition or syndrome, but there is at this time, according to the panel "...no well-accepted definition of post-Lyme disease syndrome."

Other than the early flu like symptoms and erythema migrans, what forms can the disease take?

Occasionally the disease can have cranial (head) nerve involvement leading to a facial nerve paralysis (Bell's palsy) or double vision, in the case of ocular nerves. It can lead to pain in an extremity (radiculopathy) from involvement of a spinal nerve root. Meningitis is rarer.

Involvement of the heart can be seen in rare cases.

Are all *Ixodes* ticks infected?

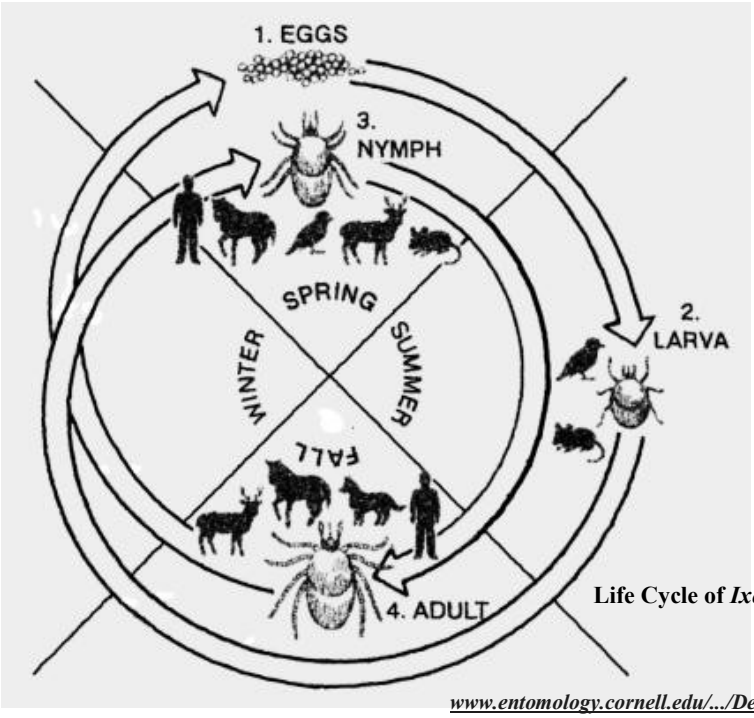
No, in an endemic area, such as the Middle Atlantic States and New England, only about 20-40% of *Ixodes* ticks are infected. (Note: It takes about 36 hours for the spirochete, B. burgdorferi, to move from the gut to the mouth of the tick once attached, so early removal of an infected tick is very likely to prevent the disease.) Mature ticks are more likely to be infected but most cases of Lyme are transmitted by immature ticks, probably because they are much smaller and, therefore, harder to detect.

What antibiotic treatments are currently recommended for Lyme disease?

Currently, in children over 8, in non pregnant women, non lactating women, the treatment of choice is doxycycline 100mg by mouth twice a day for 14 days (10-21 days is the variable recommended by the panel). As an alternative, amoxicillin 500mg three times a day may be given if there is no neurologic or cardiac involvement. Of course allergy or hypersensitivity to these antibiotics will limit their use in certain cases.

Can Lyme disease be contracted multiple times?

Yes.



Life Cycle of *Ixodes scapularis*

www.entomology.cornell.edu/.../DeerTicks.html

Student Corner: Palisades Stream Team

By: Pat Raynock

Collecters from L to R: James Douglas, Scott Douglas, Pat Brown. Photo by Scott Douglas

The Palisades Stream Team, our high school stream conservation activists, has been quite busy through the fall. After several of the kids went out into the watershed tributaries and took 16 samples from our check points, they began the task of preliminary sorting of the macro-invertebrates contained within the samples. Since the sampling technique gathers up the little critters along with stream leaf and silt debris, the first job of the team is to carefully separate out the organisms from the litter. A single sample may have 500 or more invertes (mostly insect larvae and assorted aquatic crustacia) and many that must be carefully teased out of casings or scraped from leaf litter. Under the leadership of 10th grader Pat Brown, the A.P. biology class completed the initial sort of three samples. Patrick has spent countless hours with primary screening of the sorts and has also completed two more preliminary sorts of samples. All the tiny invertebrates are stored in alcohol solutions and Pat B. will be in charge of the species counts. We expect that it will take about a year to do all the ID's, but who knows - maybe the little critters will jump into the proper sorts all by themselves ....naw, it's just hard and careful work, and the team is hard at it! Team members include Pat Brown, Alyson Brokaw, Jen Brown, Jon Pucci, Tobin Scott and 20 others from Pat Raynocks's A.P. Biology program.

