

Cooks Current

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

Volume 7, Issue 3/4

Newsletter of the Cooks Creek Watershed

Fall 2010/ Winter 2011

2010/2011 Events

Regular Board Meetings:

Springtown Fire House- 7:30PM

Dec. 16, 2010, Jan. 27, 2011, Feb. 24, Mar. 24, Apr. 30, May 26, June 23, July 28, Aug. 25, Sept. 22, Oct. 27, Nov. 17, Dec. 15 All are welcome! We appreciate your involvement!

Special Events:

Apr. 2- Spring Clean Up
Apr. 30- Annual Meeting
June 18- Mini Monster Mayhem
July 16- 2nd Annual Invasive Plant Workshop
Oct. 1- Fall Dinner
Nov. 12- Fall Clean Up



See insert for details!

We're on the web!
www.cooks creek pa.org

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

Board Members:

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W. Scott Douglas

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Hans Reimann

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From Across the Board...

Finally, the long dry spell has been broken. I don't think many folks realized just how bad this drought was for our Creek. Unlike the previous long dry spell in the summer of 2002, this one had periodic showers that kept our lawns and gardens from going completely crispy. But these rain showers resulted in very little runoff, and did little to replenish groundwater as most of the moisture was greedily consumed by the thirsty plants. The 8 inches or so of rain we received in early October was long and slow enough that our soil is moist again. While I didn't see any strong rise in our deep aquifers, the shallow reservoirs that feed some of the baseflow of the Creek were replenished and some of the springs are running again. But damage has been done. Our temperature monitors showed significantly high temperatures throughout the watershed all summer, and both fish and invertebrate populations were stressed.

The Creek desperately needs a winter with significant snow fall and a long wet spring to replenish the stores of groundwater. This reservoir of cool water keeps the Creek buffered from the impacts of hot dry summers. It was very clear that those areas that have less housing showed fewer days of high temperatures, despite the lower flows. This tells me that

despite how much water is



So when are you going to fill up the feeder for me?

down there, our Creek is not resilient to increases in use of the aquifer. In other words, we lose flow in the Creek even when there is still plenty of water in our wells. And when the water level goes down, the temperatures in most areas go above the levels that fish like trout need to survive. We will need to be very careful going forward if we are to keep our Creek healthy.

What can you do? First, we all need to be much more conscious of the fact that we use drinking water for uses that

don't really need it. We need to learn new ways to collect

rainwater and direct it to the places where we need it. CCWA will be hosting a rain barrel workshop sometime this winter or spring. Try to make it if you can, or check out some of the many sources of information on rain barrels on the internet. If you happen to own frontage on the creek, and there is no overhanging vegetation along the bank, consider adding it. There are many native plants such as Sycamore, Dogwood, Willow and others that love being close to the water and will not only shade the creek and keep it cool, but prevent erosion and sedimentation further downstream.

(Continued on page 3)

Creature Feature: Bumblebee Moth

By: *W. Scott Douglas*



This is the 16th installment of a series of articles on the fauna of the Cooks Creek.

With fall nipping at our heels, I spent a few days preparing our garden for winter's sleep. While I was working, my wife called out to me to look at a strange looking bee working the coneflowers. The rapidly flitting insect was large (wingspan of 1¼ inches), with yellow and black markings, but it behaved more like a hummingbird than a bee. I quickly pointed out that it was not a bee at all, but a bumblebee moth, a relative of the large sphinx moths that come to lights at night. These moths mimic bumblebees, gaining the protection from predators who don't realize that the moth has no painful sting. Bumblebee moths (in this case *Hemaris diffinis*), and their larger cousins the hummingbird moths are members of the family Sphingidae. You can see from the photo that the wings of these moths have large clear patches, gaining them the name "clearwing" moths in some circles. We have two species, the yellow and black "bumblebee clearwing" and the larger green and red "hummingbird clearwing". Unlike sphinx moths, clearwings are day feeders. Both clearwing moths like to live near streams and rivers, so they can be considered a "riparian" species.

