

Cooks Current

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

Volume 11, Issue 1

Newsletter of the Cooks Creek Watershed

Winter 2014

2014 Events

Regular Board Meetings:

Springtown Fire House- 7:30PM

Feb. 27, Mar. 27, Apr. 24, May 22, June 26, July 24, Aug. 28, Sept. 25, Oct. 23, Nov. 20, Dec. 18 All are welcome! We appreciate your involvement!

Special Events

Apr 5, Spring Clean-Up

Apr 24, Annual Meeting

June 14, Mini Monster Mayhem

July 12, Native Plant and Invasive Workshop

Sept 27, Springfield Community Day?

Oct 4, Fall Dinner

Oct 11, Durham Community Day



Become a member!

See back for details!

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

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

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From Across the Board...

Another year has passed us by, and I'm thinking about priorities. I lost a dear friend of mine to cancer last year, and his passing has provoked a lot of soul-searching. Fred Ritter, who some of you may know, was a long-time resident of Riegelsville and spent many decades as a Scoutmaster, giving hundreds of our local kids the opportunity to hike and camp in the woods, paddle our waters, and be boys in the great outdoors. While some of us spend our time studying the watershed, others cleaning it up, still others advocating for its preservation, Fred spent his time simply making sure that the next generation appreciated the outdoors by helping them get out in it. I can't say enough about how important this is. Preservation and conservation are impossible without the sympathy that comes from a personal attachment to the outdoors. Education, no matter how well presented, is not enough. Having positive fun experiences as children, are essential for the development of a sense of responsibility for protection of the environment as adults.

Our Watershed Association has done its part to provide quality outdoor experiences for young people through its Mini-monster Mayhem and support of the WIP and Earth Day programs at Palisades Middle School. All of these programs



Snowflake

are hands on and require getting outside. We could do more. In 2014, look for us working more closely with the schools to encourage young people to participate in our watershed cleanups, stream bank restoration projects, and watershed monitoring programs. My personal resolution is to work with some kayaking friends of mine to start a Venture Crew (co-ed version of Scouting) that specializes in paddle sports. Won't you consider a New Year's resolution to bring a kid outside? Whether it's one of our programs, or the countless other programs at local parks and camps,

your priority for 2014. You never know what one positive experience might do when that kid becomes an adult and has his hand on the ballot lever for open space in your community, makes environmental decisions for a power company, or helps set environmental policy for the nation. An afternoon of your time just might make all the difference in the world.

Yours in conservation,

W. Scott Douglas

make getting a kid outside

Creature Feature: Fowler's Toad (*Anaxyrus fowleri*)

By: *W. Scott Douglas*

Number 28 in a series on the fauna of the Watershed

Let's face it, despite their reputation as "ugly", toads are pretty cute. They aren't slimy, don't sneak around, eat lots of bugs, and are reasonably unafraid of being watched, or even gently examined (although you might get peed on). At our Board meeting a few months ago Hans Reimann reported seeing a different kind of toad at his place in Springtown. He said it was whiter than the usual American toad that he frequently sees out on summer nights patrolling the old campground. I knew we didn't have a lot of species, but I was intrigued and decided to look it up. Although I didn't see the creature myself, I'm guessing that it was a Fowler's Toad. The Fowler's toad is a bit smaller than the American toad, only about 2-3 inches in length. Its key feature is its completely white belly. American toads have spots on all or most of their undersides. They also have more warts on the dark spots on their backs than the American toad, but flipping the guy over and looking at its belly is easier than counting warts. The only other true toad we have is the Spadefoot toad, but it is very rare here (more common in the Susquehanna watershed).

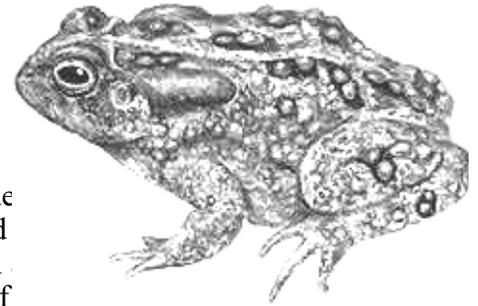
Toads are not at all dangerous to humans. The myth that they are poisonous is based on the fact that the parotoid glands – the large wart right behind the eye – secrete a nasty tasting substance when the toad is threatened. This will not cause warts, but it will make the average fox or raccoon change its mind about eating the toad. However, herons and hawks will eat toads, when and if they can find them. Toads eat a large variety of insects and other invertebrates, but they especially like worms and slugs. Fowler's toads are particularly fond of beetles and ants. All toads are nocturnal feeders, and tend to gather around lights at night to feast on the animals that are attracted there.