The stream team also met with Scott Douglas on Feb 12th to learn how to demonstrate the new ground water model. They will be setting up a series of demonstrations with 3rd grade elementary students in classes throughout the district to take place through the spring. The ground water model is a demonstration unit that shows a cross section of the surface and subsurface layers of the soil. It is used to show how water flows through the ecosystem to recharge our groundwater supplies. It also is used to demonstrate how pollution can enter the groundwater system. It's a great model for the stream team kids to use in working with the elementary grades.

Brook Trout in the 21st Century

By: Joe Mihok, Trout Unlimited

As in much of their native range in eastern North America, the brook trout population of the Cooks Creek Watershed is limited to some of the smaller tributaries of Cooks Creek. Since European settlement, brook trout have been in decline throughout their native range. The primary factors in this 400 year period of decline have been logging, dam building, poor agricultural practices, introduction of non-native fish species and over fishing. There is now an effort to reverse this trend in loss of brook trout habitat; it is the Eastern Brook Trout Joint Venture (EBTJV). The EBTJV is modeled after the highly successful North American Waterfowl Management Plan, which has protected and restored millions of acres of waterfowl habitat since 1986. It is a collaborative, non-regulatory effort to preserve brook trout populations by protecting and restoring their habitat. The EBTJV partners include: fish and wildlife agencies from 17 states, the US Geological Survey and the US Forest Service, conservation organizations including the Nature Conservancy, Trust for Public Land and Trout Unlimited, and various colleges and universities.

Brook trout are very sensitive to water quality and water temperature and so are a good "indicator" species of ecosystem health. They prefer water temperatures less that 68 degrees F and require high concentrations of dissolved oxygen compared to other fish species. Dissolved oxygen decreases as water temperature increases so alterations such as dams and lack of riparian buffer will result in warmer water and degraded brook trout habitat. The EBTJV is hoping to reverse the trend of lost brook trout habitat.

From Georgia to Maine, the EBTJV has evaluated over 11,000 subwatersheds of larger watersheds where brook trout were known to historically occur. The findings are dire: only one third of the brook trout's historical habitat remains relatively intact and reproducing populations have been extirpated in almost 30 percent of their historical range. Most brook trout populations now survive almost exclusively as fragmented populations in the far headwaters of streams. This was not always the case. The upper Delaware River and its West and East branches were once brook trout rivers. Brook trout as large as six pounds were reported to have been caught there in colonial times. In Pennsylvania today, relegated to the smaller, less productive headwaters, a 10 inch brook trout is considered a large fish. By the 1850's the brook trout of the Delaware River were gone for ever. One hundred and fifty years of logging, ending with the rapid clear cutting of all the trees to supply bark to the leather tanning industry doomed the Delaware River brook trout. In the eastern US today, only a few large rivers in Maine still support brook trout.

The past few centuries have not been kind to the brook trout. Though we have lost much, we still have the opportunity here in the 21st century to atone for some of the sins of the past and begin to restore the brook trout and the beauty and wildness that it symbolizes.

Tap, Tap, Tap… It's that woodpecker.

By: David Oleksa

When you hear the tap, tap, tapping on the expensive siding you've installed it can become annoying. When you see holes start to develop where the tapping is taking place you become alarmed. But when you see familiar black and white birds, such as downy or hairy woodpeckers, enlarging those holes and pulling out the insulation behind the siding, you know something has to be done. Most people assume that the woodpeckers are searching for food, drilling holes to ferret out the numerous bugs that have taken up residence behind the cedar or oak siding or even behind the T-111 with which many homes have been fitted. Although some of this activity is related to the search for food, recent studies have shown that the woodpeckers are actually following their normal compunction to excavate a new nesting cavity each year. With more people taking down old and diseased trees, the woodpeckers have fewer and fewer sites to choose from for their nesting cavities and they are therefore turning to new locations i.e. your siding.

