Goldenrod – A Sure Sign of Fall

By Lea Della Vecchia

Driving down Route 209 through the park this time of year, one is bound to see a lot of bright yellow popping up in the fields along the river. More than likely, this burst of color comes from the goldenrod plant. Goldenrod is actually a name used to describe over 50 species of plants in the genus *Solidago*, most of which look very similar to each other, so narrowing down to the species is often difficult. To me, the flowering of these plants signals the end of summer and beginning of cooler weather. The goldenrod plant begins to flower in late summer and will continue to bloom through the early fall. Unlike ephemeral spring flowers, flowers that bloom in the fall are generally much hardier and the blooms tend to last longer.

Goldenrod generally grows to be about 3 feet tall, with long, narrow leaves. The blooms are clusters of tiny yellow florets at the top of the plants; the flowers are pyramidal in shape. The flowers are eventually replaced by small orange seeds with a white tuft, giving the plant a fluffy appearance later in the fall season. A single goldenrod plant can have up to 3,000 wind dispersed seeds per each plant. Goldenrod is found in many habitats; it is commonly found in fields and along river and stream banks.

Goldenrod has a variety of wildlife associations. Goldenrod provides nectar to a host of butterfly and moth species, including the monarch and painted lady butterflies, and the clouded sulphur moth. Many predatory animals rely on goldenrod to attract their prey—these include insectivorous birds and insects. Deer and mice often feed on the goldenrod plant and seeds.

Humans have relied on goldenrod for a number of uses as well. The genus of Goldenrod, *Solidago*, comes from the Latin word solidare—“to make whole”. The genus name is likely derived from the extensive list of medicinal properties goldenrod is known to have. It has been historically used

Continued on page 4
Message from the Executive Director

Summer at PEEC was as busy as I have ever seen it! A diverse array of groups and camps all joined together to enjoy and learn about the natural world and sustainability at PEEC. One of the most challenging and amazing aspects of PEEC is that we host multiple groups and programs on our campus simultaneously. The groups interact with each other in the dining hall and common spaces, where they share and learn from each other in wonderful, unplanned and unexpected ways. During one week we had our Sci-Q gifted STEM camp, our Growing Green special needs camp, our nature adventure camp and our day camp running simultaneously. It was logistically challenging, but infinitely rewarding.

We are looking forward to the fall bringing new and returning school groups to enjoy the changes on the PEEC campus. Now that Cabin 2 has its thermal hot water heating system up and running and Cabin 3 has its solar thermal heating system working, we have begun to incorporate those cabins into our campus sustainability tour. In addition, an energy efficiently renovated Cabin 9 will be up and running shortly. The real test will come with the cooler weather, where students in residence will give us feedback on the renewable energy systems functionality in real life. We promise to report both the highlights and the challenges, as we see our sustainable energy systems program at PEEC as a real world test laboratory for sustainably science and engineering.

$5 PER CAR

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HARVEST FESTIVAL
SATURDAY, SEPTEMBER 26, 2015
10AM – 4PM

Fall in love with FALL

Celebrate Fall at PEEC’s 5th annual Harvest Festival! Enjoy arts & crafts, hands-on activities, conservation exhibits, live music, local food, old-timey activities, and more! Bring your family and friends to this great event!

POcono Environmental Education Center
Darling Darners
By Allison Owczarczak

From a published article in The Scientific Monthly by Howard J. Shannon, it has been suspected for approximately a hundred years that certain species of dragonflies migrate. While little is still known about the subject, an effort called the Migratory Dragonfly Partnership administered by the Xerces Society for Invertebrate Conservation is collecting information from citizen scientists to learn more.

What is so important about dragonflies migrating? They are voracious eaters, consuming prey up to 15% of their bodyweight each day. That prey is often pests such as mosquitoes and biting flies. Also, in turn, these migrating dragonflies fall prey to migrating kestrels. Finally, dragonflies are a biotic indicator, meaning you can tell the quality of an aquatic ecosystem by their presence.

Without a full understanding of the migration habits, cues and patterns, it is difficult to develop international conservation actions that will sustain and protect migration routes and overwintering grounds. Compounding the urgency to understand these migrations are threats to wetland habitats, including the effects of global climate change that could alter environmental cues for migration, affect larval development and adult emergence times, disrupt migratory corridors, or render overwintering habitat unsuitable.

Five focal species about which you can submit your observations are: common green darner, black saddlebags, wandering glider, spot-winged glider and the variegated meadowhawk. Some lesser known migrants include the eastern pondhawk, blue dasher, twelve-spotted skimmer and calico pennant.

What has been discovered so far is that at least 18 of the 316 species of dragonflies migrate in North America. One species that has garnered the most notoriety out of the group is the wandering glider that has earned the nickname ‘global skimmer’. It has been crowned the global insect long-distance champion due to its ability to migrate across the Indian Ocean. This distance is twice that of the famed monarch butterfly migration.