Toads breed from late spring through the summer. The male calls the female to him using a song generated by gulping air into its extremely flexible throat sac and pushing the air out its nostrils. Songs are distinctive. American toads call in a long trill that everyone has heard, but might not have known what it was. The Fowler's toad on the other hand has a short w-a-a-a-h grunt that is much harder to recognize. Like all amphibians, toads must go to water to breed. They prefer vernal pools, but will

also use roadside ditches and mud puddles, as well shallow inlets of more permanent bodies of water. Like salamanders, they prefer to lay their eggs out of reach of fish and other predators. Toads lay an amazing number of eggs – up to 8,000 – in long strings. Unfortunately, the chosen puddle may dry up before the small black tadpoles are ready to metamorphose and move out. But if all goes well, hundreds of little half inch long toadlets will emerge. Toads reach maturity in 2-3 years, and will live up to 10 years in the wild. Captive toads can live up to 30 years or more.

If you wish to find toads, go out at night around your house with a flashlight. Trails down by the creek and around vernal ponds are also good spots, particularly in breeding season. It's fun to try to identify the various calling amphibians, but it can be pretty frustrating to try to find the critters as they tend to quiet down when you approach. Get into a good comfortable viewing position, stay still and wait. They are not skittish of your light, so you can feel free to shine it around and watch the males sing. The internet has a whole lot of links to audio clips to hear their songs before you go. Although you can certainly keep a toad as a pet, it's pretty easy to "keep" them outside in your garden. Many garden supply shops and catalogs have "toad houses" for sale. Place the house in a moist shady spot, with good loose soil underneath, and near a street or porch light. Chances are good that the toad you attract will be a common American toad, but if you happen to see a Fowler's, do let us know. They are a species of special concern in Pennsylvania.

Editor's note: You may want to review the "Children's Backyard" page of the Spring 2011 edition of the Cooks Current for more information on creating your own toad house.



Green Tip # 25: Packing Peanuts

As you clean up the holiday decorations, wrappings and associated debris, save those packing peanuts! The Parkside Orchid Nursery on Rt. 563 in Ottsville has need of all the packing material it can get for shipment of flowers around the world. Just pack them up in a garbage bag and drop them at their shop - west on Rt. 563, about a quarter mile from the light on the right. They will take any kind of packing peanut, but make sure to remove other debris first.

Reuse is even better than recycle!!



“Birdtown” Stewardship Training Date Set!

Last spring, CCWA and Springfield Township’s Environmental Advisory Council (EAC) entered into a financial partnership to bring the Audubon “Birdtown” habitat program to Springfield Township. Since the majority of Springfield is in the Cooks Creek watershed, we felt the Watershed Association through its members, could benefit from all that Audubon has to offer. The “Birdtown” stewardship training program set for April 12, 2014 has six seats reserved, at no cost, for CCWA members, regardless of which township the CCWA members reside in. Springfield Township residents within any watershed boundary are eligible for another six free seats at the training table, thanks to the Springfield Township's Environmental Council's tire recycling fund raising program. This stewardship training program will be held in Quakertown with time and exact location yet to be determined by Audubon. Please contact Springfield Township’s manager at 610-346-6700, ext. 12 to reserve your spot. Be prepared to spend most of the day at the stewardship class. After the six CCWA slots and the first six Springfield Township seats are reserved, any remaining seats will cost 55 dollars, per person. In return for your attendance, it’s expected that you share the information with others. So, we look forward to your interest, and may the birds be with you.



Alternate Energy

By Jim Orban

When you go away from home, how do you do it? Do you walk or run or bike or drive? When you pick one of these modes you choose between two alternative fuels to move your body down the road. When you rely on your legs to move you the energy comes from the sun to grow the food you eat. When you get into your car and drive, the energy comes from the sun through a rather complex transformation involving plant material, a long period of time, some heat and lots of pressure to make oil. Then, after drilling, pumping, transportation, refining and even more transportation the oil is transformed into the motion of your car, moving you down the road. When I described the food as fuel in such a short way I was leaving out the huge worldwide network of food production and transportation that supplies us with whatever food we want whenever we want to eat it. It seems that both sources of fuel could use some simplification in the way sunlight is delivered for our transportation.

For both of these fuels the primary source is the sun, followed by plants that use the energy to create biomass either for our culinary pleasure or to be stored away for an eternity or two while it is transformed into oil. There are problems with both of these energy pathways. The journey from the sun to our travel down the road is long and involves a lot of energy use along the way. So, what would be the ideal? Where should our fuel come from? How will we feed ourselves and feed our need to travel? How do we shorten the pathway from the sun to us?

The sun shines on the whole earth in differing degrees of intensity and for varying lengths of time each day. For us, here in the Cooks Creek Watershed, the sun affords us seasons of hot, cold, dry, rainy, warm, snowy weather that when taken as an annual progression of days would allow us to grow

most of the food we need to live through that annual progression of seasons. So, we could eat locally. We would never have oranges but we could have kiwis and apples and grapes. If I was going to live on a local diet, growing some of it myself, there are lots of things I'd have to learn, but I could do it.

Now, what about my car? How do I get sunshine to take



my car and me down the road? Like most cars, mine burns gasoline and that fuel is already ruled out because of its long distance from the sunlight energy it contains. Even fuels like ethanol and biodiesel, which sound proper, are far from the sun when the processes to get them into my fuel tank are considered. What about electricity? What if I bought an electric car and hooked it up to the 5.5 kw solar array on my roof? That seems like the answer until I want to visit my cousin who lives beyond the 100 mile round trip range of my battery charge. The closest thing to an answer is a hydrogen fuel cell powered electric car, like the Honda Clarity. Here the problem is that most of the commercially available hydrogen is made from natural gas and, again, far from the sun. FireWater Fuel Corp. of Canada has a new and cost effective way to produce hydrogen from water by electrolysis using solar and wind power that could, in a few years, move hydrogen a lot closer to the sun and make it a more friendly fuel.