Obviously, something must be done to keep the birds from destroying your home. Unfortunately, they are creatures that can become tolerant of many things in a short time. For this reason, the use of balloons with "Big Eyes", the placing of plastic hawks and owls near the home, or even motion activated noises have short term success against the woodpeckers. Within a matter of weeks the birds will ignore these things and go back to their excavating. One strategy that does work is to hang a series of monofilament lines (three to four inches apart) and about four inches from your siding. Tie a washer to each line to keep it weighted. When the birds try to fly to the siding, their wings hit the monofilament and they are driven away.

One other method of dealing with the birds is to give them what they want – a nesting place. Plans for woodpecker houses are easy to find. Just keep in mind a few simple rules. The house should in some way mimic the woodpecker's natural site (an old tree) for a nest. In other words the house should be tall and narrow. The interior dimensions for a downy woodpecker house should be about 4 ½" X 4 ½"X13". The larger hairy woodpecker needs slightly larger accommodations: 6"X6"X15". A 1 ½" entrance hole is sufficient for both birds. The house should be filled with sawdust or fine woodchips. The birds will excavate and toss most of the material out but it seems to fool them into thinking that they've found that perfect rotted tree in which to raise their brood. You can mount the house right on your siding over the drilled out holes which the woodpeckers have made. Each of the woodpecker species are territorial and will drive others of their species away. Therefore you will only need one house for each of the species.

Photo from Google Images

National Wildlife Federation's Backyard Wildlife Habitat Program and Native Plant Sale

Sunday, May 6, 2007

from 2:00 to 3:30 p.m.

Lower Saucon Town Hall, 3700 Old Philadelphia Pike, Lower Saucon Township, Pa.

Gardeners, birders, and nature enthusiasts! Please join the **Saucon Creek Watershed Association and Lower Saucon Township Environmental Advisory Council** to learn step by step how to create a wildlife refuge right in your own back yard! The National Wildlife Federation's Backyard Wildlife Habitat program will demonstrate how landscaping to nurture wildlife can improve soil, water and air quality and benefit your garden and the community. Hans Reimann, a habitat steward for the National Wildlife Federation will present a one-hour program and discuss the practical added benefits of using native plants to attract wildlife to your back yard. The program is free to the public. All proceeds from the sale will benefit the Saucon Creek Watershed Association.

Native plants for sale will include: swamp azalea, red osier dogwood, swamp sunflower and blue flag iris for riparian buffers and wet sites. Woodland plants will include: eastern red cedar, hazelnut, wood geranium, winterberry holly, and butterfly weed.

Future Workshops

"A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise." (Aldo Leopold)

Our watershed region has been recognized as a high priority area for open space and farmland preservation. Township, County, State and Federal levels of government have bestowed on paper, layers of protection ranging from Springfield Twp's source water protection zones to the Northampton Highlands designation by state and federal officials, to arguably, our best layer of protection status, Exceptional Value Stream. However, non-native invasive terrestrial plant species do not recognize political or jurisdictional boundaries. Our daily activities within, across, and outside our watershed area can serve as transport mechanisms for these non-native usurpers. Despite our most passive, "leave only foot prints" approach when enjoying the wilder areas of our watershed region, invasive plants can be moved from one spot to another by "hitching rides" on pets, shoes, clothing, boats, ATV's, mountain bikes, and more. The Cooks Creek Watershed Association is in the planning stages of organizing volunteer educational workshops dedicated to educating folks on how and when to deal with invasive plants on our own properties. Hopefully, with an expanding awareness of this issue, our neighbors can become even better stewards of the watershed region's native biodiversity. We envision an outdoor workshop setting with an introduction to identifying invasive plants in their "unnatural" setting, then a session of actual participation in cleansing a landscape to free it of bad plants, and a final segment of repatriating native plants in the "opened" area. Anyone interested in a possible "summer 2007" time frame for this event can contact me at E-Mail address: *laughingsprings@earthling.net*.

Answer Key for p. 13

1-F, 2-H, 3-J, 4-G, 5-D, 6-A, 7-E, 8-I, 9-B, 10-C

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
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 Tuesday @ 7:30 PM

Lower Saucon:
www.lowersaucontownship.org
610-865-3291
3700 Old Philadelphia Pike
Council: 1st and 3rd Wed. @ 7 PM
Planning Commission: 2nd Mon @ 7 PM
EAC: 1st Tues @ 7 PM

Williams Township:
www.williamstwp.org
610-258-6060
655 Cider Press Road
Supervisors: 2nd Tues @ 7 PM
Planning Commission: 3rd Wed @ 7 PM
Land Preservation Board: 3rd Mon @7 PM

