



PEEC
Pocono Environmental
Education Center



Summer Solstice 2013

Seasons

A Quarterly Publication to Advance Environmental Literacy



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**Pocono Environmental
Education Center**

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Fireflies

By Laura DeWolff

Last summer I had some extended family visiting from California. During their stay, they visited New York City, took in a football game, and had plenty of barbecues. The thing the kids in the group enjoyed the most was catching fireflies. There are no fireflies in California, or most of the western half of the U.S. It is generally believed that the western U.S. is too arid for fireflies to live, so the thousands of species that do exist in this country are primarily found in the east.

Fireflies are in the family *Lampyridae* and are actually a type of beetle. Their larvae eat other insects. With the exception of a few species, it is not known what the adults eat, or if they even eat at all.

Lampyridae are famous for their bioluminescence. The glow of these beetles is due to an oxidative enzyme called luciferase and fireflies blink for a variety of reasons. Most species blink as a way to attract a mate. Some species, specifically females of the *Photuris* genus, will mimic different species of firefly as a hunting tactic. After luring in her unsuspecting prey, the *Photuris* firefly devours them.

Each species has its own style. In some species, both males and female blink, and in some it is only the female. Some species merely glow. There are even diurnal fireflies that have no bioluminescence. These species find mates through pheromones rather than light.

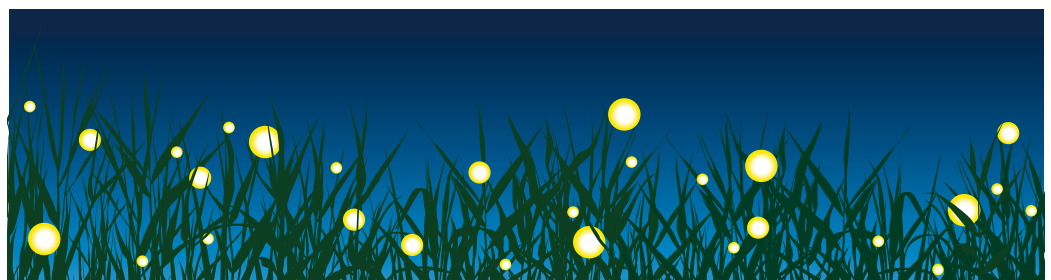
Out of the lightning bugs that do blink, each species also has its own unique pattern. This pattern can be referred to as an oscillation, which refers to the pattern of change between two different states (blink on, blink off). In fireflies, this pattern is more specifically called a coupled oscillator, because each firefly reacts to the blinks of other fireflies. Though oscillations are often discussed in physics, they crop up frequently in biology.

There are a few firefly species in south-east Asia that synchronize their blinks on a very large scale. Videos of these fireflies appear as though someone has strung up Christmas lights that all blink on and off together. Less well-known is the North American species *Photinus carolinus*, which also displays a degree of synchronicity. These fireflies are frequently observed in Tennessee, but have been seen as far north as Pennsylvania.

The displays of these synchronous species are magnificent to observe, but they are also fascinating to mathematicians. The models of these blink patterns bear similarity to seemingly unrelated biological systems including circadian rhythms, pacemaker cells in the heart, and insulin-secreting cells in the pancreas.

Despite being an insect that most people not only tolerate, but genuinely love, fireflies are seeing a drop in population size due to loss of habitat and light pollution. During the day, many species of firefly shelter in the grass, so frequent mowing can disturb them. You can help provide habitat for fireflies by adding long grasses and water features to your landscaping, and by limiting your outdoor lights at night. By doing this, you should be able to sit back in the evening and enjoy a beautiful light show.

References: Renato E. Mirollo, Steven H. Strogatz. "Synchronization of Pulse-Coupled Biological Oscillators." SIAM Journal on Applied Mathematics. Volume 50 Number 6 (1990): pages. 1645-1662. Rank Smart. Firefly.org, 2013. May 17, 2013.



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Message from the Executive Director

Jeff Rosalsky



One of the key tenets of PEEC's mission is to engage, to encourage, and to foster hands-on science education. We want high school students to be inspired by science and to visualize the potential of what they can accomplish by pursuing careers in science, technology, engineering, and math.

