



PEEC
Pocono Environmental
Education Center



Summer Solstice 2019

Seasons

A Quarterly Publication to Advance Environmental Literacy

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I Found a Baby Bird on the Ground, Now What do I do?

Originally Published in "Life in the Finger Lakes" Magazine

By Gabrielle L. Wheeler



Empty nest syndrome is hitting bird pairs across the country, but parents still have work to do to care for their new fledglings. Boasting new adult feathers, fledgling song birds and birds of prey leap from their too-small nests to try out their wings and prepare for the migration ahead. Here's what is going on with these young birds, and what to do if you come across a little bird on the ground.

Young song birds and birds of prey are generally raised by both parents in a nest that they eventually outgrow. When their adult feathers come in, they 'leave the nest,' which may involve returning to it nightly or not at all. After the young birds are out of the nest, the parents begin to instruct on how to fend

for itself. Parents teach how to stay safe and avoid predators, as well as how to capture food. Part of this instruction is having the parents leave the young birds on their own more and more, often times on the ground. Humans love to help animals they think are helpless. Baby birds are helpless during some parts of their lives, and nestlings that have lost their parent or are abandoned do need intervention. In that case, a licensed wildlife rehabilitator should be called to relocate the tiny birds, so they can be nursed to adulthood and released. A fledgling spotted on the ground with a set of stiff feathers, though, is right where it needs to be and doesn't need any help. Rather than pick it up and try to save it, the best thing you can do is leave it alone.

The next best thing is to put your animals inside. A 2013 study led by Scott Loss suggested that 1.2 to 4 billion birds are killed a year by outdoor cats. That's a lot of birds! To give fledglings any chance at survival, our best action is to keep our domesticated lions and tigers inside, preferably all the time. Dogs can also harm fledglings unintentionally, so if you see a young bird in your vicinity, make sure your dog cannot reach it. If your pet has harmed a fledgling and it is still alive, refer to the DEC's list of licensed wildlife rehabilitators at <https://www.dec.ny.gov/animals/83977.html> to find a rehabilitator near you. Remember, it is illegal to possess wildlife without a license in New York state, and birds are doubly protected by the Migratory Bird Act, so avoid unnecessary tickets by calling a licensed wildlife rehabilitator to come and retrieve a hurt animal or if you have any questions.



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Message from the Executive Director

By Jeff Rosalsky



I arrived at PEEC this morning with the clear intention of writing my quarterly summer message for PEEC Seasons but, as is often the case, I had no idea what to write. Before

I even entered the main building, I was told we had no phone service, the internet was not working and, by the way, the server was down as well. My first thought was we had to get this fixed quickly, or the day was going to be wasted. We had 15 young women from our Women on the Water Program heading out on a 4 day river trip, we had three school groups arriving this morning... Instead of continuing with my plan and sitting down at my desk to write, I went off to see if I could remedy the problem. PEEC's "server room," is also the PEEC linen closet, the PEEC old records storage place and where we keep many other awkward shaped items with no other home. The electronics are all bunched at the front of the room, with hundreds of wires that keep us functioning in the digital age. I know what most of the devices are, but like most people, I have no idea how they actually

function—let alone how you would build a replacement modem for example. However, I can cycle a PoE switch as well as the next person—unplug, wait 45 seconds and plug back in. I cycled everything I could think of, with no success. It turned out that the strong electrical storms overnight had triggered a ground fault outlet to turn itself off. A simple push button reset at the outlet was all that was needed to get phones, internet, and the server all reconnected.

We have become so dependent on technology to make our lives faster and in theory easier, but ironically all it takes is a little bit of lightning, or worse a giant storm like the one that devastated PEEC last March, to bring everything crashing to a halt. Don't get me wrong, I love Amazon Prime, robotic vacuums and the possibility of a self driving car in my future, but the reality is that the essence of what PEEC does mainly requires amazing dedicated educators, a pristine natural setting and financial support from our donors. The 15 young women from Girls High and the arriving schools would have had an amazing PEEC experience even if we couldn't get the electronics running. The students just need to be here at PEEC, in the moment, and willing to engage, to think and to learn. In fact, I could have written this with a pen and paper...



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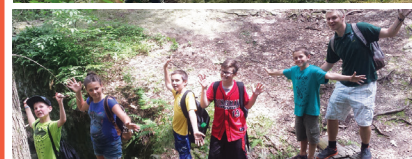
2019 SUMMER NATURE CAMP

8 SESSIONS:
July 1 thru August 23

SWIMMING

SNACK PROVIDED DAILY

Before & After
Camp Care



PEEC.ORG

Lightning Bugs

By George Johnson

Flash..... Flash..... Flash.....

Imagine that it's a warm summer evening, and you come across an open field. The frogs are croaking, the cicadas are buzzing, and the temperature is starting to finally cool off after a long summer day. You stop to take in the sight and let your eyes adjust to the fading light, and that's when you see it.