Now I am at least out the door and my decisions on which type of fuel should get me down the road is made. The first trip is on foot. Go out and get the newspaper. The second is by car. Go to Meeting for Worship, since its Sunday. When I get home I think I'll start planning the garden.

Cooks Creek Watershed Culvert Survey

By: Joe Mihock

It is well documented that dams on our streams and rivers can block the free passage of fish and other aquatic organisms. In our region migratory fish species such as striped bass and shad have all benefited from the removal of old and obsolete dams. Within watersheds, non-migratory fish such as Cooks Creek's trout also need to be able move freely throughout the stream system. Though less visible than dams, a no less important threat to fish movement and the overall health of stream ecosystems are the many culverts that streams pass through when crossed by a road.

Either poorly designed for fish passage or installed with no thought to fish passage, culverts can act as barriers to fish in a number of ways: the culvert can be perched above the stream bed so fish have to jump large heights (See Figure 1), high current velocities in culverts make it impossible for fish to move through, the water depth within the culvert can be too shallow (See Figure 1), and they may not provide resting areas for fish that are migrating upstream. These barriers then fragment the "connectivity" of the stream ecosystem (See Figure 2 for an example of a culvert that allows fish passage). Stream connectivity is important for trout in a number of ways: access to thermal refuge, spawning habitat, and eliminating genetic isolation of populations. Thermal refuge is important to trout during the summer months when they will often move into cooler tributaries when the larger main stem of the creek becomes too warm. Optimal spawning habitat is also often found in these tributaries. These formerly forgotten blockages are now receiving closer scrutiny in many watersheds.



Figure 1. Culvert #66 in the Cooks Creek Culvert Survey, moderately perched with shallow water depth within the culvert.



Figure 2. An example of a retrofitted culvert allowing fish passage.

<https://www.for.gov.bc.ca/hfp/frep/values/watershed.htm>

In the Cooks Creek watershed this scrutiny took the form of a survey of 97 "road-stream crossings", i.e. bridges and culverts, throughout the watershed. (There are technical and structural differences between a bridge and a culvert, for simplicity we will just use culvert.) The survey was done by members of the Cooks Creek Watershed Association (CCWA), the Bucks County Chapter of Trout Unlimited (BCTU) and project consultant Princeton Hydro. Completed in December, 2012, the survey was funded by an Embrace-A-Stream grant from Trout Unlimited's national office and is the first watershed-scale culvert survey done in Pennsylvania.

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Children's Backyard: Building Bird Feeders: *By: Debbie Orben*

This January, some nature loving, caring, and creative students at Springfield Elementary became habitat helpers by making bird feeders for the school playground and their own backyards.

You too can become a habitat helper by building bird feeders using simple natural and recycled items. You and your children can experiment with different designs and materials to discover what appeals to the feathered friends in your backyard. You will be helping the birds survive the winter and learning more about the wild and wondrous birds that make their home in the Cooks Creek Watershed. To learn more or to participate in Bird Town, PA visit pa.audubon.org.

Here is a list of suggested supplies:

- Pinecones, stale bread, or bagels
- Clean, dry plastic bottles or milk cartons
- String, yarn, fishing line, wire, or pipe cleaners
- Peanut butter or suet
- Cranberries, cheerios, grapes, raisins, oranges, or apples
- Birdseed

To make a pinecone feeder:

- Tie yarn or string to the top petals of a pinecone.
- Spoon peanut butter between the petals.
- Roll the peanut buttered pinecone in a container of birdseed.
- Hang the feeder in a tree.

To make bread or bagel feeders:

- Press cookie cutters into pieces of stale bread.
- Spread peanut butter or suet on the bread or bagel.
- Place birdseed in a plastic bag and coat the bread or bagel with the seed.
- Use a piece of string to hang the bread shapes or bagels from a tree.

To make a milk carton feeder:



Milk Carton Feeder



Bread Feeder

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To make a milk carton feeder:

Drill four holes in the center and near the bottom of the carton.

Insert two dowels or sticks, threading each one through two of the holes on opposite sides of the carton.

Cut 4 triangles in all four corners of the carton about an inch above the dowels

Fill the carton with seeds.

Insert a strong string or wire into the top of the carton and hang from a tree or hook.

To make a feeder from a plastic bottle:

Drill two small holes in the top of the bottle and thread wire or string through the holes to create a hanger.

Insert dowels near the bottom of the feeder and cut an opening for the birds.

Fill the bottle with seeds and hang where you can see it.

To make feeders with doughnut shaped cereal and fruit:

Thread cereal on a long piece of yarn or pipe cleaner.

You can also add cranberries or grapes or other fruit to your strings.