Gifted and passionate science students need to be nurtured and wooed. Many of these same students, who have amazing scientific promise, are equally talented in other disciplines. They have a full range of careers open to them and have the potential and the drive to succeed as investment bankers, lawyers, business people, or politicians. Environmental educators and the rest of the scientific community need to recognize that we are competing for the same talent pool, which is often enticed by the lure of money and power other careers may offer.

Biology, chemistry, geology, engineering, and physics offer the potential of discovery and fundamental change to society. A student chipping away at a rock and uncovering a trilobite that has been hidden for 400 million years, examining the bones of a black bear to determine the cause of death, or extracting DNA from a strawberry -- it is all inspiring stuff. It is the lure of science. The more of these experiences we can provide to students at PEEC, the better our chance of inspiring the next generation of scientists and scientific discovery.

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Getting Outside

By Molly Check

"I only went out for a walk and finally concluded to stay out till sundown, for going out, I found, was really going in." – John Muir

Springtime in the Poconos is a truly glorious transformation. Many of us have been out for months – exploring the woods, admiring the first wildflowers, watching waterfalls at high water, and generally reveling in the beauty of the season. As the temperatures continue to climb, our hearts become lighter as we look forward to the warmest season of them all – summer. It is arguably the most appropriate season for outdoor recreation and the possibilities seem endless. Hiking, fishing, boating, gardening, swimming, birdwatching. Visiting the ocean and standing on the edge, feeling small. Or feeling big. Just feeling. The wind in your hair and the sun on your face. Summertime is the right time for getting outside. The warm weather lures us out and the good smells and sunshine keep us there.

Look around you and see what there is to see. Take a trip to a neighboring state and explore its natural areas. Plan an outdoor event in your community. Take a walk to your city park. Better yet – when you get there, look under a rotting log. Maybe you will see a salamander, an ant colony, or a spider's web. These glimpses of nature – even in urban areas – can connect us to a bigger picture and global rhythms. Rachel Carson wrote that "those who contemplate the beauty of the Earth find reserves of strength that will endure as long as life lasts." There is beauty all over this wide, wonderful world. But it's up to you to go looking for it.

As you go about your busy, chaotic life, remember to take time to go outside. We are different from other animals that roam the Earth in many ways, including our tendency to build complex indoor structures for ourselves. Sure, the birds build nests and beavers create their own habitat, but we have houses, buildings, cars, offices, and walls built up between ourselves and the natural world. It's too easy to separate yourself. Too easy to get stuck inside.

This summer, choose to experience the outside world in a whole new way. Do something you've always wanted to do, but never have.



You have to make the choice. Run out the door. Jump over the back fence. Get outside and mess around. There's a lot to do. For some of us, a gentle walk around the block is relaxing enough to take our mind off the problem we've been worried about. Especially when the birds are singing or the flowers are blooming. For others, there's no better way to unwind than to kayak down a raging whitewater river. Keep looking until you find the perfect outdoor hobby for yourself. Then find another one. Keep exploring. Keep looking.

PEEC offers a wide variety of outdoor activities for you to enjoy. Throughout the summer, you can join us for nature hikes, canoeing, kayaking, fishing, wild edible walks, photography courses, or even drumming underneath the full moon. Visit the website www.peec.org for a full list of PEEC's public programs.



Summer Camp 2013

By Jessica Snyder

Summer Camp 2013 is shaping up to be one of our best summers yet. There are brand new changes to this year's programs, but don't worry...everyone's favorite activities like muckraking, canoeing, and swimming are here to stay! Below is a camp list of items and important facts to remember for parents and campers. A happy camper is a well-prepared camper.

Important Things to Remember:

- PEEC Summer Camp begins at 9am and ends at 4pm.
 - All personal items brought to camp should have your child's name or initials clearly printed on them.
 - Every Wednesday the campers will go on a trip to Camp Akenac where they will spend the afternoon swimming. There are three lifeguards on duty in addition to PEEC staff, ample grassy areas, and additional playground options and amenities nearby for children who choose not to swim. Please pack a swimsuit, towel, and any beach toys. Make sure to label everything with your child's name!
 - For your convenience our gift shop will be open on Fridays from 3:45 – 4:15. Your child must be signed out prior to taking them to the store.
 - We will be tie dying every week, usually on Wednesday. So on Monday (we like to make sure everyone is prepared ahead of time) please send in a white shirt, pillowcase, or even socks for your child to make a little more colorful.
- Please have your child bring the following to camp every day:**
- Lunch (reusable containers are preferred)
 - Non-breakable, re-usable drinking container
 - Extra set of clothing...just in case
 - Clothing made for hiking
 - Comfortable sneakers or hiking boots
 - Raincoat
 - Swimsuit, water shoes, & towel (Every Wednesday)
 - Shirt to be tie dyed (Bring in on Monday)

