

Cooks Current

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

Volume 8, Issue 2

Newsletter of the Cooks Creek Watershed

Summer 2011

2011 Events

Regular Board Meetings:

Springtown Fire House- 7:30PM

Aug. 25, Sept. 22, Oct. 27, Nov. 17,
Dec. 15

All are welcome! We appreciate
your involvement!

Special Events:

Oct. 8- Fall Dinner
Nov. 12- 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:

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From Across the Board...

This spring was about the best I've seen in a long time for water and watersheds. Lots of rain meant high ground-water levels and lots of natural flow in the Creek, but not too much. However, it's summer now and the flow is low again, proving that a few weeks of good rain will not take the place of good stewardship and conservation. Not that we've been doing a bad job of that lately, but we cannot let our guards down. The ongoing recession has made it possible for Springfield to finish its revisions to the Zoning and Subdivision Ordinances, but Durham needs to finish theirs before the housing market kicks in again. We look forward to reviewing it when the drafts are completed.

Speaking of successful projects, our annual cleanup day was again a resounding success, with two full PennDOT trucks and 30 miles or more of clean roadway. If you came out, thank



Flowers of summer: Chicory (see more on page 12)

you. If not, there's always next year. On Father's Day weekend we hosted our annual Mini Monster Mayhem in Springtown, with 17 children in attendance. After a bit of classroom time; making the water cycle bracelet and flushing the water quality toilet, the kids hit the stream to search for benthic invertebrates. Lots of fun was had by all (except maybe the disturbed insect larvae).

On the research front, CCWA is in partnership

with Bucks County and Trout Unlimited to survey all the culverts in the watershed. The idea is to find which culverts present an impediment to normal movement of wildlife and which do not. Several teams will be fanning out across the area between now and the end of August. They will be measuring bridges and culverts to check to see if they are sized properly, as well as evaluating the condition of the creek bottom and the riparian buffers. TU hopes to find a couple of crossings that

(Continued on page 3)

Creature Feature: Mud Dauber Wasp

By: David and Lois Oleksa

Creature Feature: This is the 18th installment of a series of articles on the fauna of Cooks Creek.



If you happen to suffer from arachnophobia (the fear of spiders) you'll love the creature featured in this article. Mud daubers (scientific name: *Chalybion*, *Sceliphron* and other genera, in the order: Hymenoptera: Sphecidae) are wasps that rarely sting humans but are one of the biggest enemies that spiders have. Folks in this area are most familiar with the pipe organ mud dauber (*Trypoxylon politum*). These are the wasps with a long, narrow, almost hair-like waist between the thorax and abdomen that construct nests of long parallel mud tubes (up to 8 inches long) on the sides of buildings.

Mud daubers come in a variety of colors from black to black with bright yellow markings to iridescent blue, although the pipe organ mud daubers are generally a dull black. They range in size from 1/2 inch to one inch and people are more familiar with the female of the species, since they are the ones that can be seen building the nest. Mud daubers typically select sheltered sites under eaves, on protected walls or in sheds or other outbuildings like barns that have been left open. If the nest has holes in it, the wasps have already emerged and you can be sure the nest is old and inactive.

All species of mud daubers are solitary wasps and are not social; nor do they live in colonies. They overwinter as full grown larvae, pupate in the spring and emerge shortly thereafter to start the cycle again. They do not defend their nests.

This wasp group is named for the nests that are made from mud collected by the females. Mud is rolled into a ball, carried to the nest site and then molded into place with the mandibles. The pipe organ wasp builds nests that have been described above while other species form

smooth mud nests about the shape of a fist. One species, *Chalybion californicum*, does not make a nest of its own but rather appropriates the nests of other species, discarding the original contents of the nest and replacing it with their own.

But back to why they are the biggest enemies of spiders: amongst the nest building species, after completing the

nest the female wasp captures spiders to provision the cells of the nest. Six or seven spiders are stung and paralyzed and carried to the nest site where they are stuffed into the cell. A single egg is laid in the cell and then that cell is sealed with mud. After the wasp completes filling all the cells in the nest with spiders and eggs, she seals the final cell and departs, never to return. The larvae that hatch from the eggs feed on the spiders left for them and in about 3 weeks grow to be about



Brand new nest.

3/4 of an inch long. These maggot-like larvae then spin a silken cocoon but do not pupate until the following spring. In the spring, after pupating, the new adults break their way through the mud wall of the nest and escape to begin the cycle all over again.