Flash.... Flash.... Flash.... It starts off as one seemingly floating blip of light, but then another appears, and another, and another. Until finally the field is covered in those little lights. Those flashes of light belong to a small insect, a lightning bug. Almost everyone knows about them, and most have fond childhood memories involving these little guys. I myself remember very clearly trying to catch some and keep them in a jar. They almost always escaped afterwards, but it was more fun attempting to catch them again anyway. Those summer nights spent chasing after lightning bugs helped spark my interest in the insect world.

I always thought that lightning bugs were cool when I was a child, but now as an adult they are sooooo much cooler, especially since I've learned more about their lifestyle and adaptations. For starters, their signature flash. Within their abdomen, a special chemical reaction occurs that produces that light, or bioluminescence. Most people know about bioluminescence from the creatures that live in the depths of the oceans. There, animals have developed bioluminescence for a number of different purposes, and it turns out that lightning bugs have bioluminescence for many of the same reasons. The chemical reaction that lightning bugs use to create the flash is actually the exact same chemical reaction that those ocean dwelling fish use as well.

Around PEEC, there are two main species of lightning bugs (the Pennsylvania Firefly and Big Dipper Firefly). They're both a little hard to tell apart, but one of the main differences is the flash itself. Individual species of lightning bugs have their own distinct pattern of flash. That way, they can tell each other apart. This is super helpful since they are mainly used for finding mates. Females remain atop a blade of grass and flash out their species particular pattern to attract a male. The mobile males

fly around and then respond once they spot the female's flash. This back and forth then continues until they eventually find each other. However, occasionally the female Pennsylvania Firefly will mimic the female Big Dipper's flash. But why exactly? Well... it's not a mistake. The Pennsylvania Firefly will try and attract the male Big Dippers on purpose. See, once they get close enough, the larger females will attempt to eat the males.

It's a bug eat bug kind of world out there. The Big Dipper males are not only a source of food for the Pennsylvania Firefly, but they also extract a particular chemical called lucibufagin. The females try to build that up within their own bodies in order to avoid becoming food themselves. Jumping spiders, a common lightning bug predator, can't stand the taste of lucibufagin and will release a captive prey item if it tastes bad.

Fireflies themselves are amazing critters, which is probably why they are Pennsylvania's State insect. I look forward to seeing them fly around every summer. I hope that everyone reading this can take a moment to stop and just watch them one evening. Maybe they'll even spark an interest in insects for you like they did for me all those years ago.



Lightning Bug Larva



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BUG
EXPLORATION
SUNDAY, JULY 14
10AM - 12PM



\$5 PER PERSON





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**WATERFALL
TOUR**
SUNDAY, JULY 14
1:00PM - 4:00PM

See the Falls!



Rush in

\$10 PER PERSON



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A PEEC Day of Winners at the 3rd Annual 5k Run, Hike, Crawl Trail Race

By Dennis Miranda

To the delight of spectators, PEEC supporters, and fellow runners, Noah Hinger, a 12 year old boy from Summit, New Jersey sprinted across the finish line in a swift 32 minutes and 53 seconds to take first place in PEEC's 3rd Annual 5k Run, Hike, Crawl Trail Race. Right behind was his dad, Chris Hinger who finished second and Jerry Sandaldjian ended in third place.

A cool and cloudy day, with temperatures hovering in the mid-fifties, was perfect for running. Sandra Orson, Jennifer Nagy and Yazmin Malpica were the first, second and third place winners in the Women's category.



2019 PEEC 5K RUN, HIKE, CRAWL TRAIL RACE WINNERS:

MEN	WOMEN
Overall	Overall
1. Noah Hinger	1. Sandra Orson
2. Chris Hinger	2. Jennifer Nagy
3. Jerry Sandaldjian	3. Yazmin Malpica
12 and Under	
1. Jackson Hancock	
2. Maxwell Hancock	
3. Sean Winship	
20-29	20-29
1. Jason Van Duyne	1. Natasha Sandaldjian
30-39	30-39
1. Joe Geib	1. Amanda Schwartz
40-49	
1. Charles Peters	
2. Mitchell Malpica	
3. Adam Shedd	
50-59	50-59
1. Marco Castillo	1. Joyce Trentacosta
2. George Bevans	2. Karen Macaulay
3. Dennis Greenland	3. Mariedyth Gayas
60+	60+
1. Anthony Batko	1. Sheri Bone
2. Warren Hecker	2. Jane Jacobs
3. Jeffrey Van Duyne	3. Diane Van Duyne

The 3rd Annual 5K Run, Hike, Crawl Trail Race was an all-around winner. This year, PEEC raised over \$15,000 to further the environmental education of school groups; 40% more than 2018. We thank all of our sponsors who enthusiastically gave generously this year. We are humbled and privileged to have so many local and regional businesses support PEEC's mission.