Hang on a tree with branches so the birds will be able to perch and reach your strings of treats.

To create a citrus fruit feeder that looks like an alien:

Cut a citrus fruit in half.

Poke pipe cleaners, toothpicks, or small sticks into the peel.

Thread cheerios, grapes, or cranberries on the sticks.

Spread peanut butter on the fruit side and dip into birdseed.

Insert a wire or thread and hang from a nearby tree.

This is only a suggested list of bird feeders you can create with your family.

Even your preschool children can help by threading cheerios on a pipe cleaner. Your older children might enjoy designing feeders in imaginative shapes using different combinations of materials. Hope you have fun creating feeders and watching for winged visitors.



Citrus Feeders (top and bottom)





Snow Pictures: Winter 2014



Snow on stack of firewood and evergreens



Tracks in the snow-human and birds...

(Continued from page five Culvert Survey)

To begin the survey process, project consultant Princeton Hydro utilized publicly available geographic data layers to identify approximately 100 potential road-stream crossings. Building from existing culvert assessment resources, the culvert survey protocol developed by the Vermont Agency of Natural Resources was adapted for use in the Cooks Creek watershed. Members of BCTU and CCWA were then trained by Princeton Hydro in how to survey culverts to identify those that are potentially blocking fish passage. In the summer and fall of 2011 members of both organizations then surveyed 97 culverts throughout the watershed.

After obtaining the volunteers' field data, which included data sheets and photos, Princeton Hydro reviewed the data and began the iterative process of demoting culverts that were not barriers to fish passage (e.g. were not perched and had adequate flow depth). Princeton Hydro identified 20 culvert retrofit sites and conducted follow-up site visits to confirm volunteers' findings, collect additional information, and identify any site constraints. The number of priority culverts was further pared down to eleven culverts (See Figure 3 for the prioritization ranking for all culverts surveyed) through subsequent prioritization based on:

1. Public or private ownership of the road;
2. Length of stream that would be reconnected;
3. Presence of trout;
4. Sub watershed size;
5. Proximity to the main stem of Cooks Creek;
6. Local geology;
7. Local land cover; and,
8. past water quality monitoring.

Private ownership (i.e. a private driveway) was considered reason for lower priority because private landowners may not be supportive and public grants may be difficult to obtain for work on private property. (This statement should not be construed as unwillingness by CCWA or BCTU to work with landowners, both organizations will do so to improve the ecological health of Cooks Creek, whether it is an impassable culvert or some other issue.) The length of stream to be reconnected was measured as the distance to the next upstream and downstream barriers. Presence of trout was based on BCTU and CCWA members' local knowledge, volunteer observations and existing sampling records from Pennsylvania Fish and Boat Commission. Crossings with drainage areas that are less than 0.25 mi² were deemed lower priority because they are less likely to support trout due to inadequate perennial flow. As one of the implicit goals of the project was to reconnect currently isolated tributaries to Cooks Creek; first barriers off of the main stem were given higher priority than barriers farther removed from the main stem with one exception: where native brook trout were present. Local drainages underlain by limestone bedrock yield better water quality and more moderate water temperatures; as such, barriers in those drainages were given higher priority. Similarly, local drainages with greater forest land cover yield better water quality and more moderate water temperatures; barriers in those drainages were given higher priority. Finally, volunteers from CCWA who conducted long-term water quality monitoring identified those barriers situated in sub-watersheds with relatively higher water quality.

Above, it was mentioned that where native brook trout are present, all potential barriers were assumed to have a higher priority, not just those closest to the main stem of Cooks Creek. It will be helpful to go into a bit more detail on this point. This exception was given to any culverts within the Coon Hollow Creek sub-watershed which is home to the only population of native brook trout in Bucks County. Since this is an isolated population in a relatively small sub-watershed, anything

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Fracking Update *By W. Scott Douglas*

If you follow this newsletter, you have seen a couple of articles on hydraulic fracturing or “fracking” and hopefully, have a better than average understanding of this resource extraction technique. This article provides an update on the local regulatory and legal environment on this topic.

In 2005, about 300 Nockamixon Township homeowners signed oil and gas leases with a Michigan firm called Arbor Resources which would allow Arbor or its partners to build drilling platforms on their properties. At the time of the lease, homeowners only received about \$100 each, but agreed to a percentage of any potential profits that might be made. This gas would be coming, not from the now infamous Marcellus Shale, but from another deposit known as the Newark Shale. It is much deeper, but still the third richest natural gas formation on the east coast, according to the US Geological Survey. Nockamixon Township immediately tried to prevent the drilling, citing concern over its fragile aquifer and surface water resources.