Where is the male mud dauber, you may ask, while the female is busy preparing for



Mud dauber resting near the nest.

the new generation? He usually stands guard over the nest to insure no parasites, flies, or other wasps lay their eggs in the unfinished nest. If he would fail in his (continued



View into the nest. Notice the partitions inside and the beautiful daubing (continued on page 3)

from page 2)

task, the eggs of the invaders would hatch first and their young would eat the stored spiders, leaving nothing for the mud dauber's hatchlings.

Although the mud daubers are considered a pest because of their nest construction in some not always desirable

adult mud dauber exists solely on the nectar found in flowers.



Mud dauber with white legs.



The mud dauber wasp is entering the nest.

places, they really do not have to be controlled since they pose virtually no threat to humans. Rather, they should

be welcomed since they remove many species of spiders that people find objectionable. As a matter of fact, *Chalybion californicum*, preys solely on black widow spiders. If the nests are objectionable, they can be scraped off, although doing so will not assist in eliminating spiders.

One last note: oddly enough, even though the mud dauber eats nothing but spiders during its larval stage, the



Old nest.

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

could be easily improved and then apply for funds to fix them. We will publish the results here.

A couple of upcoming events in early fall are worth putting on your calendar. Hans is conducting a rain barrel workshop on September 17. This will cost a small fee of \$35 for materials, but you'll have a rain barrel ready for installation for less than what it would cost retail. And you will know how to build more! This event will be held at the Springfield Township building. The Springfield Township EAC will be hosting its annual tire recycling event on Saturday October 1. The fee is only \$2 per tire, a real bargain, and all profit goes to the work of the EAC. The following Saturday, October 8, we will have our annual fall dinner and potluck; be sure to save a spot on the calendar. We'll send out a reminder, but hey, keep up to date by checking in with us on our new Facebook page!

Yours in Conservation, W. Scott Douglas

Children's Backyard: MULLEIN (*Verbascum thapsus*)

By: David and Lois Oleksa

One of the most interesting and useful herbs that we find growing in the Cooks Creek Watershed is mullein. It is also known as "Jacob's staff", "Aaron's Rod", and "Flannel-Leaf". Since it is often found in fields and in the ditches along side our roads, many people thought that it was a native plant. It comes as quite a surprise that the plant is actually native to Europe and Asia and that it was brought here by the early settlers in the 1700's. The plant is striking in appearance with a stalk that may grow to seven feet in height and large furry leaves that are often two feet long and six to seven inches in width.

Mullein has many uses and that is the reason the early settlers brought the plant to the Americas.



Fig. 1: Mulleins growing along the road.

Every part of the plant can be used at different times in its life cycle. The thick furry leaves can be made into a tea that helps treat breathing illnesses and at one time, the dried leaves were smoked as a treatment for some lung ailments. The tiny hairs on the leaves may be irritating and this led to an interesting usage. Some of the early settlers belonged to religious groups that did not allow girls and women to wear make up. The girls would instead, rub their cheeks with mullein leaves and the tiny hairs would irritate



Fig. 2: An active growing mullein along with a dried one.

their skin a bit and cause their cheeks to develop a blush. Modern day campers are sometimes tempted to use the leaves as a substitute for toilet paper when they are in the woods. These people also develop a blush on their cheeks!



Fig.3: First year rosette of leaves.

The flowers that develop on the plant's spike during the second year of growth are good for cleansing the skin and after being infused in olive oil, make an effective cure for some earaches.

Mullein also serves as an indicator of how much poison and contamination is in (continued on page 5)

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the soil. If you see mullein stalks that are crooked, it usually indicates that the ground has been severely contaminated with chemicals. It is best not to use any part of these plants. Many times this is the condition you will find in plants that are growing along busy roadways. The contamination from automobile exhaust poisons the earth that the mullein plant grows in.

The stalk is one of the most interesting parts of the plant. When dried it has many uses. Most of the uses are connected with the fact that it becomes very, very dry and is an excellent fire starter. The Native Americans used the dried leaves of the stalk in starting a fire. A hand drill was rapidly spun between the palms of their hands while keeping one end of it in a wooden socket. Located in the socket was the dried mullein leaves. After some time, the friction between the end of the drill and the wooden socket caused an ember to form and with careful blowing on the glowing ember and adding more tinder slowly, a fire could be easily started. Check out a demonstration at: <http://www.youtube.com/watch?v=AQSBmd9u44A&feature=related>

In some civilizations, the stem was also used to make wicks for oil lamps since it burned just as well and was much cheaper than using cotton string. The plant became known as the candle wick plant..