The Ten Essentials – Part 3

By Nathan Lanan

To continue my series on the Ten Essentials—the ten most important things to carry on an outdoor excursion—next we'll talk about Navigation. Along with Hydration, Nutrition, Illumination, Insulation, Sun Protection, First Aid, Repair Kit & Tools, Emergency Shelter, and Fire, navigation can help you out of a bad situation or avoid one altogether. Most of us carry phones almost all the time, just about all of which have GPS navigation built into them. While these apps and dedicated GPS units do an excellent job of directing us around populated areas and, due to satellite coverage, can tell us our location just about anywhere on Earth, both come with a major drawback: battery life. It is important that, if you are relying on a cell phone or GPS unit to track your location in an emergency, you should remain vigilant about the remaining batteries. Carry extras if possible or a charger if not. It is always good to have a backup, and a map and compass is a light, battery-free alternative.

How many of us carry a compass in our bags, on our keychains, or in the handles of our trekking poles in case of an emergency? For many people, wandering off trail and needing to find their way is a worrying scenario, but even if you carry a compass, could you use it to find your way if you were lost? As long as you are properly equipped with a detailed map, a quality compass, and the knowledge of how to use them, it should be as easy as one, two, three! Compasses work off the magnetic field of the Earth. This field runs roughly between the north and south poles of the Earth and is determined by the movement of the largely iron-based outer core of the planet. Magnets in the compass that should be floating freely inside of a liquid-filled housing allow the needle or dial inside the compass to rotate to match this magnetic field. As long as the compass is held flat and away from any interference, it should be able to rotate and tell you the “cardinal” (north, east, south, and west) directions just about anywhere on Earth.

The main type of compass people will carry is fairly simple. They're normally round, and many manufacturers of other supplies will often attach these compasses to their products. Trekking poles, survival knives, even paracord bracelets can have small “button” compasses on them. These small, simple compasses are useful for one main thing—lining your map up to north. For finding your way around, it is much easier to use a larger, more complex, purpose-built compass. A compass for finding your way around will often have a rectangular base and a dial around the needle that can be rotated. These two aspects will help you line your compass up to a map and use it to guide yourself in a straight line wherever you want to go, using the skill of “orienteering.” No compass is complete without a map to follow. Any good map will have an indication of where north is in relation to the features on the map. For trail maps, a simple arrow will help you find your way with a compass, though with a map of a larger area it is important to also know where “magnetic north” is in relation to “true north.” The two are ever so slightly different from each other—magnetic north is based on the magnetic field we've discussed and true north is based on the location of the north pole and the rotation of the Earth. Special orienteering maps will often only include magnetic north on their “compass rose,” and maps designed for hiking will often include both. If you use your map and compass together, you should be able to find your way anywhere.

The final thing you need is knowledge. You can throw the fanciest compass and the most detailed local maps into your pack and they won't help you if you don't know how to use them. Orienteering is a fun and useful skill to practice. PEEC offers introductory orienteering classes multiple times a year. The next class is Saturday, June 22. Bring some sturdy shoes and we'll provide the maps, compasses, and skilled instruction!

A Sleuth of Bears and Other Collective Nouns

By Emma Roth

Collective nouns are a strange part of the English language. Why is a group of deer called a herd, but coyotes form a pack? Well, it turns out that the unique names for groups of animals trace back to the late Middle Ages. During this time, it was fashionable for hunters to refer to groups of different types of animals by different names. Hunters took pride in the amount of collective nouns they knew. By the 15th century, the fashion had become so popular that there were some truly absurd collective nouns. To this day, people still find amusement in these weird words. Below, I have gathered some of the best collective nouns for animals found around PEEC.

- Sleuth of Bears
- Army of Caterpillars
- Clowder of Cats
- Covert of Coots
- Murder of Crows
- Paddling of Ducks (on water)
- Safe of Ducks (on land)
- Convocation of Eagles
- Charm of Finches
- Business of Flies
- Skulk of Foxes
- Gaggle of Geese (land)
- Wedge of Geese (flying)
- Cast of Hawks
- Scattering of Herons
- Company of Moles
- Bevy of Otters
- Parliament of Owls
- Nursery of Raccoons
- Unkindness of Ravens
- Cluster of Spiders
- Drey of Squirrels
- Chattering of Starlings
- Knot of Toads
- Raffle of Turkeys
- Bale of Turtles
- Plump of Woodcock
- Descent of Woodpeckers

So next time you are out hiking with friends and come across a group of critters, add some excitement to your language and impress them with your knowledge of these collective nouns.

The Best Ways To Preserve Nature *By Lauren DiCenso*

Pennsylvania is blessed with extraordinary natural beauty. Surrounded by such beauty, it's easy to overlook what is being lost as the land and surrounding habitats become fragmented and fragile. Hiking may not be the first word that comes to mind when you think of Pennsylvania, but PEEC offers six different trails that have various levels of difficulty, so there is a trail suited for everyone! Hiking is truly one of the few outdoor activities that's not only a great workout, but also lets you take in all of what this Earth has to offer. While there are so many positives to hiking, there are certain actions that can harm the environment. We need to do everything we can to protect and maintain the trails and habitats in the surrounding area. Here are a few tips that will ensure a sustainable environment, so that others can enjoy nature for many generations to come.