In May of 2009, the Delaware River Basin Commission (DRBC) declared that it needed to review all oil or gas drilling applications in the Delaware watershed (which includes the Cooks Creek Watershed), citing its mandate to protect water quality and quantity for the 15 million people who depend on the Delaware for drinking water. In May of 2010, the DRBC levied a moratorium on all permit applications, stating a need to develop new regulations for hydraulic fracturing. These regulations were issued for comment later in 2010. However, the deluge of comments and threatening lawsuits slowed the required revision process so much that the regulations were not offered for adoption until late in 2011. However, before they could be adopted, the Commissioners pulled back the new regulations, stating that they did not have the votes on the 5-person panel to approve them. The DRBC is overseen by the Governors of Pennsylvania, New York, New Jersey, Delaware, and the US Army Corps of Engineers. Only Pennsylvania has been vocal about its support for fracking. At their July 2013 meeting, the DRBC reported that since that time they have been reviewing regulations and studies to determine what the best way to proceed might be. There is no indication when the DRBC might release its new regulations.

In the meantime, the Commonwealth of PA enacted a landmark piece of legislation regarding drilling for



natural gas and oil known as Act 13. The Act passed in 2012 and essentially stripped all municipalities of their ability to pass zoning regulations regarding where and how energy companies would be allowed to drill in their jurisdictions in exchange for a share of a somewhat meager “impact fee”. Most Townships have found that the actual reimbursement is so far below the impacts resulting from noise, property loss and road damage as to hardly be worth collecting. Nockamixon

Township actually sued the Commonwealth over the Act stating that they were not confident of the ability of PADEP to properly oversee the activity and prevent impact to water resources.

An interesting aspect of the lawsuit revolves around Article 1, Section 27 of the Commonwealth’s Constitution, which reads:

The people have a right to clean air, pure water and to the preservation of the natural, scenic, historic and aesthetic values of the environment. Pennsylvania’s public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all people.

In October of 2013, Arbor Resources pulled out of Nockamixon Township. They clearly stated that they would no longer pursue permits with the Township, or the DRBC, or the Commonwealth. However, their leases could be sold to their partners or others who might be interested; in fact some of them were already sold to another company called Pasadena.

It seems that there are many companies that are willing to wait and see how things develop.

In a stunning development, at the end of December last year, the PA Supreme *(continued to page eleven)*

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Court struck down some of the most controversial aspects of Act 13. In their 4-2 decision, the Supreme Court ruled that the Act was a blatant attempt to violate the Commonwealth's Constitution, specifically Article 1, Section 27. Other aspects of the law, including impact fees, remain valid, so don't view this action as a statewide moratorium on drilling, quite the opposite. In fact, I would argue that by removing the zoning override, local Townships will need to quickly enact zoning regulations regarding fracking or be stuck with the Act 13 interpretation of "drilling anywhere and everywhere". Many, including those in the Cooks Creek Watershed, could do worse than to follow Nockamixon's lead on this issue. And just in case you think you've heard the last on this: the Corbett administration has appealed the ruling. We'll keep you posted.

*(Continued from page thirteen , **Back to the Past**)*

voted to turn part of the long hillside across from the farm into a wildlife trail. We conducted several trial walks and then seriously laid out a path, mostly in woods, but also from nearer the house. Rare sedges had been found in Peter's pond area and we had to see those. There were also reports of a rarer still bog turtle. That was the first time I clearly recall working with Lois Oleksa. Together, in Peter's part of the creek, we came upon a geode, a whole geode. Secretly, I wanted to keep and open it, but I knew that as an environmentalist I should leave Nature alone. We put it down. I wonder who found it next. It was my husband, John, who designed and made the boxes for guided directions for the eventual trail; I wrote the directions. The trail is still there despite changes of hand and family tragedy.

Like the people at Peace Valley Conservancy, we tried for a while to conduct Sunday afternoon nature walks on the trail. Peter and Kevin found a weird character who called himself Mountain Man Mooney to lead one such hike. The rough person seemed to know more about ginseng and marijuana than about wildflowers. I'm sure other walks were more rewarding.

As we matured as an organization, some inevitable specialization occurred. There was a fairly large group that met every Saturday afternoon to try to negotiate right-of-way for fishermen along portions of the creek in private hands. When cold water status was denied, at least in part because of livestock damage to Creek banks, work projects were organized to repair damage by using gabions and shoring up banks. Unfortunately, my Saturdays were already occupied in other ways and I could not participate. For those who did, the work days became the heart of our mission, especially those that took place on a section of land near what was then Ulmer's Dairy near Durham. The Oleksa's were much involved there, and so I would hope that it is to Lois that I pass the dinosaur bone wand of the old timers and emeriti. Long Live the Watershed! *(End of article)*

Back to the Past *By: Marjorie Hunt*

A column highlighting items of interest concerning the historical features of the Watershed.

This quarter is devoted to the early history of the organization, Cooks Creek Watershed Association.

It makes sense that if Tat Moyer gave you the first chapter of Cooks Creek Watershed Association history, I should be the next graying dinosaur to come forth. (Editor's note: see the Fall 2013 issue of *Cooks Current*.) I got into the association at just about the same time that Tat, still teaching at the time, became less active in it. My joining was not entirely voluntary. Anke Ellis, one of the early members, had more or less strong armed and shamed me into attending meetings. We'd just moved into the Springtown area, and having been burned out by involvement in many organizations in our former town, I had vowed to be a dedicated non-joiner for a while, out of an instinct for self protection. On the other hand, I did consider myself an environmentalist in the early and often most evangelical part of the movement, and it didn't take much shaming from Anke to bring me in.