Like all moths, Bumblebee moths hatch from eggs. The adults lay eggs twice a year on snowberry, honeysuckle or dogbane. The caterpillars are characteristic of the family with a long "horn" protruding from the last abdominal segment. This "horn" is not a stinger, but does give these caterpillars the common name "hornworms". If you grow tomatoes, you've undoubtedly seen very large (4-5 inch) hornworm caterpillars

munching on your plants. Bumblebee moth caterpillars look similar to these monsters, but are much smaller – usually just an inch or so. They are bright green, with black spots down the side. A bit of yellow marks the back of the head and the base of the horn. The larva feeds for a couple of weeks and then will turn a light purple color and find a dark place in the leaf litter at the base of the food plant. There it will metamorphose into a simple dark brown pupa. If you find one, hold it gently. It will wiggle every once in a while, but don't be alarmed, it is completely harmless. If you want to see it emerge, place it in a jar with some of the leaf litter and place it in a shady spot outside. Put a screen over the top and observe it daily for a week or so. When the adult emerges, the wings will be dark. The scales come off after it flies around for a few hours. Do let it go after you have finished observing it, so it can do its job of collecting nectar and pollinating your flowers.



More information:
<http://www.enature.com/fieldguides/detail.asp?recnum=BU0176>

Green Tip #13: Fire Starters for the Fire-place

To make a dozen fire starters with material that you'd usually throw away, gather up old cardboard egg boxes, dryer lint that you usually throw away and left over candle stubs. Many candles are made from paraffin which is derived from oil. Let's not waste any of it.

To make the fire starters, begin by placing a cardboard egg carton next to the dryer. Every time the dryer lint container is emptied, place it into an egg cup. Cut off the egg carton flap and cut it up adding it to each individual egg cup.

When you have a full egg box, make a double boiler and melt the old candle stubs in a metal can. Do not melt the candles over direct heat! Pour the wax or dip it out with a ladle and fill up the egg cups. After they have cooled and solidified, cut apart the individual egg cups with a pair of scissors.



From Across the Board... *(continued from Page One)*

We are going to be using a new internet based communication tool this year. Very soon you will receive an invitation by email (if we have your email) to join a local watershed bulletin. You can elect to receive this or not, your choice. If you sign up, every few months you will receive an electronic newsletter that gives you an update on what CCWA and a couple of other watershed groups are up to. There will be links to get more information. Hopefully this will be an effective way to keep you in the loop.

About 30 CCWA members came out to our annual Fall Dinner at the Springtown Rod and Gun Club the first weekend in October. Special thanks to Judy Siegfried for helping get it together again this year. For our program, we were treated to a great presentation by Marlin Corn, naturalist for the Churchville Nature Center. Marlin talked about the work he has been doing to catalogue the herps - snakes, salamanders, frogs, turtles and lizards - of Bucks County. The number and diversity of herps here in the Watershed is greater than found elsewhere in the County, due in no small part to the high water quality and well preserved wetlands and riparian areas. Let's keep up the good work. Of particular importance are vernal pools. If you think you have a vernal pool on your property - or have seen unusual herps, please let Marlin know by contacting him at the Nature Center. Marlin has offered to come out and do an inventory on your property if he hasn't already been there. He is particularly interested in finding either Marbled salamanders or Hognose snakes. If you find these, or anything unusual, rather than try to capture it, a photo would be fantastic!

Yours in Conservation

W. Scott Douglas, President

Children's Backyard: Black Walnuts

By: Lois Oleksa

At this time of year, you can harvest black walnuts and put them to many uses:



Fig. 1: Cutting the button from the walnut

1. Crack them open and eat the nutmeat.

Harvest the nuts (wearing old shoes and rubber gloves). Stomp on the fruit to remove the fleshy green husks. Handle the de-hulled nuts with rubber gloves or they'll stain your hands brown for weeks. Let them dry. Then crack them open using a vise – cover the nut with an old clean cloth so the slivers don't fly across the room. Insert the nut so the vise grips the top and base, not the sides of the nut. Or crack the nut with a heavy hammer – stand the nut with the pointed end up, cover it with the old clean cloth and whack it with the hammer. You'll need to crack the fragments once or twice to get at the nutmeat. A nut pick works well. Eat the nutmeat. It is fruitier – stronger and deeper than the English walnut. Use 1:4 parts black walnut to English walnuts in your recipes.