Hanging A Better Bear Bag

By Allison Owczarczak



"I can't find the bear bag!" This was often music to my ears whenever my Girl Scouts came back from the search for the group bear bag that was set up for the night. The funny thing was that I always let them choose the tree and hang the bear bag themselves, once I taught them the masterful way of outsmarting a bear.

One trick is that bears do not have the best eyesight, but do have exceptional smell. If they can smell your food, but cannot figure out where that delicious smell is coming from, that is step one in outsmarting a bear.

In the picture to the left you might see a black blob, ten feet from the ground, four feet from the tree trunk and three feet from the branch that is supporting the bear bag. The black blob appears to be floating in the air because it was hung

with 4mm black "paracord" or parachute cord. Paracord I can hold 95lbs, while paracord IV can hold 750. I use paracord III, and it is often called 550 paracord for the weight it can bear before breaking (no pun intended).

There is also a second trick that I use to prevent a bear getting my food -- two lines. To the right you will see that I used highly visible cord to illustrate the set-up I have on my tree. The light blue cord is what I tossed up and over the branch, while the multicolored cord is what the bear bag is hanging from. Note the pulley that I have employed on the multicolored cord; for eight-day trips with 12 campers, there's a lot of weight even with dehydrated food.



To the left is a close up of how I use the two cords over the branch. The light blue would be the one draped over the branch with a pulley, while the multicolored cord is what the bag is hanging on. I often go to a different tree with the bear bag line than what the supporting line is on. This way, if a bear finds my lines, it cannot simply pull my food up and over the branch since there is a counterweight. The second pulley again reduces friction to ease lifting a heavy food bag.

To the right is my bear bag kit:
 2 hardware store type pulleys
 2 lines of paracord (each 50 feet long)
 1 line of "high viz" cord with reflective tracers connected to one pulley to go around the girth of a tree trunk (This way I or my scouts can find it in low light conditions; a little recent tweak that I've fallen in love with.)
 1 bag to store the kit in



Species Spotlight: Poison Ivy

By Jessica Snyder

Toxicodendron radicans

Nearly every outdoor enthusiast will cringe at the thought of going through another episode of poison ivy and that's because most enthusiasts have experienced firsthand the effects of poison ivy. Few people are lucky enough to never experience the torture of that irresistible urge to scratch and the less than comfortable rash. So...as the saying goes...leaves of three; let it be and hairy vine, no friend of mine!

Poison Ivy is the nemesis of outdoorsmen and women alike. The good news is that poison ivy can be avoided and easily distinguished from other plants. Poison ivy can be found as a low ground plant near the forest floor, a ropelike hairy vine creeping up a tree trunk...or in some areas as a small shrub. The leaves vary in color from a shiny red in early spring, to green in the summer, and finally red and yellow during the fall. Some leaves are smooth and rounded and others can be lobed. The plant can be distinguished from others by the groupings of three leaflets and the hairy appearance of the vine. The vine appears hairy because the vine is actually covered in small hair like aerial roots. This allows the vine to grow up surfaces with ease; some vines can grow to impressive heights.



The poison ivy plant can take many forms, however urushiol can be found throughout all forms. Urushiol is an oil that can be found in the leaves, roots, stems and even the fruits (clusters of whitish berries in August to November) of the plant. It is this oil that causes people to have an allergic reaction. Unfortunately, the plant contains these oils all year long and it can remain in the plant for long periods of time even after the plant has died.

Poison ivy is often one of the first plants to recolonize a recently disturbed area and favors growing along trail and woodlot edges and in forest openings. Because of its prevalence in the area, it is best to familiarize yourself with plant identification and to avoid it the best you can.

So, if you're heading into the woods, remember to keep a sharp eye out for poison ivy along trail edges. Also, don't forget that urushiol can be picked up from clothing and even dogs that have come in contact with the plants. And remember...it could be worse; imagine if poison ivy and ticks conspired together.