Of all the members at that time, Anke may have been the most vociferous and often the most active. She was our representative to larger and umbrella groups like the DVRPC (Delaware Valley Regional Planning Commission), attending their meetings, and others, even when it meant much driving on her part. She was also our liaison with other Watersheds. Later, we often went together to meetings in Philadelphia, but she was the one who kept up with the reading and the work, always trying to involve our group in the larger pattern. Ironically, Anke was probably the reason I left the organization when I did, some ten years later, although my increased involvement in Lehigh University life and my full-time writing and editing job may also have contributed to my decision.

The other people I recall from those days were Peter Fuller who later became president and let us meet in a sort of clubhouse on his property; Jere Knight, a well-known local personality and a shaping force in the group, always spurring petition drives and campaigns; Barbara Hahn, perhaps the hardest worker of us all, with a fine mind for the science behind what we did; Dick Reihman whom I associate particularly with the annual tree sale and pre-sale preparation sessions in the firehouse or the Meases' garage, and who was dependable, but seemed sad, perhaps because of the recent death of his son; Sam Workman and his Nebraska-born wife who'd retired to the area and who (particularly Sam) did a pamphlet on local history; the newlywed Orbens, always hard working particularly on work projects and trash pick-ups, with Debbie's particular dedication to ending nuclear power dependency; Binny Silverman and Kevin Dilworth, not married yet but always sitting entwined at the meetings in the church on Main Street, Springtown; and others who, I'm sure, will pop into my mind as I write. The Meases, already involved in the Audubon Society as well, were less active, as was Tat, Ginny Derbyshire who faithfully tested the Watershed's then near perfect water and reported to us, and Renee Miller, who later started a recycling program. Renee Watterson was also involved, as were Rosi McIlwain and Nancy McNamara. Later arrivals were Lois and David Oleksa who really pitched in in all ways.

So what did we do in all those weekly meetings and working weekends? To begin with, we elected officers and ran meetings by some approximation to the Roberts' Rules of Order, though some of us cared more about that aspect than others did. As I recall, there was a period when some of us were working on revisions to the mission statement and by-laws, a time consuming and less than stimulating exercise that organizations feel compelled to do. A nominating committee put forth a slate that we voted in. Not long after I joined, I was asked to be secretary. Knowing that it was easier to hide behind a notepad than to speak at meetings, I agreed. Little did I know that I would become what the fading Soviet Russians of the time would call a permanent secretary. I kept the position for about eight years, I think, through the presidencies of Barbara Hahn, Jere Knight, Peter Fuller, and perhaps others.

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For such a relatively small active group, we had taken on a good bit of work, by ourselves and with others. Each year we raised money through a tree sale. Subsidized small saplings of evergreen varieties were collected from some larger environmental group and, always on some freezing evening in very early spring, repackaged into small bundles. These were on sale at the firehouse. There was also a trash collecting day though, as Tat said earlier, not as big as the present one. A covered dish meal with a speaker or forum was held, sometimes at the Durham mill, fairly late in October. Many earlier members and non-member community people turned out for that. Occasionally, we also had speakers for Tuesday night meetings. I visualize those as having been held at a Springtown church, but there must have been other venues too. I recall one meeting addressed by a representative of the energy business advocating nuclear plants as the answer to all man's ills. Later groups would have listened less politely than we did, I think.

Occasionally, we heard from other groups or projects, such as a movement to install bluebird houses or one to encourage cold water fish or bats. Even back then, we were hoping to become eligible to have the Creek rated as a cold water habitat. In that, we cooperated with Trout Unlimited. So far, I've just been talking about the usual ho-hum 9-5 activities, but where would a watershed association be without crises?

The first of those that I recall started with a plan of the Interstate Energy Company (a subsidiary of Pennsylvania Power and Light) to establish what they called a "break-out facility" in a field in Pleasant Valley. Rosi McIlwain, and perhaps others, had already circulated a petition in which neighbors of the intended site objected to it. We were to continue that effort, but also to present a position paper on possible environmental damage projected to result from the facility. Jere Knight, Barbara Hahn, Jim Orben, several others, and I went into high gear. I most remember interviewing a geologist on the damage to soil resulting from oil spills and leakage. I learned how leakage is discovered, what types of petroleum products and raw materials are carried in pipelines, how storage facilities function, and much more that I have forgotten. I wrote that section of the lengthy document we were to present, while others covered other aspects such as potential damage to wildlife, to streams, and to soil. Jere Knight, who was the general coordinator, although Barbara Hahn did most *(Continued from page thirteen From the Past)*

of the work, kept insisting on summaries, summaries of summaries and so on. I learned that in spite of her present Quaker and pacifist ideals, she had once worked as a WAC (Women's Army Corp) and that is how military documents were to be done.