A good project for kids to do is to take the dried stem of a mullein plant and dip it into melted tallow or wax. After the wax has hardened, the stalk can be lit and used as a torch or as an outdoor "candle" to light up an area. The smoke also assists in keeping away insects. Of course, you should do this only with the assistance of an adult since the melted wax is hot and you want to avoid getting burnt.

In any event, the next time you see this striking plant, think of its history and many uses. It's just

another example of the treasures that can be found in our own watershed.



Fig.4: Melting candle wax in a double boiler.



Fig. 5: Pouring wax onto the the dried mullein stalks.



Fig. 6: Wow, burning in the night.

State biologists Want Your Help Fighting Bat Disease!

Posted: Tuesday, June 21, 2011 12:00 am | Updated: 1:13 pm, Wed Jun 22, 2011. By Amanda Cregan Staff Writer, *The Intelligencer*; Re-printed with permission.



Contributed photo Pennsylvania Game Commission biologists photographed these bats hibernating in the Durham mine in September 2010. Most of the bat colony died from white nose syndrome.

If you see a bat flying through the night sky this summer, state officials want to hear about it. Pennsylvania Game Commission biologists are asking residents across the region to help collect bat data.

Across the Northeast, and here in Bucks County, a mysterious disease has been killing off bat populations. Of the 10,000 bats that have hibernated in an abandoned iron mine in Durham for generations, only about 200 bats are still alive, Game Commission biologist Greg Turner told this newspaper for a report last month. Durham's bats became infected with white nose syndrome, a mysterious disease that's killing off bat colonies at an alarming rate across Connecticut, Massachusetts, New York, New Jersey, New Hampshire, Pennsylvania, Vermont, Virginia and West Virginia.

"White nose syndrome primarily kills during the winter, but the true impact of white nose syndrome on bat populations cannot be determined using estimates from winter hibernacula alone," said Calvin Butchkoski, Game Commission wildlife biologist, in a written statement.

The disease causes a white fungus to form around the nose of infected bats. They lose body fat needed to survive hi-

bernation and ultimately the mammals starve to death in winter months.

Scientists still cannot figure out exactly how the disease is spread; only that it is transmitted from bat to bat. There is reportedly no threat to humans or other animals.

In Upper Bucks, there are several bat species that hibernated inside the mine. The little brown bats, the northern long-eared bats and the tri-colored bats have been hit the hardest.

In late March, biologist Turner checked on the bats hidden in the hillside of Upper Bucks and found near devastation. "We're looking at a 99 percent decline," he said. Though it will take generations for the Durham mine's bat population to be restored, local residents can help the state now by tracking the few hearty bats that have survived the disease. This summer, residents might notice female bats and their pups roosting in their sheds or any other buildings. "Pennsylvania's two most common bat species, the little brown bat and the big brown bat, use buildings as their summer roosts," Butchkoski said. "Abandoned houses, barns, church steeples — and even currently occupied structures — can provide a summer home to female bats and their young. "Monitoring these 'maternity colonies' can give biologists a good idea of how bat populations in an area are doing from year to year."

Often called the farmer's friend, bats hibernate each winter and spend the spring and summer months feeding on hundreds of tons of nighttime insects.

Each night, the bats spread across our region to eat any and all insects, including mosquitoes, which can carry disease. Each bat consumes 900,000 insects per year, said Turner.

How to help

To obtain applications and information on how to participate, visit the Game Commission's website www.pgc.state.pa.us and click on "Wildlife" in the menu bar at the top of the home page, scroll down and choose "Pennsylvania Bats" in the Mammal section, and then click on "Appalachian Bat Count" in the Reference listing.

Forms on the website guide interested participants through the steps of timing, conducting a survey and submitting their findings to the Game Commission. Scout groups, 4-H clubs, local environmental organizations, and individual homeowners can all participate in this effort.

Green Tip # 15: Invasive Aquatic Plants

By W. Scott Douglas



Most of the alien plants we think about are the ones that have invaded our lawns, gardens and favorite hiking trails. Certainly, these are bad actors that require nearly constant vigilance to keep at bay. However, they are not the only ones, and some are even more harmful to the nature and beauty of our beloved Creek. Aquatic hitchhikers have invaded many of our lakes and ponds in eastern Pennsylvania. Water hyacinth is choking out Lake Towhee, various asian weeds thrive in the Delaware Canal, and these same weeds make wading in Lake Nockamixon unpleasant as well.