New Programs at PEEC

By Molly Check

The 2013 public program calendar features some exciting new programs for you to enjoy! The bar is being raised and we're bringing in the experts to teach the new PRO and SPORTSMAN series.

The first program in the PRO SERIES was Herpetology (study of amphibians and reptiles), taught on May 18. Dr. Thomas LaDuke, Associate Professor of Biological Sciences at East Stroudsburg University (ESU), offered an in-depth look at the amphibians and reptiles of Pennsylvania. The enthusiastic participants were able to examine Dr. LaDuke's collection of preserved specimens and then search for them in the field. It was a very successful program; everyone learned a lot and had a fabulous time doing so.

The PRO SERIES continues with the Small Mammals program on June 29, from 4-9pm.

Dr. Howard Whidden, a professor at ESU, will use live mammals and taxidermy mounts to teach identification tips for the mice, moles, voles, and shrews of our area. This program will also include an evening study of bats and their echolocation calls.

On August 10, from 10am-4pm, join Bill Olson, acclaimed botanist, for a Ferns and Lycophytes program. Learn about these amazing plants in the field and end the day in the lab, using microscopes for an up close look. The last program in the PRO series is a Bird program on September 28, from 10am-4pm. Dr. Terry Master, Biology professor at ESU, is a very knowledgeable birder and will focus on the migratory habits of birds.

The PRO SERIES is \$30 per program or \$100 for four programs.

The first program in the SPORTSMAN SERIES was Introduction to Fly Fishing, taught on April

28. Tom Battista and Will Daskal from the Broadhead Chapter of Trout Unlimited taught the basics of fly fishing, knot tying, and casting. It was a fun afternoon and everyone learned some new skills.

The next program in the SPORTSMAN SERIES lineup is Taxidermy: Bring Out Your Dead, on July 20, from 1-3pm. Join Ronald Lewis from the Pennsylvania Taxidermy Association and learn the basics of taxidermy. The last program in the SPORTSMAN SERIES is White Tailed Deer – from A to Z, on November 10, from 11am-3pm. This program will feature a round table discussion highlighting different perspectives. How do the perspectives of a chef, biologist, and hunter differ when discussing *Odocoileus virginianus*? Join us, and find out!

The SPORTSMAN SERIES is \$20 per program or \$50 for three programs.

Contact PEEC at peec@peec.org to register or for more details.

Don't Retreat... Beat the Heat

By Mariann Oswald

The absolute last thing you want to do on a hot summer day is sit in a hot stuffy room in front of a hot computer looking up ways to keep cool that don't cost a fortune, to you and to the environment. So, on a cold dreary day I looked it up for you. Now, granted, a lot of the ideas/suggestions on this list are a bit odd and a few are just common sense, but it's always a chuckle to see what other overheated people think up to keep cool.

Start out cool

Rise and shine, sort of? Take a cool or tepid shower. Dress in loose-fitting, light color, natural fabrics such as cotton or linen. Avoid the synthetics. Mint is refreshing. Use a few minty or menthol products such as peppermint soap or powder. Keep body lotion in the fridge.

Already too hot? Cool down!

- Drink water or sports drinks. Ahhh, instant relief. Don't stop there. Drink, drink, drink... all day!
- Try the old wet handkerchief on the back of the neck trick. Or go one step further and use an icepack.
- Get wet starting at the top. Wet hair cools your hot head.
- Soak a shirt top in warm water, place it in freezer until cool, and then put it on.
- Soak your feet in cold water. Now I know why Auntie Rah always had her feet in the kiddie pool. Cold water on your wrists will cool you down. I find my wrists cool down quite easily just by reaching for the ice cream pops.
- Eat cold fruit or low fat dairy. One article suggested freezing chopped fruit such as watermelon, pineapple or lemons. Or, just suck on ice cubes.
- When was the last time you saw someone stuck in traffic with a cucumber slice on their forehead. It's on the list. I think I would use a cold can of soda or ice, but who am I to say.
- Eat spicy food. It increases perspiration, which is the natural way to cool down. Oh, and it also can cause an endorphin rush. Taco Bell, here I come.