When the hearing finally arrived, it was held in the Township Building, and brought out a crowd larger than I had ever seen in the area. Almost all were on our side. Close to the last minute, I'd gotten such bad stage fright over having to stand in front of so large a group that I'd begged my husband to stand in for me. This he, in his kindness, did, to my great relief, in the process probably being acknowledged as author of the document he'd barely read up until then. It was sort of like the solicitor/barrister system in England, I guess. It was weeks before we knew the outcome of the presentation at the Springfield Township public thirteen meeting. Reports had it that the Interstate Energy people felt as if they had unwittingly walked right into a buzz-saw. They'd assumed ours was a rural and uneducated sector and they'd had the surprise of their careers. Of course, they just moved their plans

to another, less belligerent, township—Lower Saucon. But we did do some good. Breakout facilities are ugly as well as being dangerous. This one would have been near a school and close to water supply recharge. I've often wondered how life would have been changed for us all had it gone through.

Winning one battle encouraged us in others. The next time I recall having to enlist the help of my husband, though, was when Peter Fuller was improving his property on Slifer Valley Road, and we

(Continued to page eleven)

*(Continued from page nine **Culvert Survey**)*

that can be done to improve stream connectivity within this sub-watershed will help Coon Hollow brook trout. Even though the purpose of the culvert survey was to identify and remove barriers to fish passage, an exception was once again made for the Coon Hollow brook trout. Most of the main stem of Cooks Creek is populated by wild brown trout, which are a non-native species (though occasionally a wild brook trout does turn up in the main stem). Where they occur together, brown trout can out-compete brook trout and replace brook trout in the stream ecosystem. The culvert under Old Philadelphia Road was identified as a likely barrier to the movement of brown trout from Cooks Creek into Coon Hollow Creek and so it was determined that the best course of action was to leave this barrier in place. The overall goal for the Coon Hollow Creek sub-watershed being to remove barriers within Coon Hollow Creek but to keep it isolated from the brown trout in Cooks Creek main stem.

For the Cooks Creek watershed overall, our conclusion was that the main stem of Cooks Creek is relatively well connected (See Figure 3) which is of course good news. Of the 11 culverts that were identified as potentially appropriate for a retrofit effort, it became apparent that many potential target culverts were situated consecutively. As such, removing consecutive culverts created an opportunity to maximize the length of stream reconnected. As a basic means of comparison, the length of stream per barrier removed was calculated for each group of consecutive barriers, which helped identify a pair of crossings with the highest priority: sites 19 and 20 (See Figure 3). Temperature monitoring by CCWA also showed that this tributary remained colder than the main stem of Cooks Creek throughout the summer months and so was a likely thermal refuge for trout.

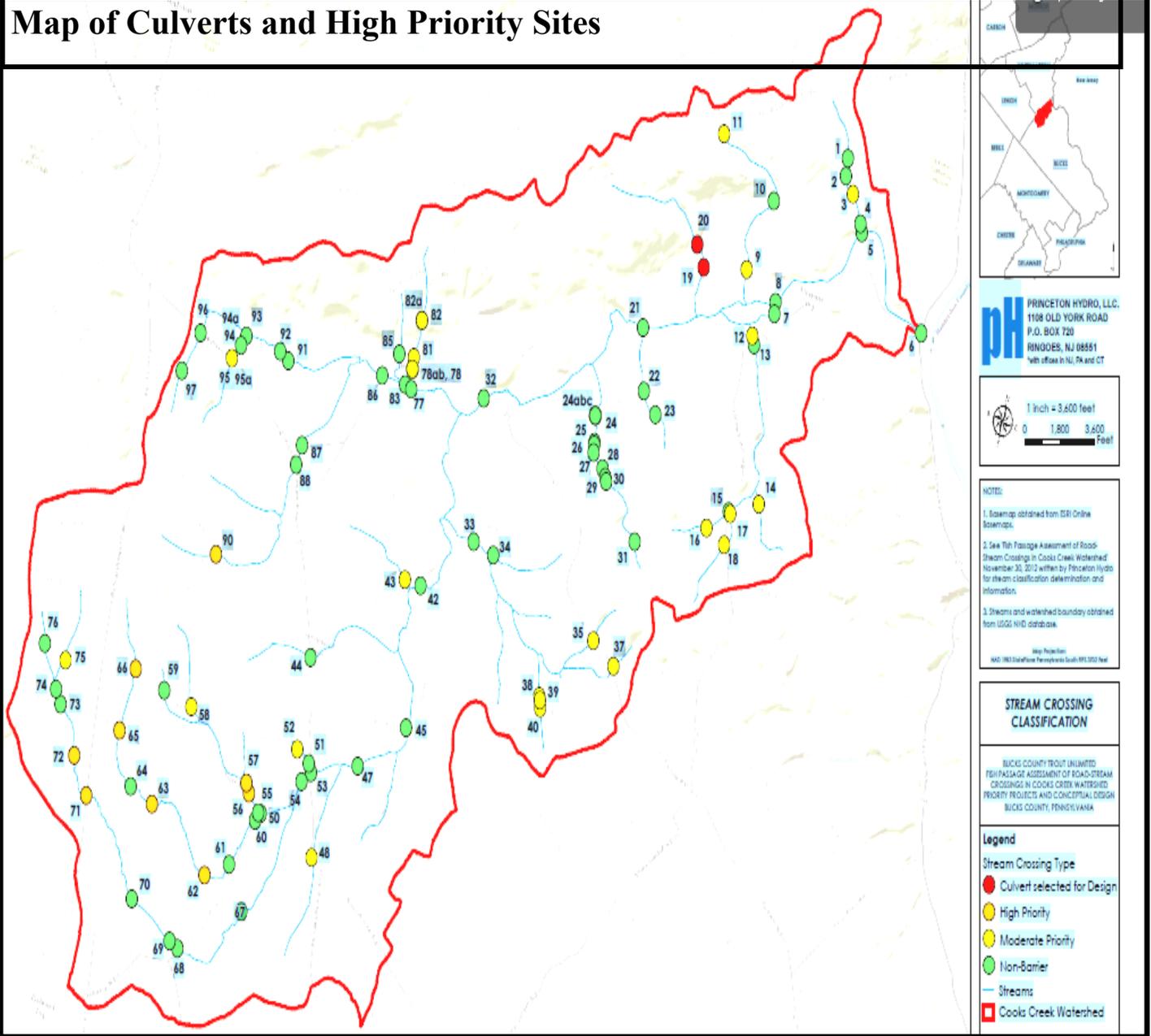
Even though the assessment protocols indicated that Culverts 19 and 20 were likely barriers, we wanted to be certain of our findings as retrofitting a culvert for fish passage can be costly. We asked the Pennsylvania Fish and Boat Commission whether they could do an electroshock survey of this tributary to confirm whether or not brown or brook trout were present. The Fish Commission staff kindly made time in their schedule and surveyed the tributary in December, 2013. They found wild brown trout present above and below both culverts, obviously indicating that the culverts are not a barrier to fish passage.