Fig.2: Walnut button

2. Make beautiful buttons out of the nutshells.

Cut the walnuts with a jig saw or by hand with a hacksaw or coping saw. Just be careful working with tools. (See Fig. 1). Slice the nut through the middle. See the interesting compartments inside. (Fig. 2). Make your next cut about 1/8th inch further down the nut. This will give you a 1/8th inch thick button.

To make the button even more beautiful, rub the sliced walnut with a bit of olive oil to bring out the color. (Fig. 3). Sew on the walnut slice using embroidery thread to complete the button.

3. Walnut dye and walnut ink made from the black hulls.

After collecting walnuts still in their hulls, remove the hulls by crushing them with a hammer until they are broken into pieces. If you collect them late in the season, the hulls will already be black. Don't forget to use rubber gloves. Put the hulls in a saucepan (Remember to use one that you won't mind getting stained – maybe an old one from the thrift store.) Cover the



Fig.3: Walnut button rubbed with a bit of olive oil

hulls with an equal amount of water and simmer for one hour. (Fig 4). Boil down the liquid by half, stirring occasionally. Cool and strain the liquid; store in a tight container that is opaque, as sunlight will break down the color. You can dye a T-shirt or any material at this stage. To make black walnut ink, the liquid is stored for one month. After a month, unseal the jar, scrape off the mold that has grown and seal again. Repeat this step until the mold stops forming. Then strain the liquid and use this ink for sketching, calligraphy or just drawing. (Fig. 5).

A quick way to keep the ink from getting moldy is to add denatured alcohol measured to approximately 5% of the total ink amount.



Fig. 4: Pot lined with foil and filled with walnut hulls and water to cover

In the art world black walnut ink has been used for writing and for painting. Many of DaVinci's notebook writings were made with black walnut ink as were many of Rembrandt's landscapes. What used to be known as the "students" ink, less black and permanent than oak gall ink, and much cheaper than lamp-black and other kinds of inks, walnut ink was widely used in the middle ages up to the industrial age.



Fig. 5: Walnut ink stain on paper



Walnut leaves and catkins Picture from:
<http://www.wildmanstevebrill.com/Plants.Folder/BlackWalnut.html>