Keep cool


- Fan-cy this. A fan uses only 1/10 the energy of an energy efficient air-conditioner. That's because fans only cool what they are pointed at. Don't leave fans on in an empty room, though. They don't cool the air and you'll be wasting electricity and \$\$\$.
- Keep the shades drawn on the sunny side of the house. It is amazing how much heat that solar disk can radiate.
- Turn off and unplug heat-producing electronics, like the TV and computer.
- Position fans in the upstairs windows to pull hot air out of the house. Downstairs, put fans on the floor to circulate the cooler air.
- One other suggestion -- fill plastic bottles with 70% water and 10% rock salt. Cap and freeze. When the room gets too hot, just put one of the bottles in front of a fan (keep in mind the bottle will sweat). Later you can refreeze. The ultimate "reuse".

Sleep cool

- Put your dry jammies in the freezer an hour before heading to bed. May I suggest putting them in a baggie so they don't get stuck to the frozen peas. Try the same trick with a small pillow. Boy, does that feel good under your neck.
- Keep windows open overnight. AND, open all interior doors, including closets and kitchen cabinets. That will let out the heat from the day and store up the cool air from the night. Close them in the morning, though.

Of course there are pages and pages and more pages of ideas, some great, some questionable (like hanging sheets on the outside of the house). But they all have one theme in common: there are plenty of ways to get and keep cool that do not require air conditioning. Personally, I'm just thankful I don't live in a REALLY hot place... well in the summer anyway.

For more ideas, (good, bad, or otherwise) check out:
www.wikihow.com/stay-cool-during-the-summer
www.wikihow.com/stay-cool-on-summer-nights
www.wikihow.com/stay-cool-and-feel-fresh-during-the-summer




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Learn from the experts! Join Dr. Howard Whidden, ESU Professor, for an in-depth look at the mice, moles, voles, shrews, and bats of the area. Use live mammals and taxidermy mounts to learn identification tips. Includes evening study of bats and their echolocation calls. This series also includes a fern program on Aug. 10, and a bird program on Sept. 28.

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Navy Showers and More (Water Conservation Tips)

By Sheri Bone

"Rain, rain, go away, come again another day!"

While some of the people along the Mississippi might be singing that, we in Northeast PA have had normal rainfall for this time of year and are not experiencing any major drought or flooding conditions. That does not mean, however, that we can be wasteful with our water. Water conservation practices should be observed every day. Water is our most precious resource and we need to be mindful of how we use it and how much we use.

Many water conservation tips are used every day. Children in school (and at home!) are taught to turn off the water when brushing their teeth. Families are encouraged to run the dishwasher only when it is full, and to check the water level on the clothes washer to be sure it corresponds with the amount of dirty laundry that is being cleaned. About twelve years ago, there was a very dry summer and the wells where I lived were almost dry. The whole town had to work together to use less water. Not everyone liked every tip, but using these tips helped keep the water flowing until the rains came. Hopefully we won't need to use 'drastic' conservation practices, but should the occasion arise, the following ideas are excellent ways to use less water, reuse water, and save water. If you pay for your water, it doesn't hurt to follow some of these guidelines every day so you can save money on your water bill!

- Check how much water flows from your shower. There are efficient shower heads for sale, and maybe yours is an efficient one already. To see how much water comes out of your showerhead, you can use a milk jug and a stopwatch. Turn on your shower and collect water in the jug and see how long it takes to fill. (You will need to cut a hole near the top of the jug so that your showerhead fits in.) If it fills too quickly, you don't have an efficient shower head. If it's a gallon, figure 30 seconds. If it's a half gallon, figure 15 seconds. Basically, you want to have a shower head that won't allow more than 2 gallons of water a minute to flow. Don't worry about pressure. The efficient showerheads are designed to force the water out so it feels like more water.

- Take shorter showers. In addition to the low-flow showerheads, taking shorter showers can really



save water. Can your family cut their showers to 5 minutes or less? Put a timer in the bathroom!

- Water really needing to be conserved? Take a navy shower. Here's how: Get your body wet, turn off the water, soap up and shampoo, then turn the water back on for a quick rinse. An on/off switch right on the showerhead is a big help. The temperature is perfect when you turn it back on!

- And to be even more water conservation conscious, while you wait for the water to get to the proper temperature before you get into the shower, collect that water and use it to flush the toilet or water plants. How to collect it? Put a bucket under the faucet while you wait. (Since it's clean, if you use a large pot to collect the water, you can use it for cooking!)

- When doing dishes by hand, use one sink to wash and one sink to rinse instead of running the water to rinse each dish.