USE REUSABLE WATER BOTTLES: Hydration is imperative to your health when you go out on a hiking adventure. So, taking water along is a necessity. Be sure to take a reusable water bottle. The landfills are overflowing with plastic water bottles, so make sure you choose water bottles that can be used time and time again and that are eco-friendly.

DON'T FEED THE ANIMALS: While it's always exciting to see Pennsylvania's most-loved animals on your visit, it's usually best to simply watch animals from a distance and never feed the wildlife. This not only helps the animals stay healthier, but it also helps animals stick to their hibernation or migration routines.

BRING YOUR OWN SNACKS: Mix and make your own granola and trail mix. That way, there isn't nearly as much packaging to throw away and you know what the snack contains. Also, place it in a reusable container!

TAKE PHOTOS ONLY: The only trace you should leave is your footprints. Don't remove plants or other items. Instead, just take photos. Don't leave trash behind. If you see trash, pick it up and ensure it is properly disposed. Leave the area cleaner than it was when you arrived, if possible.

DON'T STRAY OFF THE TRAIL: If you are hiking on a designated trail, you shouldn't venture off into other areas. While it may seem harmless, you risk damaging the plants of the surrounding area. Those plants are a major source of food for a lot of animals! Not only that, but just stepping off the trail can contribute to erosion. It will leave a beaten down path that will entice others to do the same. When you skirt a muddy area, you are broadening the trail and causing damage. Head down the center of the hiking trail and through the mud to prevent trail widening.

PROTECT THE WATER: Too often we take our natural resources, including water supplies, for granted. We should keep water clean, so be proactive in that sense. If a bathroom stop is a necessity, be sure to dig a deep cat hole at least 200 feet away from any water sources. When washing any dishes, do so away from the water supply using biodegradable soap and personal water.

CHOOSING YOUR CLOTHES: Did you know that even the clothes you wear can affect the environment? You can wear eco-friendly clothing and be sure to wear clean clothing and shoes before each new hike so you don't take along any insects or seeds that aren't native. If you're looking to get rid of clothes, don't just toss them! Many articles of clothing consist of synthetic, non-biodegradable fiber and will just pile up in the landfill. Instead, consider donating your unwanted clothing, or recycle them in a textile bin.

Remember that your actions, small or large, have an enormous impact on our environment. It's up to you to make the changes necessary to protect it. As Franklin D. Roosevelt famously said: "A nation that destroys its soils destroys itself. Forests are the lungs of our land, purifying the air and giving fresh strength to our people."

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G is for Guest - Snowy Owl

By Sheri Bone

The last installment of the Owl Study is here. This last owl should not really be on the list, but is because of some winter conditions that encourage it to come south to find food. This last owl is a 'guest' in PA - it is the Snowy Owl (*Bubo scandiacus*). And for many of us, it has been a guest in our living rooms if we watched any Harry Potter movies, because Hedwig, Harry's owl, is a Snowy Owl. The Snowy Owl lives in the Arctic, and more specifically, the tundra, which are treeless plains in the cold north lands. It is the largest owl in North America. Its feathers are mostly white, so it can blend in with the color of its habitat. Its face is pure white. Females have bands of darker feathers on their bodies, while the males have less color. Because of where it lives, it has a lot of feathers to keep itself warm. There are feathers along its beak, on its legs and feet, and thick heavy feathers on its body. All of those feathers contribute to its weight making it about a pound heavier than the Great Horned Owl. Do you remember that most of the other owls discussed in this series are nocturnal? Well, in the summer in the arctic, there are days when there is no night! So, the Snowy Owl is diurnal. It hunts successfully in the daytime, which is important; otherwise it would have to wait weeks to hunt in the dark! It eats, like other owls, small mammals and birds. It can catch fish

with its strong talons. But its favorite food is lemmings. It loves lemmings! Lemmings are small rodents, and snowy owls can eat 3-5 lemmings a day. If there aren't enough lemmings in an area, the owls may not lay eggs that year.

It has bright yellow eyes that can see things that are far away, and excellent hearing. It can hear voles (and lemmings!) under the snow. It can deliver mail from quite a distance! Oh, that's not right. That's the Harry Potter stories kicking in! Speaking of Harry Potter, my resources noted that many people wanted Snowy Owls as pets when they watched the HP movies, but because the owls are fierce and have a mean bite, they have been abandoned. Message here? Don't get a snowy owl for a pet. Now, why might someone see a snowy owl in Pennsylvania if they live in the tundra? It's a phenomenon called an "irruption" and means that the owls, for one or many reasons, fly south. They are not true migrators, so the irruptions indicate that this is not the norm for them. Could it be because their lemming supply (and other food sources) are low? That seems to be the best answer people have for this movement by the Snowy Owls. Small irruptions occur at intervals of 4-5 years, but once or twice during an owl's life, a larger irruption occurs with many more owls coming south. No one is really sure why they venture to the warmer climes, so count yourself lucky if you see one in PA, and remember, don't try to get one as a pet! So ends our journey in the realm of the Pennsylvania owls. Some are cute and adorable, some are large and fierce. But they all are part of the web of life, sometimes predator, other times prey. I learned a lot from doing research for this little series, and have a further respect for these marvelous birds. I hope you enjoyed this journey with me! If you want more information about owls or other birds, go to the Cornell Lab of Ornithology (www.allaboutbirds.org) and the Audubon Society (www.audubon.org). They are great places to start your own bird trek!