Picture from:<http://www.post-gazette.com/pg/10326/1104413-34.stm>

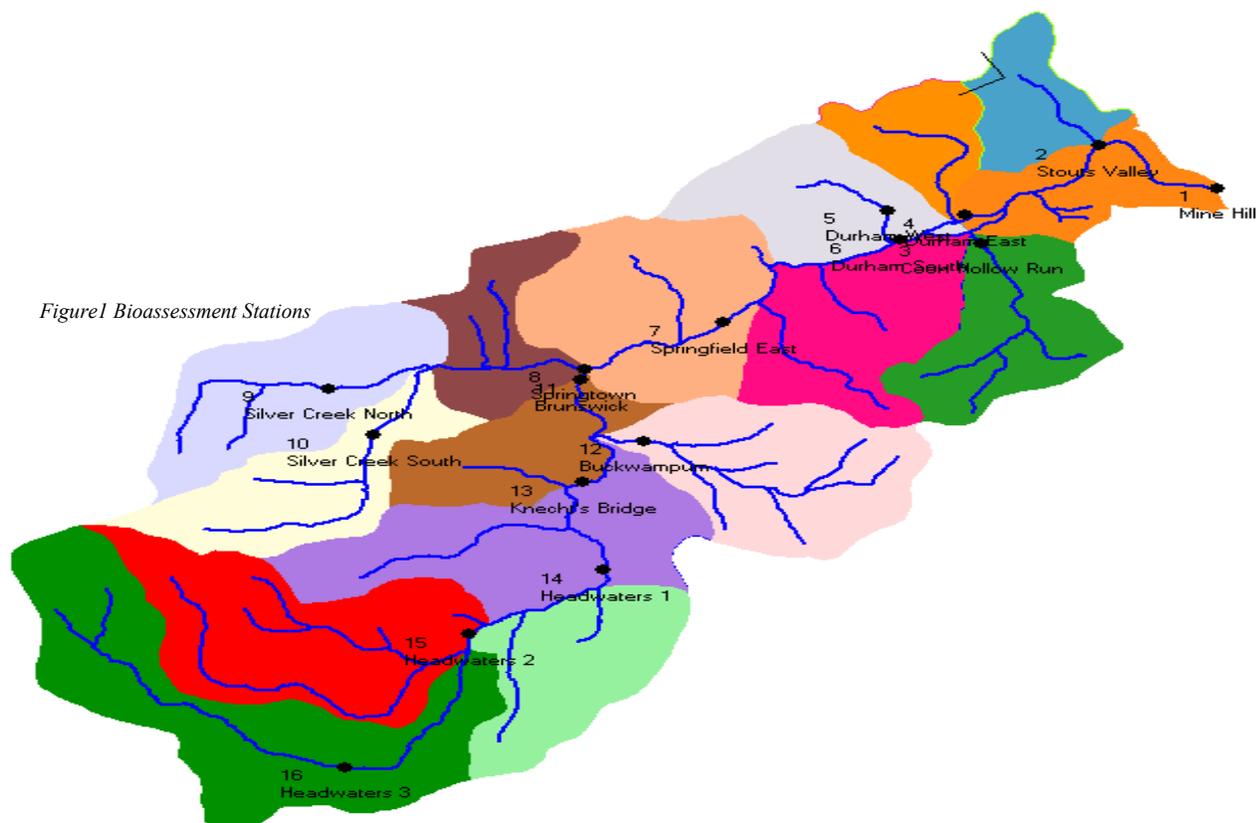
Bioassessment Results

By: *W. Scott Douglas*

It was December of 2006 when PHS student Pat Brown and his intrepid band of Stream Teamers braved the cold waters of the Cooks to obtain 16 samples of leaves, sticks and sediment from various locations in the Watershed. The samples were preserved with rubbing alcohol and later sorted through by a battalion of PHS biology students to remove the hundreds, sometimes thousands, of little insect larvae that make up the foundation of the stream ecosystem. Before Pat left for Cornell in the fall of 2009, he delivered the sample to me for final identification, enumeration, and analysis. I completed the job this summer, and the results are interesting, and somewhat disturbing.