- Install aerators on your faucets. They mix air into the water so less water comes out of the faucet all at once. When you wash your hands, this is a good

way to know you are saving water.

- Don't water your lawn. It may turn brown, but grass has a great way of coming back from a drought. Since everyone's lawns will match yours, you don't have to worry about 'what will the neighbors say?'

- Check for leaks in the toilet and drips from faucets and fix them!

- Need more ideas? Check out the following websites!
<http://www.njdrought.org/ideas.html>
<http://www.wateruseitwisely.com/100-ways-to-conserve/index.php>

Water. Our most precious resource needed by all living things. Take care of it. Don't waste it.



'Bridge the Gap' ... 'Over the River and Thru the Woods'

By Flo Mauro

The National Parks Foundation (NPF) recently awarded funding to the Delaware Water Gap National Recreation Area (DWGNRA) and PEEC for two terrific programs, 'Bridge the Gap' and 'Over the River and Thru the Woods'. 'Bridge the Gap', NPF's Active Trails program, will bring hundreds of local community members to the DWGNRA and PEEC. Many local families do not use the natural resources of DWGNRA and PEEC for reasons that include a lack transportation and awareness about what is offered. We are partnering with community organizations including Bushkill Outreach, Church of St. John, Reformed Church of Bushkill, and the Red Cross of the Poconos to better reach and serve these newer audiences.

'Bridge the Gap' includes monthly guided hikes from April to December 2013 on PEEC and DWGNRA trails. User fees are waived for members of partner communities, transportation to/from key community hubs is provided to increase visitation and minimize vehicular traffic, and healthy snacks will be served. Families are encouraged to bring a "dish to pass" for community meals after the hikes.

Three new "Hike, Bike and Paddle" programs will also be offered May through October. This new program will connect a trail at PEEC with a trail that runs the entire length of the Park (McDade Trail) and the Delaware River itself. 'Bridge the

Gap' participants can also work on the repair and maintenance of PEEC's trails, which were severely damaged during recent storms, and on a new, ADA compliant, public hiking trail.



'Bridge the Gap' participants will also receive a great looking tee shirt when they participate in 5 or more hikes with at least 3 being "Bridge the Gap" programs. For information, call PEEC... programs are already filling up!

'Over the River and Thru the Woods' is a three-part program for 500+ local 3rd and 4th grade students, including Delaware Valley and East Stroudsburg Area School Districts, introducing them to DWGNRA and PEEC. This initiative is being funded through NPF's Ticket to Ride program. The program consists of: 1) a pre-trip outreach program at each school site by PEEC staff to introduce some of the 'natural resources' the students might find while visiting the park, 2) an actual outdoor field trip day at PEEC that includes a tour of PEEC's EcoZone! discovery room. In the EcoZone!, students will investigate life size replicas of some of the 'things they might see' in the park, including a beaver lodge, bald eagle nest, black bear skeleton, skins and skulls of various mammals, fossils, plants and more. Then, students will hike on either the Two Ponds Trail or Fossil Trail, where they will see 'live' what they investigated in the EcoZone! and 3) a follow-up school site visit by PEEC staff to reinforce what they learned on their field trip and to learn about additional DWGNRA and PEEC programs.

'Over the River and Thru the Woods' takes place during the 2012-14 school years.

The National Park Foundation is the charitable partner to the National Park Service. The National Park Foundation directly supports America's 400+ national parks by pursuing three distinct, yet interdependent, areas of focus – conservation & preservation, education, and community engagement. The DWGNRA and PEEC have been fortunate to receive funding and support from the NPF for several PEEC programs, including First Bloom and Women on the Water.

For more information about the National Park Foundation and their national Active Trails and / or the Ticket to Ride programs please visit: www.nationalparks.org.



BRIDGE THE GAP
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- WILD EDIBLES WALK – SAT, JUNE 15, 10AM-12PM
- HIKE, BIKE & PADDLE (AGES 12+):
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 - PHASE 2: HIKE & BIKE – SAT, AUG. 24, 9AM-2PM;
 - PHASE 3: HIKE, BIKE & PADDLE – SAT, SEPT. 14, 9AM-5PM;
- FALL FOLIAGE HIKE – SAT, OCT. 19, 1-3PM

MORE INFO: 570-626-2319, PEEC@PEEC.ORG

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Adults \$210 / Discounts for Children /

Commuter & Day Rates Available

Bring your friends and family to experience the best of what PEEC has to offer. Nature hikes, animal presentations, swimming, canoeing, fireworks, campfire and more! Price includes three nights lodging and meals from Friday dinner to Monday lunch.