Summer Vacation the easy way.

By Mariann B. Oswald

Children love the outdoors, whether they know it or not. The gorgeous days of summer and fall are made for adventure, hikes, exploration and just plain fun. But, why not keep those inquisitive minds in full gear, without them knowing they are learning. After all, playing, hiking, exploring and a zillion other adventures are not in a classroom during the summer. Or are they? There is so much out there, so much to experience, so much to... forget. But, they don't have to leave their experiences behind. With all of the new-fangled things available, like phones that take pictures and videos, it is so easy to keep a journal of all of those encounters with nature. I heard recently that you can even get some kind of little card that you can put in your phone to record everything on. How about that for technology! So, out you go, kids in tow, checking out all of the little buds popping up around the yard, around the neighborhood, around the park. Pictures save your journey through a whole new world AND give you something special to relive on dismal, cold, rainy days. That's right! It doesn't stop out there in the woods, it just begins. Look up the myriad unknown encounters with plants, animals and... other things. Make the unknown into a game, hunting for the name of that cute purple flower, and finding out why they are only around for a short time. Learn about animals that inhabit your back yard or the Delaware Water Gap National Recreation Area. You will be amazed and the kids will be in awe at how much you see when you take the time to look. There are so many ways to keep a journal, each great in their own way. Press

flowers and leaves from your yard between the pages. Waxed paper works great for this. Of course, you can print out pictures of your National Park adventures and paste them in your journal. Write a quick side note of where and when you found that marvelous specimen. When you sleuth out what it is, write that in the journal, too. Going on vacation? There is plenty to learn there, too. Nature abounds everywhere, even Disney World. Your phone is always right there waiting to take a picture. Hello butterflies, bushes and big smiles. By the time school comes back around, you will have a full book of unbelievable finds, and memories for a lifetime. So, when the new teacher says "What did you do this summer?" your children will be prepared! Imagine that, they had fun, spent time together, made great memories AND learned something new. Who says summers are boring?

To make the Journal:

1. You can use a 3 ring binder. Add page protectors to keep treasures. Put in a pencil pouch for your pens and markers. Heavy paper, like card stock, is best when pasting on pictures or pressed flowers. Lined paper is handy for notes. Have each child decorate the outside of their binder.
2. Check out YouTube for simple, DIY notebooks. There are many that take only 15 minutes to make and use no glue; just string, book covers and screws. Really! And they're pretty nice, in my book.
3. Or stop by PEEC's store and pick up a DIY Nature Journal kit.

While you're here, hike a trail or two and see what you can find. You will be surprised, promise.



2019 World Series of Birding – PEEC’s “Saviors of Birds” Team

By Dennis Miranda

To the soft din of the Delaware River rapids, and the occasional clanking of cars crossing the Dingman’s Ferry Bridge, a group of birders persuaded a resident Saw Whet Owl to utter, “Toot, toot, toot!” With that, less than five minutes past midnight, the zany race to hear and see as many species of birds in Sussex County, New Jersey was on! The Pocono Environmental Education Center’s Saviors of Birds (SOB’s) team, composed of Dr. Emile DeVito, Steve Kloiber, Ryan Johnson, Pedro Miranda and Captain Dennis Miranda, were journeying through the best wildlife habitats for birds in Sussex County! From the wilds of the Delaware Water Gap National Recreation Area to the swamp forest of the Wallkill River National Wildlife Refuge, and visiting the largest unspoiled wetland complex in New Jersey, the Pochuck Creek basin in the New Jersey Highlands, the SOB’s saw or heard 140 species by midnight of May 11, 2019! A late cold front poured rain for an hour on the team after midnight, but the marsh birds were unfazed with New Jersey Endangered Species of nocturnal marsh birds calling including Least Bittern, American Bittern and King Rail!

The passing rain heralded the arrival of a cold front with winds shifting from the north and made birding by ear difficult in the early hours of Saturday. In most places, eager songsters were silenced by the wind, making birding by ear impossible. Some species were heard, but many others were silent. In spite of the overall condition, the intrepid SOB’s counted twenty-five species of warblers and all of the vireos! A Broad Winged Hawk dive bombed a pair of Red Tailed Hawks in flight over the Culver Lake Causeway while the team was viewing Common Loons with our scopes. Dozens of local breeders were found including a rare Black Billed Cuckoo, Hermit Thrush and Least Flycatcher who repeatedly called “chebek, chebek!” at Lake Ashroe in Stokes State Forest.

Rare migrants such as Bay Breasted Warbler, Tennessee Warbler and Blackpoll Warbler sang their songs from towering tulip poplars of the Timberdoodle trail in the Wallkill River National Wildlife Refuge in late afternoon. The SOB’s raced against a fast fleeting day with storm clouds gathering from the south.