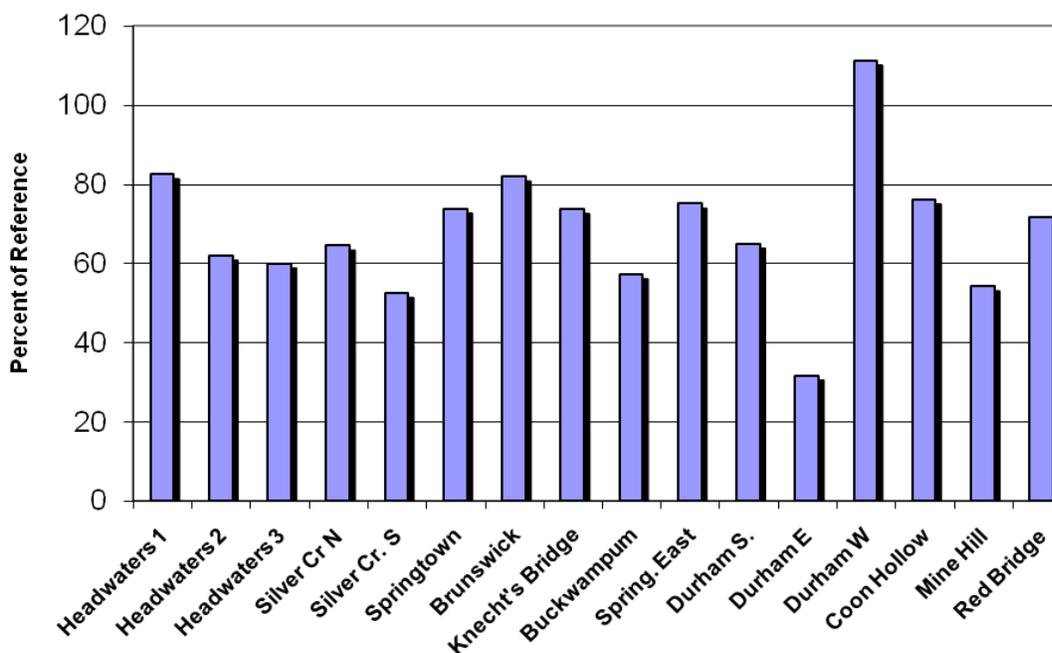
First, a quick primer in bioassessment science. A bioassessment is a way to measure the health of a stream by examining the creatures that live there. Quite simply; the more diverse the life you find, the healthier the stream. Measures such as the number of species found, the number of individuals of each species, the sensitivity of each species to disruption from sedimentation or pollution, and the relative number of predators and prey are all used to calculate an index value. This index value can then be compared to places within a watershed, or compared to a standard or reference stream. The Pennsylvania Department of Environmental Protection (PaDEP) uses a standard index value and provides a comparison tool called the Freestone Biotic Index.

Now for the numbers. We collected three samples from each of our 16 stations (see Figure 1) using a standard kick net procedure, and then combined the three samples into one. The number of organisms found in each sample varied from as few as 261 to as many as 4980. There was also a lot of variability in the number of different organisms (taxa) found; ranging from 21 to 48. Some contained a whole lot of one or two organisms and very few others (indicating an unbalanced ecosystem) while some were more diverse and evenly represented (indicating a balanced ecosystem). Some had a significant number of tolerant organisms (indicating some type of stress) while some contained mostly sensitive, intolerant organisms (indicating high water quality). The bottom line was the Index Score (Freestone Index of Biotic Integrity see *figure 2*). The scores ranged from 32% to 111% of the reference.



Using a complex procedure that takes into account the time of year and some professional judgment, the IBI scores are considered either acceptable (attaining water quality standards) or unacceptable (impaired water quality). Of the sixteen stations, 5 stations did not meet the standard (less than 62% of the reference score). One was near the mouth of the Delaware and can be discounted because it is probably too influenced by the warmer water there. One was in a small tributary in Durham that flows through several barnyards and has limited or nonexistent riparian buffer. This station also had the highest nitrate concentrations we observed in our two year chemistry survey. The other three stations are more mysterious. One was in Lower Saucon Township, one on Slifer Valley Rd, and the third was in Pleasant Valley. The Pleasant Valley station is right upstream from the iron bridge and our results may have been influenced by the poor habitat quality (ledge riffles rather than cobble). The tributary of Silver Creek is very small, with little gradient; again poor habitat. Curiously, the other station in the Silver Creek tributary to the north was also very close to failing the standard. The station on Slifer Valley Rd drains Buckwampum hill and flows through a lot of old farmland and preserved forest. Why it should be of poor quality is a mystery.

Figure 2. PA Freestone Index of Biotic Integrity



So, what does this all mean? Well, as a scientist, I would like to see if the results are repeatable. I will be collecting samples at some of the stations again, particularly those in Silver Creek and the one on Slifer Valley Rd. (Buckwampum). I will also check out other portions of the streams near Durham Rd and Pleasant Valley to see if I can isolate problem spots. In addition, James, my son, and I will continue to examine the treasure trove of chemistry data that we collected over the past two years to see if there are any explanations to be found there. But in the meantime, it appears that habitat quality and land use practices do have an influence on the insects and other mini-monsters that live in the stream. Maintaining a healthy riparian buffer, keeping septic systems operating at peak efficiency and keeping stream temperature low through shading and water conservation are proving time and time again to be the best ways we can take care of our creek.