Frog Frolic

Saturday, July 13, 2013 | 1-3pm

Sunday, July 14, 2013 | 10am-12pm

Cost: \$5 per person

Join us for a fun morning at the ponds and streams! Learn about some of our frog friends as we gently catch and release these hopping amphibians. Wear boots and plan on getting a little wet and muddy!

Hike, Bike, & Paddle

Saturday, July 13, 2013 | 9am-12pm

Hike, Bike, & Paddle

Phase 1 -- The Hike

(Ages 12+)

Moonlit Drumming

Saturday, July 13, 2013 | 6:30pm-9:30pm

Cost: \$30 adult / \$15 child

Master drummer, Maxwell Kofi Donkor, is back for another unforgettable experience. Enjoy an introductory lesson and a drumming circle under the moonlit sky. Don't miss this great event! No experience necessary. Call to reserve a drum.

SPORTSMAN SERIES: 2 of 3:

Bring Out Your Dead

Saturday, July 20, 2013 | 1-3pm

Cost: \$20 (\$50 for all 3 sessions)

Learn the basics of taxidermy. Join Ronald Lewis from the Pennsylvania Taxidermy Association for a fun afternoon and learn some new skills.

Nature at Night

Saturday, July 20, 2013 | 8pm-9:30pm

Free for members / \$5 for non-members

A summer evening is the perfect time to head outside. Take a walk in the woods, listen for frogs and look at the stars.

Summer Canoe Paddle

Sunday, July 21, 2013 | 10am-12pm

Cost: \$5

Start summer off the right way! Paddle a canoe... and try out our new kayaks! Beginners are welcome – we teach you everything you need to know. Dress appropriately – you may get wet. Call to reserve your spot in a canoe!

EcoZone! Afternoon

Sunday, July 21, 2013 | 1pm-4pm

Cost: Free

Explore our new hands-on, discovery room. Crawl through the bat cave, sit in the eagles' nest, and more!

Wild Edibles

Saturday, July 27, 2013 | 10am-12pm

Cost: \$10

Nature provides food for us in the form of many plants. Join us on a hike focused on wild edibles. No collecting will be done within the Park. Call to reserve a seat in the van. Carpooling encouraged.

GARDEN SERIES: 3 of 3: Composting

Saturday, July 27, 2013 | 1-3pm

Cost: \$10 (\$25 for all 3 sessions)

Learn all about the advantages of composting and how to get started on this wonderful pastime.

EcoZone! Afternoon

Saturday, July 27, 2013 | 1-4pm

Cost: \$5

Explore our new hands-on, discovery room. Crawl through the bat cave, sit in the eagles' nest, and more!

Butterfly Walk

Sunday, July 28, 2013 | 1-3pm

Cost: \$5

Learn about the wonderful world of butterflies! Join David Trently on a search through the fields and around the ponds for butterflies and dragonflies. Call early – spaces fill up fast!

"Dog Days of Summer"

Family Nature

Getaway Weekend

From Friday, August 02, 2013

To Sunday, August 04, 2013

Adults \$195

Discounts for Children

Commuter & Day Rates Available

Experience the best of what PEEC has to offer – nature hikes, animal presentations, fishing, canoeing, crafts, campfire & more! Includes two nights of lodging and six meals.

Pocono Quilt Camp

From Friday, August 09, 2013

To Friday, August 16, 2013

August 9-11 – \$195 / \$145 Commuter

August 11-16 – \$395 / \$345 Commuter

Join Patti Shreiner for a relaxing time at the 12th annual Quilt Camp! Stay for the weekend or for the entire week!

Focus projects: Mariner's compass (Quilt Camp I) & Surface texture sampler (Quilt Camp II). Includes lodging and meals.

EcoZone! Afternoon

Saturday, August 10, 2013 | 1-4pm

Cost: \$5

Explore our new hands-on, discovery room. Crawl through the bat cave, sit in the eagles' nest, and more!

Introduction to Home Canning: Jam

Saturday, August 10, 2013 | 10am-12pm

Cost: \$20

Learn the basics of canning. Join Allison Taylor for a fun morning and leave with knowledge, experience, & a jar of jam!