Nothing is quite as ugly as this new invader however. *Didymoshpenia geminata*, or *Didymo* for short, is an alga that forms a cotton-like greenish brown mass. So called "rock snot" is a diatom originally from northern Europe and Canada that is particularly fond of coldwater streams. It has made wading and swimming in

many Adirondack streams unbearable. Because it coats rocks with a thick layer, it pushes out many invertebrates and small fish too. Scientists believe that it has hitched its way here in fishing and boating gear. Needless to say, we do not want this invading our Creek. And it is already in the Delaware River's tributaries to our north.

What can you do? As you fish or boat around this summer, make sure that you are careful to wash and dry your gear in between water bodies. Taking a hose to the boat (and motor), inside (for canoes and kayaks) and out, and letting it dry in the sun will kill any aquatic hitchhikers. Same goes for waders, water shoes, and life jackets. Let them dry in the sun thoroughly after you get home, or between stops on those multi-day trips. Avoid using the felt-bottomed waders, they are particularly good at providing moist cool environments that can harbor small amounts of invasive algae. It only takes a little bit of these plants to colonize a new stream. And don't assume that just because an invasion has not been reported that a stream is "clean". It may be that things have just not reached the "ick" stage.....yet.



11th Annual Mini Monster Mayhem Pictures

Took place on Saturday June 18 At the Douglas home in Springtown

Pictures by Jim Orben



CCWA Mini Monsters June 18, 2011



A bucket of rain falling on bare soil.



A bucket of rain falling on vegetative soil.



The flush toilet demonstration always draws a lot of attention.

Sea Lampreys Return to Cooks Creek (and that's good news).

By: Joe Mihok



[Bigelow and Schroeder, 1948 p. 46.] From: http://www.gma.org/fogm/Petromyzon_marinus.htm

The last word in ignorance is the man who says of an animal or plant, "What good is it?" If the land mechanism as a whole is good, then every part is good, whether we understand it or not. If the biota, in the course of aeons, has built something we like but do not understand, then who but a fool would discard seemingly useless parts? To keep every cog and wheel is the first precaution of intelligent tinkering."

Aldo Leopold

Here in Pennsylvania there has been a lot of tinkering lately with our rivers and streams in the form of dam removals. I would say that these dam removals qualify as "intelligent tinkering" as they are undoing the unenlightened tinkering of our dam building era. Many dam removals are done to improve fish passage, and in the Delaware River watershed migratory fish species such as striped bass and American shad are often named as the species benefiting from dam removal. In 2004 the dam at the old International Paper property on Cooks Creek was removed. At only 1000 feet from Cooks Creek's confluence with the Delaware River, the dam blocked fish passage between the Delaware and Cooks Creek for many decades. With this removal, one species of migratory fish, though much less glamorous than stripers or shad, has returned to Cooks Creek. A recent survey by biologists from the Pennsylvania Fish and Boat Commission confirmed that sea lampreys once again inhabit the Cooks Creek watershed.

Sea Lampreys (*Petromyzon marinus*) are native to the Delaware River watershed. They are anadromous, living in saltwater but returning to freshwater to spawn. Lampreys are primitive fish lacking a bony skeleton; they have no lateral line, swim bladder or paired fins. Sea lampreys average 12 to 20 inches in length, though some females can grow to 30 inches. The adult lampreys return in spring or early summer to freshwater to spawn, the spawning pair will create a crescent shaped nest; they use their mouth to pick up individual pieces of gravel and move them downstream to form a crescent that faces upstream. Within this nest up to 20,000 eggs are laid. The lampreys die after spawning. Sea lampreys have a curious life cycle in that the eggs hatch into the larval form called an ammocoete. After hatching the larvae burrow into the stream bottom; they are filter feeders on algae, bacteria and organic detritus flowing by in the current. The lampreys remain in the larval stage for up to 7 years and then go through a period of metamorphosis into the adult. Once transformed into the adult phase, sea lampreys begin their migration back to the sea. During this out-migration and for their entire adult life in the ocean they are parasitic to other species of fish. Their round, jawless mouth is filled with sharp teeth which they use to attach to a host fish. They then use their rasp-like tongue to create a hole in the side of fish from which to feed. Sea lampreys have an anti-coagulant in their saliva which can keep the wound open for weeks. Sometimes the lamprey will feed off the host fish until the host fish dies; this is not always the case as otherwise healthy fish with round lamprey scars are often found.