We squeezed in a pair of Barred Owl that regaled the team at the Kuser Bog Natural Area at High Point State Park for twenty minutes. The clock stopped as we marveled at the Barred Owls who called, “Who Cooks For You! Who cooks!” As we were headed out of the Kuser Bog Trail against a darkening sky, a Ruffed Grouse burst in flight from a Mountain Laurel shrub next to the trail. It scared the heck out of the team! After overcoming this scare, we laughed heartily as we realized that the last bird of the day was a high point of the day at High Point State Park!



The Clear Water Project

By Derek Scott

This summer, PEEC is entering year two of our new water quality initiative – The Clear Water Project. The goal of this initiative is public engagement aimed at educating residents and visitors of the Delaware River Watershed about water quality and its importance. To start that conversation, the project utilizes a see-through canoe as an attention grabber, which also serves as a metaphor regarding the water quality we’re advocating – clear and clean.

Why this focused effort you might ask? The reason is simple. While PEEC educates over 25,000 annual visitors, our local stretch of the Delaware River boasts over 2 million visitors a year. In order to have a more significant impact as stewards for the watershed, we needed to connect with more of these individuals by having a presence on the river itself. By targeting high traffic areas in our region, we can drastically increase the number of individuals we educate in a given year.

To meet our objective of educating the public on water quality and its importance, the canoe is outfitted to allow our staff to conduct impromptu lessons similar to those we teach at PEEC. A transparent live-well in the front of the canoe serves as a collection bin for macro invertebrates and other aquatic life. This gives individuals a chance to get up-close and personal with these organisms, while learning how to identify them and their relationship with water quality. Water quality test kits are kept onboard to discuss the presence of chemicals in the water and what they mean in terms of quality and health. The results these kits produce can also serve as a fantastic segue way into talking about human influence and impact on water quality.

For the 2019 summer season, we hope to have a weekly presence on the Delaware River on Saturdays and Sundays from June through September. If you find yourself recreating on or along the river, look for our staff at various campgrounds and river access points within the Delaware Water Gap National Recreation Area.



A Day on the Delaware: Boat Smart!

By Stephanie Sherman

While I have lived in the vicinity of the Delaware River for the past years of my life, I'm sad to say I have only paddled the river a handful of times. My first big paddle excursion involved taking the Pocono Pony shuttle that runs up and down Route 209 through the Delaware Water Gap from Memorial Day to Labor Day. My husband and I made the rookie mistake of parking up river and then paddling like crazy to make the last pick up time at Bushkill Access in order to get back to our car. We were sore and tired, but had a great time regardless of the fact that our 10-mile original journey turned into an 18-mile kayak marathon. Since then, I've learned a few more tricks about boating safely, and realize that the river is not as daunting when a little more forethought is put into planning a river trip.

A wise kayak instructor once told me you need four baskets for planning any boating trip. The first basket is anything and everything you need to fix people. During my infamous kayak trip, we had our lunches packed, PFDS, a hat and some sunglasses, but beyond that we were really underprepared for just what could have happened. A good people-fixing basket would include a first aid kit, even if it's just some bandages, gauze and rubber gloves to start. That would have helped if we had ended up stepping on broken glass or another shoreline hazard. While we had plenty of food, we only took a few water bottles each. After going through a number of trainings, I have finally spent the money on a good water filter because both hyperthermia (overheating) and hypothermia (losing body heat) all can start with dehydration. Staying hydrated may be one of the more commonly overlooked preventative safety measures, especially if you are not used to doing a new physical activity! Pair that with appropriate sunscreen, protective clothes and always having extra clothes just in case you get wet is a great start to safe boating.

The next basket is all about fixing the boat that you have. While the Middle Scenic Delaware River is not known for its extreme white-water rapids, it does have its own obstacles. Eddies, low water, rocks and tree branches can all pose a problem if you're not on the lookout. What would happen if we broke a paddle or busted a hull on a rock? A small pack of essential fix-it materials like contractor trash bags, zip ties, bungee cords, epoxy and the ever favorite duct tape would help us patch or improvise any equipment malfunctions. (Or at the very least, I would have had a trash bag for litter!)

The last two baskets deal with navigation and communication. When we missed our first pick up location at Dingmans Ferry Bridge, I was grateful to have a map and the times for the next shuttle. Beyond that we did not really have a back-up for missing our shuttle! Hindsight being twenty-twenty, we could have staged a vehicle just in case or at least let a friend know that we may have needed a ride at the end of the day. Plus, a friend would have come looking for us if we were stranded without cell phone service, which can definitely happen in segments of the Recreation Area! Another great investment is a whistle for your PDF. Lifejackets are state law, but whistles are great to signal because they're louder than you can yell and take less effort for longer periods of calling. The universal emergency signal is three loud whistles, which can help signal to anyone in the area for help. (Side note: Make sure to buy a whistle that is all plastic because cork whistles will not work when wet.) On top of these preparations ahead of time, always make sure you're ready for ANY type of weather considering that a sunny day could have spotty passing showers or if you happen to get wet on a windy day, hypothermia becomes a real risk. Even my sunshine blue kayak day had a passing rain cloud that got us wet during our trip, so a rain jacket (or trash bag) can keep you warm and comfortable!