The View from Laughing Springs

By: Hans O. Reimann Jr.

Our long, hot, and dry summer has given way to an autumn disguised as a rainy season. During the last few weeks of summer, as the time of daylight shortened and met the incremental increase of night time, the autumnal equinox arrived. This celestial event is one of our own earthly planetary events that goes unrecognized in most "modern" cultures. But it seems that human activities may have now influenced the way in which weather patterns interact with increasing and decreasing daylight. Our own little corner of North America, the Cooks Creek watershed, is under the influence, of gaseous omissions that have nothing to do with the carbon dioxide cycle. In nature, carbon dioxide concentration cycles are now documented as having fluctuated to extremes many times in our home planet's life. What has never happened before is the mix of man-made compounds escaping as gases into our air. A more significant fact is that a concentration of those emissions is in our own vaunted Northeastern corridor of the USA.

With a great deal of native diversity, a relatively clean stream system, and a human population becoming more aware of their impact, inhabiting the watershed, I have faith that people are willing to learn more about how to adapt. For instance, the water we share should be the base for conservation of the native diversity here in our watershed. One of the best ways to set an example for other people in other watersheds, as well as our own, is conserving storm water.

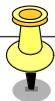
We can learn to think of storm water as a resource. You have heard and read about riparian buffers along our ponds and waterways, the vegetation slowing and filtering storm water, shielding the water temperature and providing wildlife corridors. The next logical primer on storm water returns to the source of the human impact on rainfall: water picks up speed running off of our roofs, patios, driveways and roads. Rain gardens and other native plantings slow and filter the runoff, giving rainwater a chance to filter back into our aquifers. Most of us, in this watershed, interact with the land we pay taxes on, by cutting the lawn, gardening, or just having an outdoor barbecue. But another very positive way to interact with your land could be to conserve some rainwater before it runs off into a street or storm drain; floods a low lying area or reaches a stream so quickly and in such volume that stream banks erode needlessly. In addition, fast running water can also pick up harmful debris and chemicals on the way to the stream from your property.

Conserving rainwater (storm water runoff) by installing rain barrels can help mitigate these storm events. Rain barrels are not a new idea, and can be an easy and inexpensive lifestyle choice folks can implement. I have found that using a 55 gallon rain barrel to conserve the initial surge of storm water off a roof and then allowing the overflow to drain into a rain garden of native plants is a great conservation combination. We are thinking about hosting a rain barrel workshop with the Saucon Creek Watershed Association. Is any one interested in constructing their own fully functional rain barrel? Give us your thoughts, share in this community idea.

Regards,

Hans O. Reimann Jr.





WIP Notes... *PALMS Watershed Integration Pro-*

What was my favorite memory from the three sites we visited on Cooks Creek?

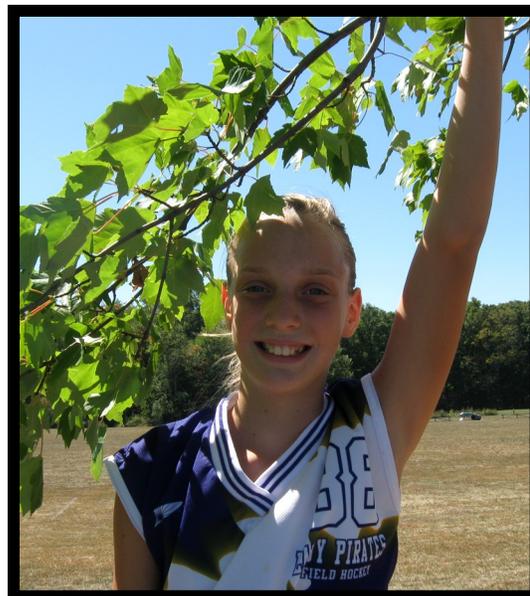
At the Douglas site I stepped and slipped and my waders filled with cold stream water and the ends of my hair were wet. I was absolutely freezing!