Richland Township:
215-536-4066
1328 California Road
Supervisors: 2nd and 4th Mon @ 7 PM
Planning Commission: 3rd Tues @ 7 PM
Preservation Board: 2nd Tues @ 7 PM
Rivers Conservation: 3rd Tues @ 3PM

Highlighting this Quarter's INVASIVE PLANT: Wild Parsnip

By: Hans O. Reimann Jr., The View from Laughing Springs

Originally from Eurasia, where it was domesticated as a useful root vegetable, wild parsnip (*Pastinaca sativa*) is a plant that escaped from cultivation. The reason for its introduction into Eastern North America was as a food source, but, not only did this plant begin to displace native plants when growing outside gardens, it also began to accumulate higher than normal concentrations of chemicals called furanocoumarins. These furanocoumarins seem to protect the plant from fungus infections and some insect pests. These defensive chemicals are common in the Umbelliferae family of plants which include parsnips, wild carrot (Queen Anne's Lace), fennel, dill, parsley and celery. One cousin, giant hog weed is on the federal/state invasive plant lists. The threat to humans is dermatitis, triggered by exposure to wild parsnip leaves. A combination of ultra-violet light, high humidity, heat and sweating skin creates blisters an hour or two after exposure. This reaction is not an allergic response such as with poison ivy contact. The medical term for the human reaction to a brush with wild parsnip is phyto (plant) photo (light) dermatitis (skin inflamation). While not yet reported to me as present in our watershed, our state bureau of forestry lists wild parsnip as a problem plant in Southeastern Pennsylvania. It thrives in limey soils, and is usually a biennial. In its first year, two foot long stalked basal leaves are possible with each leaf containing five to fifteen stemless, toothed leaflets. During its second spring, the single, whitish, fleshy taproot can support a hollow, grooved, branched flower stalk capable of five foot heights. These stalks produce umbrella-like clusters of yellow flowers during the summer. After pollination, mature fruits are flat ovals up to a half inch long. Poor soils inhibit flower and fruit production. To avoid the toxic effects of this invasive, learn to recognize it, wear protective clothing when trying to remove it, and consider post sunset times for these tasks. Herbicide application or repeatedly cutting flower stems to prevent seed production can eradicate this plant. If you disturb the soil while removing roots, this plant could have an extensive seed bank which you will stimulate accidentally. On a final note, cultivated parsnip seed packages warn you not to save seeds for a future planting season. Most seeds will not be viable but those that accidentally sprout outside your garden can revert to the toxic wild variety. Please use caution when planting this root vegetable. Thank You.

www.google.com

Grass Farming for Local Energy

By: Hans O. Reimann Jr.

The preservation of farmland in our watershed region has become a successful reality in the two major political subdivisions of Durham and Springfield Twps. Over a thousand acres of good farmland have been protected from development by utilizing state and county funds, and some local funding. Now, Lower Saucon Twp, the third major political subdivision of our watershed area, has a farm property listed for preservation consideration, their first. One of the important criteria for evaluating a farm property's preservation worthiness is its viability as an economic enterprise. Actually, the most desirable factor in ranking a farm for a farm easement agreement is the fertility of the soils. And, of course, when good soils produce large yields of crops per acre, a farm family can better manage their property in our capitalist system of market driven prices for those crops. Grass farming for local energy products shows promise as a way to utilize our good soils to grow native grasses as a cash crop for our farmers. Opportunities and strategies exist now for farmers to participate in delivering clean energy products for today's energy markets. These products are called biomass derived fuels. Our awareness of fossil fuel's rising costs, both economically and ecologically, i.e. global climate change, is increasing. Bio-fuels produced from perennial native grasses, hold great promise for our farmers as economical and sustainable crops. Many applications are available for bio-fuels to replace fossil fuels. Profitable production on about one hundred acres or more can be achieved when local strategies promote cost-competitive, reliable products for appropriate applications. Locally grown native grasses compacted into pellets, cubes or briquettes are referred to as biomass. For biomass to be an effective energy market product, proper growth, harvest, processing, and storage techniques are required. Our local farmers can adapt to take advantage of this new farm market opportunity being developed. In Columbia County, PA, the local conservation district office has local farmers participating in biomass production development. As more information becomes available on this exciting new farming prospect, this info will be shared with local officials and farmers. Our watershed area can become more financially and energy independent by supporting our local farmers in these kinds of initiatives.
Website for more information:
http:www.grassbioenergy.org/resources/bioinfo.asp.

www.google.com

Harvesting switchgrass bales which will be turned into grass pellet energy.