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For many of us, our knowledge of sea lampreys has been shaped in a negative way by the lampreys' disastrous ecological effects in the Great Lakes. In 1921, sea lampreys were first found in Lake Erie, moving through the Welland Canal that allowed them to bypass Niagara Falls. From Lake Erie they colonized the other Great Lakes. (Sea lampreys were always naturally present in Lake Ontario which is connected to the Atlantic Ocean by the St. Lawrence River.) Once present in the Great Lakes, the lampreys had a devastating effect on the native fish of the lakes, especially lake trout and whitefish. In the years since lampreys first invaded the Great Lakes various measures have been developed to control the population; these include physical barriers that prevent adult lampreys from reaching spawning areas and a chemical "lamprecide" that is species specific and kills only sea lamprey larvae. The devastation lampreys caused in the Great Lakes is not a concern for the fish populations in Cooks Creek or the Delaware River. Mike Kaufmann, Southeast Region Biologist for the Pennsylvania Fish and Boat Commission had this to say regarding the lampreys return to Cooks Creek,

"Sea lampreys have been vilified because as often occurs when a new species is introduced into a new environment, the sea lamprey population rapidly expanded and practically decimated the Great Lakes salmonid fisheries. In contrast, sea lampreys are naturally occurring in the Delaware Basin and native species have co-evolved with the lampreys. They are apparently in balance with the other fish populations and are of little concern in the Delaware system. They cease feeding prior to or during their spawning migration and perish a few days after spawning, posing no danger in spring to the trout of Cooks Creek or other stream and river fish populations in the Delaware Basin where they have regained access due to dam removals and fishway construction."

As Aldo Leopold said, "The last word in ignorance is the man who says of an animal or plant, "What good is it?" So indeed what good are sea lampreys? What is their role in the ecosystem of Cooks Creek? This we do know: the lamprey larvae are an important prey species for the trout and other fish species in Cooks Creek that has been absent from the system for many decades. However, Mike Kaufmann stated that we really do not understand all the functions that sea lampreys perform in the Delaware River watershed. Sea lampreys are just one cog in the wheel of the Cooks Creek ecosystem, they have played a part in, "building something we like but do not understand". Their return to Cooks Creek provides us with new opportunities for deeper understanding.



LEE EMERY, U.S. FISH AND WILDLIFE SERVICE



U.S. FISH AND WILDLIFE SERVICE ARCHIVES, U.S. FISH AND WILDLIFE SERVICE

Photo from: <http://marinebio.org/species.asp?id=542> Lee emery US Fish and wildlife Service

COOKS CREEK WATERSHED ASSOCIATION ANNUAL FALL DINNER

Special Guest will be Kirk Brown playing the role of John Bartrum, famous Pennsylvania botanist.

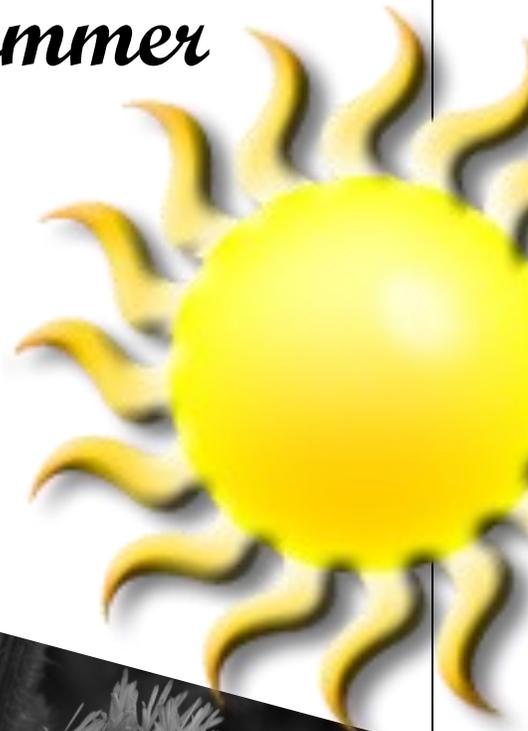
From 5 to 9 PM Saturday, October 8, 2011 at the Rod and Gun Club, Springtown, PA