At the Haycock Run site we caught a craw fish and named him Smith Worthington Ralph, and then we let him go.

At the Klingbeil site we lost our cork under the bridge. We waited for it to come out, but it never did. We poked around with a stick and put our hands in the cold water, but the cork is still missing.

At the Klingbeil site we saw a giant larva looking thing and we screamed!

(below: Pictures of our WIP Leaf Project)



Thoughts on Winter...

By Julie Cooper-Fratnik

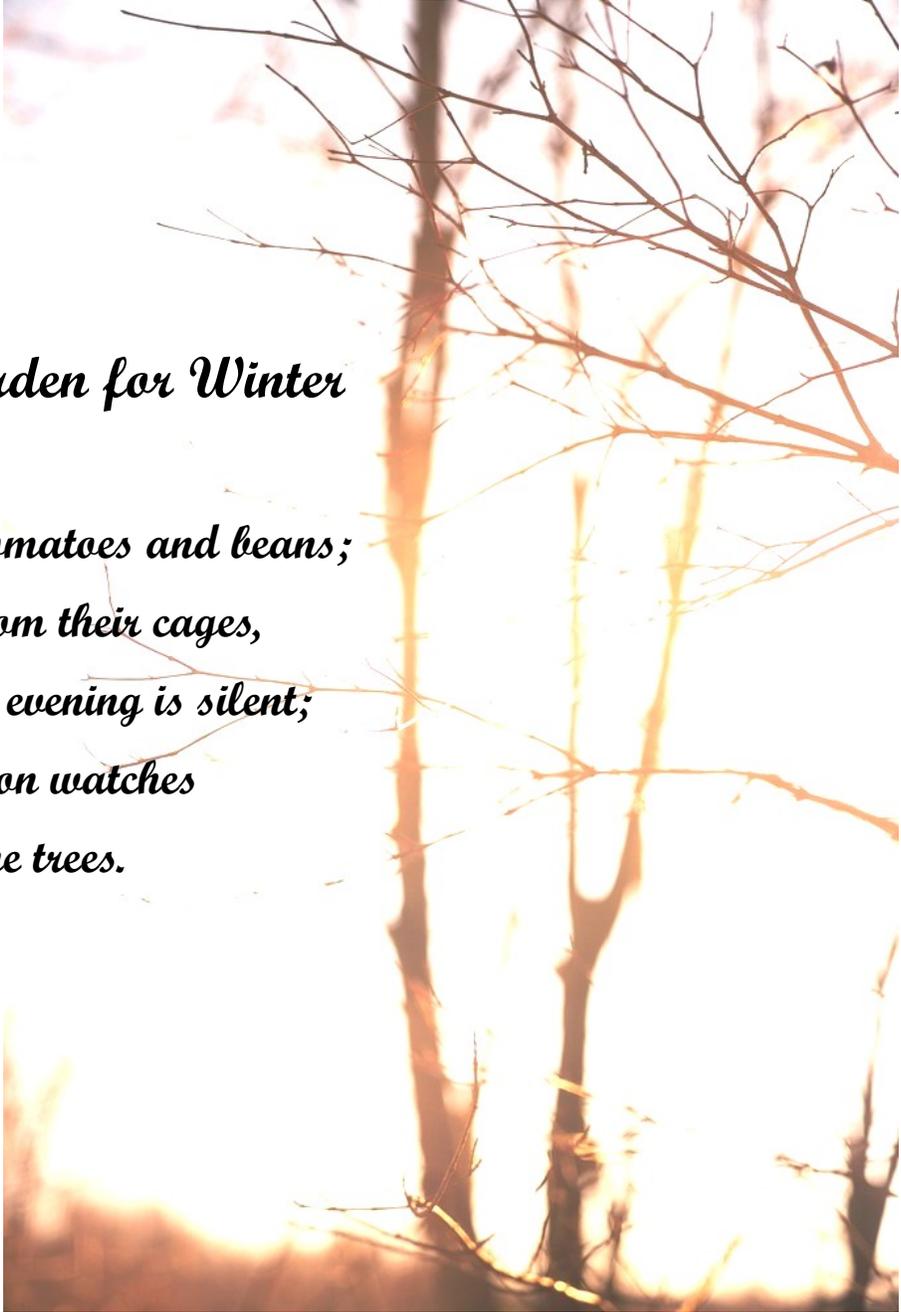
Language of Surfeit, Language of Loss

*The squirrels have ceased their incessant squabbling,
filled their cheeks and chambers to satiety.
Still, the uneasy lingering of our bodies
after the acorns fall. The inevitable silence
once the swing has been abandoned on the
branch,
children dispersed like anxious seeds.
Mourning doves tap urgent messages
along the gravel path; peppers curl black
with frost; and underneath the ancient, singing
soil, complacent worms slip further into dark.*



(Continued on page 11)

(Continued from page 10)



Preparing the Garden for Winter

*pulling out peppers, tomatoes and beans;
releasing them from their cages,
their twisted ties. the evening is silent;
a sliver of moon watches
through the trees.*

Julie Cooper-Fratik earned her MFA in Creative Writing from Goddard College in Vermont. She is a former Bucks County Poet Laureate, and a winner of an Achievement Grant in Poetry from the Leeway Foundation in Philadelphia. She is on the Language and Literature faculty at Bucks County Community College, where she teaches creative writing and poetry, runs the tutoring center on the Upper Bucks campus in Perkasié and serves as an advising specialist for the department. Julie also serves as the copy editor for the American Anti-Vivisection Society. She resides on the old Freeh farm on Route 412 in Bursonville and has graciously allowed us to print some of her beautiful poetry in our newsletter.

Recycle!

Local Recycling Information

Durham Township Recycling Center

Location: Municipal Building, 218 Old Furnace Rd,
Durham

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

Hours: 9:00AM – 12:00 noon