The "new" concept of grass heating is really any old one used by the pioneers settling the Prairies. After having used up the supply of "Prairie coal" (buffalo chips), they switched to burning grass, twisted up into packets. These packets were known as "cats."

Documentary Reviews

By: Sherry Brodhead

I recently viewed two shocking documentaries: "The End of Suburbia: Oil Depletion and the Collapse of the American Dream" and "Who Killed the Electric Car". Both of these enlightening movies dealt with the challenges of fossil fuel depletion and our need to implement alternative energy sources and life style choices. It was quite powerful for me to see these movies together as "The End of Suburbia" describes the problem and "Who Killed the Electric Car" describes a solution, but this solution was destroyed. Why?

"The End of Suburbia" (see this one first) educates us on the World War II era definition of the "American Dream" when the suburban concept ballooned into a massive housing boom with increasing dominance by the automotive industry. Automobiles are the crucial component of this lifestyle due to the fact that employment, schools, food markets and shopping areas are of too great a distance from people's homes to be "walkable". This car-centered suburban way of life, dependent on cheap and abundant fuel, became the paradigm for the massive development during the second half of the 20th century. So now, here we are - while only containing 4% of the world population, the United States currently consumes 25% of the world's oil. In the movie, author and critic of contemporary culture, James Howard Kunstler calls the initiative of suburbia "the greatest misallocation of resources in the history of the world" and says "America has squandered its wealth in a living arrangement that has no future." "The End of Suburbia" is engaging and entertaining. It teaches us about the bell curve of peak oil production and opens our eyes to the fact that we are rapidly diminishing our oil supply. We must take a hard look at where this situation is leading us and at what we have come to accept - and EXPECT! - as "normal" life style. We all love our suburbia, which is why we choose to live here in Upper Bucks County. And a solution was created, but then purposely destroyed! The next "must see" movie will show us what happened.

This brings us to movie #2, "Who Killed the Electric Car" and to the year 1990, when, due to rising air pollution levels in the state of CA, California's Air Resource Board passed the zero emissions mandate. It required 2% of new vehicles sold in California to be emission-free by 1998, 10% by 2003. Did you know that General Motors was already on its way to making this possible with their introduction of its EV1 electric vehicle in 1996? It was a revolutionary car, requiring no gas, no oil changes, no mufflers, rare brake maintenance, and it was quiet. It had speed, pep, was sleek and sexy, and could drive 120+ miles on a charge. A perfect and economical vehicle for daily commutes driven by the likes of Tom Hanks and Mel Gibson (with interviews by both in the movie), it was a vehicle beloved by its owners and on its way to mass production and appeal. Around California, EV charging stations were constructed for battery charge-ups. By 2002, GM had over 800 EV1s out on the roads by lease arrangement only. But then something happened. When the leases were up, GM demanded their return despite the pleas and offers for buy–outs from their leasees. Seventy nine EV1 owners offered GM 1.9 million dollars to keep the cars. GM refused the offer and instead proceeded to confiscate all remaining cars with the orders that they were all to be dismantled of recyclable parts and destroyed. There are disheartening scenes in the movie where the crushing and shredding process is explicitly shown. By March 15th, 2005 the last 78 in storage were hauled off to GM's Arizona desert proving ground, crushed and destroyed. With a murderous feel and a staged EV1 "funeral" complete with hearse, procession and flowers, the movie then proceeds to address the questions pertaining to who and/or what was responsible for the "murder" of the EV1. And what happened to the CA zero emissions mandate? I'll leave you with that bit of suspense!

I found it interesting that in both movies it is explained how hydrogen, which is currently being endorsed by our current administration as a potential replacement for oil, is simply a fantasy. Due to the fact that it takes more energy to create hydrogen than can ever be derived from it, it is impractical and exceedingly expensive. Hydrogen is not a form of energy, but energy storage. To add to the frustration is the fact that the technology for its practical use is still very far in the future, whereas the technology for clean, non-polluting electric cars is (and already has been!!!) here.

Both of these highly pertinent movies are powerfully thought provoking. I urge you to check them out.

Trailers for both movies can be viewed and are available for purchase from *Amazon.com* or for rent from *Netflix.com*.