Look for more information on the website: www.cooks creekpa.org

Wild Flowers of Summer

Pictures by Siobhan Royack

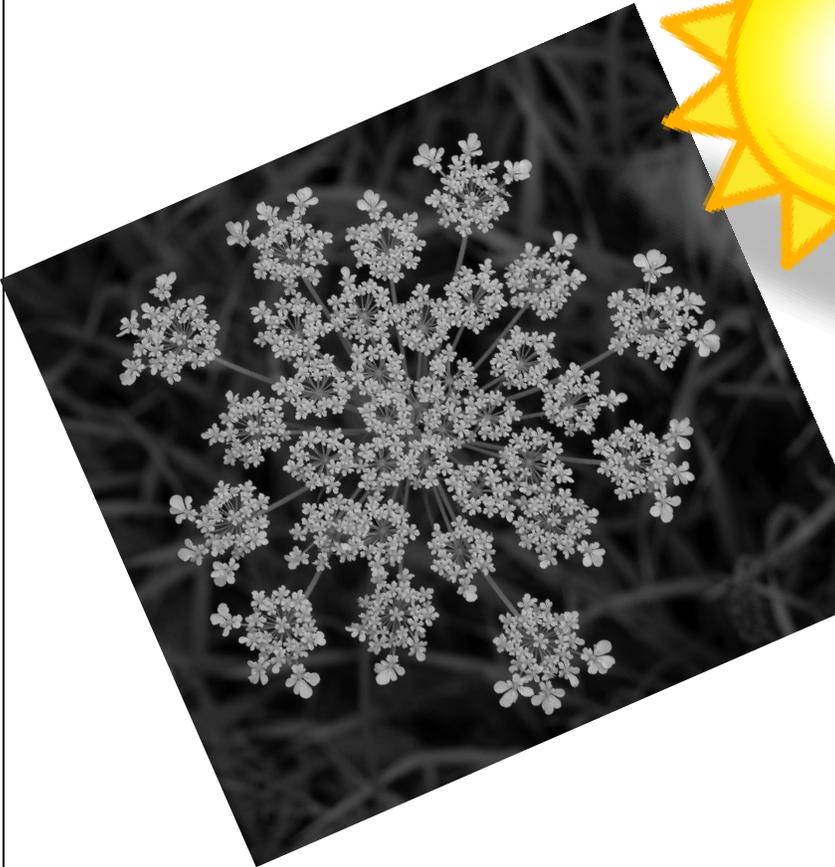
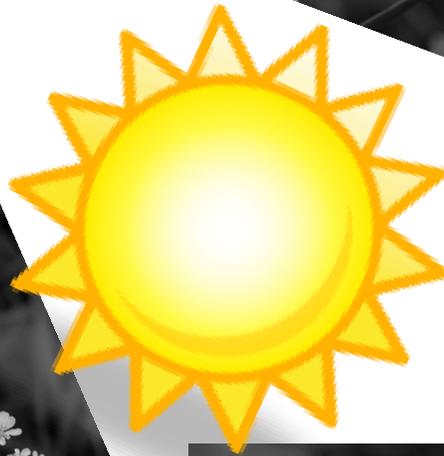
(Also picture on page 1)



Flowers Page 12	Flowers Page 13
<i>Crown Vetch</i>	<i>Morning Glory</i>
<i>Daisy-Fleabane</i>	<i>Moth-Mullein</i>
<i>Horse Nettle</i>	<i>Queen-Annes-Lace</i>
	<i>Touch-me-not</i>

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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

Location: 635 Illick's Mill Rd, Bethlehem

Phone: 610-865-7082 Hours: Weekdays: 10 AM to 4 PM,
Saturday 9 AM to 4 PM, Sunday 11AM to 3 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 services for businesses and private individuals. If you have 4 or more boxes, call 610-865-7082 to schedule an appointment

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 services 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

Rain Barrel Workshop

Date: September 17, 2011

Time: Two sessions with one starting at 9 AM and the second at 10 AM (running until noon)

Location: Springfield Township Building

Cost: \$35 for materials

After completing the workshop you'll have a rain barrel ready for installation for less than what it would cost retail. You will also know how to build more!

You **MUST** register by August 27th to save a spot and get a barrel at the workshop.

Reserve: Call Hans Reiman to reserve at 610-346-8229

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: _____

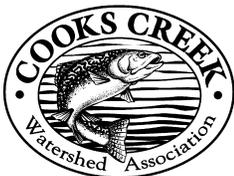
Total: _____

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.



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.