After writing down this list, it can seem like a lot of preparation for one day on the river, but see it as more than just preparing for one day; many of these baskets are prepared kits that you can keep with your personal boat for use anytime. Having a dedicated repair and first aid kit in your boat ensures you'll always have it and won't have to take time in repeatedly prepping for every trip. Similarly, just having one bag of clothes, some self-stable granola/protein bars, and a small water filter ensures a grab-and-go ability with minimal prep. After that, it's just familiarizing yourself with having a plan for your trip, where to stop and who's going to come looking for you if you don't call home. All good steps that are relatively simple, but make you all the safer on the Delaware. I hope to meet plenty of new faces on the river this year! Happy Boating!



The Ten Essentials- Part 4

By Nathan Lanan

Food and water are more than just two of the Ten Essentials; they are two of the most basic needs any animal requires to survive. While it may take an average of three weeks to die from lack of food, it only takes three days to die from lack of water.

Carrying a water bottle is second nature for most people on outdoor excursions, as it should be. Water found in nature is invariably unhealthy to drink. Various microscopic bacteria and parasites can lurk in even the cleanest looking water, and consuming them can lead to a huge variety of harmful conditions. Bringing water with you from home is the safest bet. Accidents can happen, though, and whether that means spilling your water bottle or getting lost and needing to drink more water on your way back home, a method of purifying the water you find along your way can be very helpful.

A variety of methods exist for cleaning water. The most reliable method is the oldest—heating water and letting it boil for ten minutes will kill all of the bacteria in it. Once it's cool enough to drink, you're good to go. Boiling, of course, requires a source of heat such as a fire (and all of the labor and materials one requires), and a container able to handle the heat. A plastic water bottle would melt (which would also release chemicals not meant for human consumption into your water), but a metal water bottle or kettle will work just fine. You can even boil water in a hat, provided it doesn't have any holes; the water soaking into the fabric will keep it at a constant temperature too low for the fabric to burn, so while it will become scorched and not look quite as nice, you'll still have a hat at the end of the day.

To clean water faster, you can easily carry and use filters or purification tablets. Filters such as Sawyer or LifeStraw filters can instantly remove nearly all the harmful bacteria from water as you drink from them and can

conveniently attach to many types of water bottles. Purification tablets take longer but do a more complete job of killing bacteria, and while a filter can potentially clean thousands of gallons of water in its lifespan, tablets can only be used a single time so a larger stock must be carried. It should be noted that while both filters and tablets can clean water well enough to drink the vast majority of the time, boiling is more consistent and should be used whenever possible.

When carrying food, it's important to remember that the Essential is "Nutrition," not "snacks." Whatever you carry should be able to keep you going for a while. Simple carbs like sugary candy will only give you bursts of energy, while complex carbs like grains and proteins like nuts will give you longer lasting energy. This is why trail mixes and energy bars often contain combinations of nuts, fruit, granola, and sometimes candy; the sugar gives you quick energy right away while the rest of the ingredients give you more of a slow burn of energy. Trail mix and energy bars are also dry, meaning that you don't need to worry about additional water weight or having them spoil and rot if you don't use them for a while, so you can keep them in your pack for long periods of time and not worry about replacing them on every outing. While this is certainly also true of, say, canned food, avoid carrying anything with excessive packaging, both because you will need to carry the empty package out with you and because you would have to carry a can opener just to eat.

While there are many edible plants in nature, even most experts who can identify them on sight will avoid relying on them to survive. With many edible plants, there are very similar looking dangerous plants that can make you sick, and even the most nutritious plants you can find in the Poconos do not provide you with enough energy to reliably restore the calories you burn trying to find them. It is best to carry a small amount of food with you instead of risking using the local plants to sustain you.

Ultimately, Hydration and Nutrition are two of the most accessible of the Ten Essentials. Everyone has their favorite nutritious snacks, and a water bottle is a simple purchase that can last you for years. Despite their simplicity, however, their essential status should not be ignored.



PEEC
Pocono Environmental
Education Center

**FIRE
BUILDING**

SATURDAY, JULY 20 • 10AM - 12PM

**\$5 PER
PERSON**

SUMMER PROGRAMS AND GETAWAYS

**PRE-REGISTRATION REQUIRED
Unless otherwise indicated.**

TO REGISTER:

Call PEEC at 570-828-2319

JULY

"Celebration with a Bang" Family Camp

July 4th Weekend: July 5 - 7

Adults \$195 / Child and commuter day rates available – call for details

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 Sunday lunch.



BTG: Pond Paddle

Saturday, July 13 - 1:00pm - 3:00pm

Sunday, July 21 - 10:00am - 12:00pm

Cost: FREE

Join us for a paddle around our ponds! Beginners are welcome – we teach you everything you need to know! Dress appropriately – you may get wet! Call in advance to reserve a boat. Funding for this program is provided by the William Penn Foundation.