Continued on Page 10



SUMMER PROGRAMS AND GETAWAYS

Continued from Page 9

PRO SERIES: 3 of 4: Ferns and Lycophytes, with Bill Olson

Saturday, August 10, 2013 | 10am - 4pm

Cost: \$30 (\$100 for all 4 classes)

Learn from the experts. Join Bill Olson, acclaimed botanist, for an in depth look at ferns and lycophytes of the area. End the day in the lab, using microscopes for an up close look. Bring a bagged lunch. Spaces limited - call to reserve a seat in the van.

Moonlit Drumming

Saturday, August 10, 2013 | 6:30-9:30pm

Cost: \$30 adult / \$15 child

Master drummer, Maxwell Kofi Donkor, is back for another unforgettable experience. Enjoy an introductory lesson and a drumming circle under the light of the moon. No experience necessary. Call to reserve a drum.

Sunday for Singles Nature Hike

Sunday, August 11, 2013 | 1-3pm

Cost: FREE

This monthly hike is all about meeting new people and exploring nature together.

Girls Weekend— Women in the Woods

From Saturday, August 17, 2013

To Sunday, August 18, 2013

Cost: \$99

Get away from it all! Enjoy a relaxing weekend that includes a nature hike, canoeing, yoga, campfire, astronomy, and more.

This wonderful new program includes a night in a comfortable yurt and three delicious meals. Register early!

Dragonfly Walk

Saturday, August 17, 2013 | 1-3pm

Cost: \$5

Learn about the wonderful world of dragonflies! Join David Trently on a search through the fields and around the ponds for dragonflies and butterflies. Call early - spaces fill up fast!

Frog Frenzy

Saturday, August 17, 2013 | 1-3pm

Cost: \$5

Join us for a fun afternoon at the ponds and streams! Learn about some of our frog friends as we gently catch and release these hopping amphibians. Wear boots and plan on getting a little wet and muddy!

Hike, Bike, & Paddle

Saturday, August 24, 2013 | 9am-2pm

Hike, Bike, & Paddle

Phase II -- Hike & Bike (Ages 12+)

Butterfly Walk

Saturday, August 24, 2013 | 1-3pm

Cost: \$5

Learn about the wonderful world of butterflies! Join David Trently on a search through the fields and around the ponds for butterflies and dragonflies. Call early - spaces fill up fast!

Moonlit Drumming

Saturday, August 24, 2013 | 6:30-9:30pm

Cost: \$30 adult / \$15 child

Master drummer, Maxwell Kofi Donkor, is back for another unforgettable experience. Enjoy an introductory lesson and a drumming circle under the light of the moon. No experience necessary. Call to reserve a drum.

EcoZone! Afternoon

Sunday, August 25, 2013 | 1-4pm

Cost: FREE

Explore our new hands-on, discovery room. Crawl through the bat cave, sit in the eagles' nest, and more!

"Migrate to PEEC"

Family Nature

Getaway Weekend

From Friday, August 30, 2013

To Monday, September 02, 2013

Labor Day Weekend

Adults \$210

Children's Rates &

Commuter & Day

Rates Available

Bring your friends & family to experience the best of what PEEC has to offer. Interpretive hikes, animal presentations, swimming, canoeing, tie-dye, campfire and more!

Includes three nights lodging & meals from Friday dinner - Monday lunch.



PEEC
Pocono Environmental
Education Center

July 5-8, 2013
August 2-4, 2013



FAMILY NATURE GETAWAY WEEKENDS

SUMMER VACATIONS AT PEEC!



Bring your friends and family to experience the best of what PEEC has to offer. Enjoy nature hikes, animal shows, swimming, canoeing, fishing, campfires and more! Includes lodging, meals and all programming. Call for details.

POCONO ENVIRONMENTAL EDUCATION CENTER
538 Emery Rd • Dingmans Ferry, Pennsylvania 18328

PEEC is close to home,
where learning comes naturally!

PEEC is located off of Route 209 inside the Delaware Water Gap National Recreation Area in Dingmans Ferry, Pennsylvania

To make your
RESERVATIONS
mcheck@peec.org • www.peec.org

CALL PEEC
570.828.2319
4th of July
\$210 Adults
August Wknd.
\$195 Adults
KID DISCOUNTS!