Accepting newspapers, magazines, junk mail, phone
books, glass, tin, plastic, aluminum and cardboard.

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](http://www.bethlehem-pa.gov/recycle/services/theis_cornfeld.htm)

Location: 635 Illick's Mill Rd, Bethlehem

Phone: 610-865-7082 Hours: Weekdays: 10 AM to 5 PM,
Saturday 9 AM to 5 PM, Sunday 11AM to 4 PM

Accepting glass, cans, plastics, newspapers, all books,
magazines, catalogs, cardboard, mixed office paper, met-
als, 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 ser-
vices for businesses and private individuals. If you
have 4 or more boxes, call 610-865-7082 to schedule
an appointment

Hours of Shredding: Weekdays: 10 AM to 2:30 PM,
Saturday: 9 AM to 2 PM

City of Bethlehem Compost Center

Location: 1480 Schoenersville Rd., Bethlehem

Non-Bethlehem residents are not allowed to drop off
materials at the composting center but the mulch and
compost is available for free to anyone if loading ser-
vices are not needed. They actually produce much
more than what they can distribute, so they encourage
anyone to take as much as they would like! Loading
services are provided for a fee of \$10/cubic yard in
the spring and fall. Call 610-856-7082 for hours.



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
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: Quarterly on the 3rd Tuesday of
 January, April, July, October @ 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



*Lois Oleksa at CCWA
 Durham Day, Oct 9, 2010*

Lois is everywhere!

Picture by Siobhan Royack

Please Join Us... Cooks Creek Watershed Association Membership

IT IS MEMBERSHIP RENEWAL TIME

Please check your mailing label for your “membership through” date.

If you have the 12/31/10 date on it, then it is time for your membership renewal.

Please fill out the 2011 Membership Application on the insert.

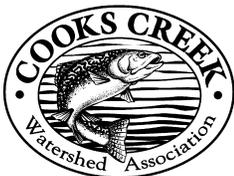
Current memberships insure that you will continue to receive the

Cooks Current newsletter

And supporting us is a good thing, too!

Water — it's life!

Membership form is enclosed in Newsletter



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