Bug Exploration

Sunday, July 14 - 10:00am - 12:00pm

Cost: \$5 per person

Bugs are everywhere! Come join us as we go discover some insects on our trails and learn about what makes them so unique. Don't worry; they're not as scary as they look!

Waterfall Tour

Sunday, July 14 - 1:00pm - 4:00pm

Cost: \$10 per person

See the Falls Rush In! The Delaware Water Gap has quite a few waterfalls within the park that all flow into the Delaware River. Join Us for an afternoon as we check out some of the larger well known falls in the park. Spaces are limited so call early!

Reptile Search

Saturday, July 20 - 1:00pm - 3:00pm

Cost: FREE

Our local reptiles depend heavily on having clean sources of water. Come explore with us as we try to find some aquatic and terrestrial reptiles in their native habitat. Funding for this program provided by the William Penn Foundation.

Wilderness Walkabout

Sunday, July 21 - 1:00 - 3:00pm

Cost: FREE for members / \$5 for non-members

Get out and explore PEEC! Join Paul Kovalski, aka Dr. Dinosaur, as we hike one of our trails and discuss the natural history of our park.



BTG: River Paddle

Sunday, July 27 - 9:00am - 3:00pm

Cost: \$10 per person

Join us for a paddle down the Delaware! Bring a lunch, a water bottle, and don't forget to dress for the weather. We will provide extra water and snacks. Choose between a canoe or kayak. Funding for this program provided by the William Penn Foundation. Registration begins at 8:30am on June 27.

Farm to Table

Saturday, July 27 - 6:00pm - 8:00pm

Cost: \$25 per person

Enjoy summer at PEEC's 3rd Farm to Table Dinner! This dinner features local produce perfect for the season! Bring your friends and family to enjoy this cozy evening. Payment is required at registration. Space is limited - call early!

Butterfly Walk

Sunday, July 28 - 10:00am - 12:00pm

Cost: \$5 per person

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



AUGUST

BTG: River Paddle

Sunday, August 4 - 9:00am - 3:00pm

Cost: \$10 per person

Join us for a paddle down the Delaware! Bring a lunch, a water bottle, and don't forget to dress for the weather. We will provide extra water and snacks. Choose between a canoe or kayak. Funding for this program provided by the William Penn Foundation. Registration begins at 8:30am on July 4.

BTG: Pond Paddle

Saturday, August 3 - 10:00am - 12:00pm

Saturday, August 17 - 1:00pm - 3:00pm

Cost: FREE

Join us for a paddle around our ponds! Beginners are welcome – we teach you everything you need to know! Dress appropriately – you may get wet! Call in advance to reserve a boat. Funding for this program is provided by the William Penn Foundation.

Bug Exploration

Saturday, August 10 - 10:00am - 12:00pm

Cost: \$5 per person

Bugs are everywhere! Come join us as we go discover some insects on our trails and learn about what makes them so unique. Don't worry; they're not as scary as they look!

Continued on Page 10

SUMMER PROGRAMS AND GETAWAYS

Continued from Page 9

AUGUST

Waterfall Tour

Sunday, August 11 - 10:00am - 12:00pm

Cost: \$10 per person

See the Falls Rush In! The Delaware Water Gap has quite a few waterfalls within the park that all flow into the Delaware River. Join us for an afternoon as we check out some of the larger well known falls in the park. Spaces are limited so call early!

Reptile Search

Sunday, August 18 - 10:00am - 12:00pm

Cost: FREE

Our local reptiles depend heavily on having clean sources of water. Come explore with us as we try to find some aquatic and terrestrial reptiles in their native habitat. Funding for this program provided by the William Penn Foundation.

Dragonfly Walk

Sunday, August 18 - 1:00pm - 3:00pm

Cost: \$5 per person

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



Wilderness Walkabout

Saturday, August 24 - 1:00pm - 3:00pm

Cost: FREE for members / \$5 for non-members

Get out and explore PEEC! Join Paul Kovalski, aka Dr. Dinosaur, as we hike one of our trails and discuss the natural history of our park.

Nature at Night

Saturday, August 24 - 8:00pm - 9:30pm

Cost: \$5 per person

A pleasant summer evening is the perfect time to head outside. Take a walk in the woods to listen for owls, look at stars, and enjoy the music of the night. Enjoy fun activities that test your night vision. We recommend you bring a flashlight!

Family Camp Weekend:

Migrate to the Poconos

August 30 - September 2

Cost: Adults \$225 / Child, Commuter,

Day rates available

Bring your friends & family to experience the best of what PEEC has to offer. Interpretive hikes, animal presentations, canoeing, campfire and more! Includes three nights lodging & meals from Friday dinner - Monday lunch



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REPTILE SEARCH

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FARM

TO TABLE DINNER

JULY 27 • 6:00 PM - 8:00 PM



\$25 PER PERSON