End of Suburbia: Oil Depletion and the Collapse of the American Dream - written and directed by Gregory Greene 2004- *www.endofsuburbia.com*

"Who Killed the Electric Car"– directed by Chris Paine 2006 – Sony Classics – Sundance Official Selection

Searching for Winter Insects

By: Lois Oleksa

With the leaves gone from the trees it is often easy to locate egg masses on twigs, stems, and tree bark. Winter time is a good time to go on a cocoon hunt. Or use a net to collect aquatic insects. (Use extra caution when working near cold water in frigid temperatures.) Also, look for insects in crawl spaces, attics, and basements of your home.

A **Berlese Funnel** can be used to collect winter insects from the soil, compost, leaf litter, or rotten wood.

1. Make a Berlese funnel: Take a soda bottle and cut off the bottom to make a funnel shape. Install a piece of ¼" hardware cloth at the bottom of the funnel. It will act as a floor and strainer for the critters. Place the funnel into a small plastic container.

2. Gather your sample: Shovel away the snow first. Brush aside the loose, dry leaves and collect the moister, partially rotted leaves next to a stump or tree base.

3. To separate the insects from the leaf litter: Place a small amount of your sample onto the wire screen inside the funnel. As the leaf litter warms up and dries out, the insects will move downward and fall through the funnel opening and into the container below. A 25-40 watt light bulb can help speed up the drying process, but be careful to gently dry out the sample or you'll kill the insects before they have time to crawl out of the leaf litter and drop into the collection jar. The light can be left on over night. Next morning, another sample can be loaded into the funnel.

4. Examine: Take the jar from the funnel set-up and pour the contents into a shallow pan. Under good light, look for the insects.

Emerald Ash Borer at Pennsylvania's Doorstep

By: Lois Oleksa

On a recent trip visiting family in Ohio, my cousin sat by the woodstove, tossed in a piece of firewood, and asked, "Do you have the EAB?" "What's the EAB?"

I asked. "Don't you know?" she replied. "It's the Emerald Ash Borer!"

I had no idea what she was talking about, yet the Emerald ash borer is at PA's doorstep.

Discovered in SE Michigan in 2002 around the Detroit area, the Emerald ash borer is thought to have originated from Asia, probably China, and was introduced in solid wood crating material. It is a pretty bright green color, ½" long, and attacks only ash trees. It prefers green ash but will feed on white ash also, the predominant species in Pennsylvania. Difficult to detect as it spends most of its life cycle protected under the bark, it hides while being spread primarily through the transportation of firewood. The Federal government has expanded the Emerald ash borer (EAB) quarantine to include, in their entirety, the states of Illinois, Indiana, and Ohio to prevent the spread of the pest to non-infested areas of the United States, including Pennsylvania. Under the quarantine, interstate movements of wood and wood products that host EAB are regulated.

Emerald ash borer has not been found in the state of Pennsylvania. Southern Pennsylvania is rated as moderately low in the risk of getting EAB. However, entomologists think that EAB will eventually arrive in PA and migrate into the forested region of the state. This will be a slower process now that quarantine control efforts are being instituted. Yet if biological or other controls are not found, this insect could have a significant impact on the forest composition of the eastern U.S. and has the potential to kill a large proportion, if not all of our white Ash. This could be a slow developing process occurring regionally and in patches over a 10 year period.

Emerald Ash Borer Beetle

Hole of Emerald Ash Borer

Larva of Emerald Ash Borer

Photos from Google Images

Children's Backyard:

"Where have all the insects gone, long time passing?
Where have all the insects gone, long time ago?
Where have all the insects gone?....."
Sung to the tune of "Where have all the flowers gone" by Peter, Paul & Mary

By: Lois Oleksa

Have you ever wondered where bugs go in winter? You may not see them; however, they are all around us. Insects have developed different ways to deal with cold weather.

Monarch butterflies take a vacation and migrate south in large numbers in the fall. Strong fliers, traveling up to 1800 miles, they overwinter in the mountains near Mexico City. The same individuals that go south for the winter come back the next year to lay eggs on young milkweed plants.

Ladybugs, boxelder bugs, and stinkbugs move in with humans. They overwinter as adults in walls, attics, and other cracks in homes. If not in your home, they find shelter in hollow logs and other natural cavities.