With these results in mind members of CCWA and BCTU will now go back and take a closer look at the other prioritized culverts and discuss the potential for retro-fitting them. Watch future newsletters for more on this issue.

(Continued to page fifteen)

(Continued from page fourteen **Culvert Survey**)

Map of Culverts and High Priority Sites



Map of Culverts and High Priority Sites

High priority sites are: 55, 57, 62, 63, 65, 66, 71, 72, and 90.

(These are listed for ease in reading the legend.)

Recycle!

Local Recycling Information

Durham Township Recycling Center

Location: Municipal Building, 215 Old Furnace Rd, Durham

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

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

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

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 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 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: 3rd Tues. @ 7:30 PM

Lower Saucon:
www.lowersaucontownship.org

610-865-3291
3700 Old Philadelphia Pike
Council: 1st and 3rd Wed. @ 7 PM
Planning Commission:
3rd Thurs. @ 7 PM
EAC: 1st Tues. @ 7 PM

Williams Township:
www.williamstwp.org
610-258-6060
655 Cider Press Road

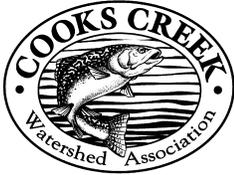
Supervisors: 2nd Wed. @ 7 PM
Planning Commission: 3rd Wed. @ 7 PM
Land Preservation Board:
3rd Mon. @ 7 PM

Richland Township:
www.richlandtownship.org
215-536-4066
1328 California Road

Supervisors: 2nd and 4th Mon. @ 7 PM
Planning Commission: 3rd Tues. @ 7 PM
Preservation Board: 2nd Thurs. @ 7 PM

Meet Rose Strong, our newest CCWA Board Member

Rose Strong has lived in Springfield Township for 22 years. An active member of the community, Rose's involvement has been through volunteer activities in the township's Historic Commission and was one of the founders of the Springfield Township Community Day. Rose currently works in an integrated marketing and public relations firm in Doylestown, Pa as an office administrator. For the past 12 years, she has been a freelance writer for the Bucks County Herald, where she first encountered Cooks Creek Watershed Association and has been following their activities and events ever since. She joins the board as the marketing and PR specialist. Rose lives with her life partner of 27 years and their menagerie of four-footed and feathered creatures.



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

If you hold precious the beauty that surrounds us in the Cooks Creek Watershed area and would like to be actively involved in its preservation, then consider joining our association as a member. Reach out to your community! We would love to hear from you! Please drop us a line at info@cooks creekpa.org

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



Find us on Facebook

Please Join Us... Cooks Creek Watershed Association-Membership Form

All of us who reside in the area enjoy the beauty of Cooks Creek.

Those of us who are fortunate enough to live here are dependent upon this watershed not only for the beauty of the creek but our wells, the wetlands, the wildflowers and all of the beautiful landscapes in our townships.

It's up to all of us to protect this treasure. The Cooks Creek Watershed Association asks that you become a member and help in the task of protecting this special resource.

Name: _____

Other household members: _____

Address: _____

Phone: _____ E-mail: _____

Interests: (circle)

Newsletter	Website	Roadside Cleanup	Event Planning
Membership	Fundraising	Stream Studies	Wherever I'm Needed

Individual Membership Fee: \$ 15.00 per year _____

Family Membership Fee: \$ 25.00 per year _____

Student Membership Fee: \$ 10.00 per year _____

Donation: _____

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.