The **female praying mantis**, after finding a branch or stem, will lay between 30-300 eggs. Special appendages at the base of the female abdomen froth her gelatinous egg material into an ootheca shape. It exits through the female ovipositor as she twists her abdomen in a spiral motion, which creates individual cells within the ootheca. These cells provide insulation against the cold temperatures to come. We use spray foam insulation in our homes that looks like this insulated ootheca. I wonder, what is the R-value of the ootheca? This ootheca hardens into a papier-mâché type substance that prevents predators from eating the eggs. A female can lay up to 22 ootheca, depending on her food intake. After laying their eggs, these bugs live only 2 weeks; however, the eggs will make another generation.

Honeybees use their body heat to stay alive through the winter. They heat their hives by crowding together in the center. They move their bodies and beat their wings while another group makes a ring around the outside to keep the warmth from escaping. They also collect a substance made of plant resins to "caulk" their hives and seal any cracks.

Caddisflies are aquatic insects that thrive during the winter months in flowing water or ponds that do not freeze to the bottom. These critters survive in mobile homes which are called caddisfly cases. These cases are made of tiny stones, sand, or leaf debris tied together with their silk. Resembling a caterpillar with gills, the larva spends its winter protected when food is sparse. Cold water slows its metabolism. When the larva is fully grown, after many moltings (shedding) and building of new cases, it attaches the case onto something in the water. It seals itself inside while changing into the pupa stage. When ready, the pupa crawls out of the case, climbs out of the water onto a rock or plant, and molts into an adult fly. These flies are drab and look like moths. They are nocturnal and you'll see them fluttering around a lamp at night.

Mourning Cloak butterflies cannot leave for warmer climates. They survive the cold winter by entering a state known as diapause, during which the insect's metabolism is lowered and the blood is filled with anti-freeze chemicals to prevent the formation of cell-damaging ice crystals. These butterflies hibernate as adults in the leaf litter of a forest. They are the first to take flight in the spring, often while there is still some snow on the ground.

The **Isabella tiger moth** has a diapause state as a larva. Curled up it is able to survive through a combination of supercooling (cooling itself below 32 degrees Fahrenheit without ice formation) and anti-freeze chemicals.

The **female gypsy moth** lays her eggs near the base of a tree and covers them with hairs from her body. These eggs are able to supercool, that is, cool below 32 degrees Fahrenheit without ice formation. Under snow cover and with glycerol, related to anti-freeze, the eggs can survive. Without adequate snow cover the gypsy moth eggs are much more vulnerable to extremes in temperature and limited amounts hatch in the spring.

Tent caterpillar moths (Bagworms) overwinter as eggs. Glycerol, an anti-freeze chemical that used to be commonly poured into car radiators in the fall, shields the eggs from the cold. By early spring the glycerol is depleted from the eggs and the larva hatch. Old bags or tents from the previous year are hiding places for these eggs.

Goldenrod flies (*Eurosta solidaginis*) over winter in the larvae stage. The adult fly injects an egg into a young and rapidly growing goldenrod stem in the spring. The plant responds by producing a thick tumor like growth, called a gall. The gall has soft tissue inside, and a hard woody exterior. Before winter comes, the larva chews an escape tunnel from the center of the gall all the way to, but not through, the outermost edge. It then retreats into the center of the gall, where it spends its winter. The larva produces both glycerol (an alcohol) and sorbitol (a sugar) as the temperatures fall. The lower the temperature, the more glycerol and sorbitol is produced, resulting in lowering the freezing point of its blood. These larvae are therefore frost hearty. It is a complex mechanism.

Match the Insect with its Winter Home!

1. Ladybug, Boxelder-bug, Stinkbug

2. Isabella Tiger Moth and Larva Form: Wooly Bear

3. Caddis Fly

4. Praying Mantis

5. Gypsy Moth

6. Monarch Butterfly

7. Honeybee

8. Mourning Cloak Butterfly

9. Goldenrod Flies

10. Eastern Tent Caterpillar Moth

A

B

C

D

E

F

G

H

I

J

Answers on bottom of Page 8

Photos from Google Images

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 _____

Donation: _____

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.

Be sure to list ***info@cookscreekpa.org*** as a favorite in your e-mail account if you wish to receive last minute updates. CCWA does not share your e-mail address with any other organization.

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

NON-PROFIT ORG.
STANDARD MAIL
DURHAM, PA 18039
PERMIT NO. 6

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, than 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@cookscreekpa.org**

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