More information on how you can report the five focal species for scientists to gain a better understanding can be found at: http://www.xerces.org/dragonfly-migration/

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FIRE BUILDING

SUNDAY, OCTOBER 25, 2015 • 10AM - 12PM

CALL PEEC 570.828.2319

Learn some primitive fire making skills.

Try your hand at a flint and steel fire, a bow drill fire, and more!

Ages 0+ please.

$5 PER PERSON

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

POEC is located off of Route 209 inside the Delaware Water Gap National Recreation Area in Dingmans Ferry, PA.

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Call now to make your RESERVATIONS
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PEEC’s growth as an organization has been based on its reputation for excellence in environmental education programming and fueled by private, philanthropic donations and participant fees for service. There are also ways through which our donors, especially those that have supported PEEC for many years, can make gifts that both make a substantial difference and stand the test of time. It is called planned giving or legacy giving and is a way of making a gift through a legal instrument.

Here are Six Ways you can consider in planning your investment in PEEC’s Future:

I’m writing a will or trust: Remembering PEEC in your will or trust is easy to do. Simply provide a specific dollar amount or other property. You may also designate PEEC to receive a specified percentage of your estate assets.

I have appreciated assets: You can support our mission by donating appreciated assets like stocks, real estate, works of art, etc. By donating an appreciated asset, you may benefit from an income tax charitable deduction at the current market value and not pay capital gains tax on the asset’s appreciation.

I need income in exchange for my gift: Charitable trusts blend the desire to secure your own or your family’s financial future with your charitable intent for PEEC. A Charitable Remainder Trust will allow you to provide an income to one or more beneficiaries for a term of years or for their lifetimes, and at the end of the term of the trust, the remainder will pass to PEEC.

I have retirement funds: You can name PEEC as the partial or sole beneficiary of your IRA, 401(K), 403(B) or other retirement assets. By leaving such assets to PEEC, you can pass other types of assets to your heirs which may lower their tax burden.

I have excess life insurance: You can name PEEC as the partial or sole beneficiary of your life insurance policy. By leaving the proceeds of an insurance policy to PEEC, the gift of the insurance policy will not be subject to estate taxes.

Benefit Pocono Environmental Education Center, benefit your heirs: A Charitable Lead Trust is a gift option that provides a stream of income to PEEC for the term of the trust. At the end of the term, the remainder value is usually paid to the donor’s heirs at appreciated values with favorable tax implications.

Legacy gifts can make a major difference in our programs and outreach and will guarantee PEEC’s continued excellence and premier reputation within the environmental education community.

If you would like to join PEEC’s Legacy Circle, please contact: Ed Winters ewinters@peec.org, Director of Development - 570.828.2319 or 914.527.1946.
Highlights of Summer Camp 2015
By Andrea Ace

PEEC’s 2015 summer camp season was filled with games, hiking and learning about the environment. Children aged 3 to 16 enjoyed a variety of programs and activities through the eight sessions this year.

We added several exciting new programs and activities this year in addition to old favorites. One new feature this summer was sleepaway camp weeks for Junior Naturalist and Senior Naturalist campers. The Junior Naturalists learned about astronomy and watched the Perseid meteor shower, while Senior Naturalists went on extended hiking and river adventures.

PEEC also received a grant from the Greater Pike Community Foundation, which allowed us to build a gaga pit. Gaga is a handball game that is fast-paced and can be modified for most ages and abilities. This game was a huge success this summer and the campers loved playing!

None of these great moments would have been possible without PEEC’s hardworking staff and volunteers, who dedicate their summer to planning and working with children. We also received several donations, including craft supplies and campership money, which provided financial assistance for some campers.

Thanks to everyone’s kindness, hard work, and generosity, PEEC’s campers had an amazing summer and made memories to last a lifetime. Hopefully we’ll see everyone back again next summer!
Sustainable Shopping...

By Mariann Oswald

Sustainability and your part in it. It’s all about your perspective, the way you feel about your surroundings, your home, your family… your planet. Sustainability isn’t just drinking from a reusable container or putting solar panels on your roof for energy. Sustainability is about today’s industries, manufacturers and commercial businesses and those who do business with them.

“Sustainability includes sustainable building, design and operations. Sustainability is the collection of policies and strategies employed by companies to minimize their environmental impact on future generations. Ecological concerns, such as the environmental impact of pollutants, are balanced with socio-economic concerns such as minimizing the consumption of limited natural resources to maintain their availability for the future.”

Read more: http://www.environmentalleader.com/category/sustainability/#ixzz3iiyAXBXf

In the last newsletter I told you how our store is changing for the better, buying from “companies that produce their products in the USA, that use recycled and/or recyclable components and that fit our mission statement… sustainable living and appreciation for nature.” This long-term transition has been a total win/win situation. Not only does PEEC carry products that fit these criteria, but we are also dealing with more companies who are taking a new path toward a “greener” philosophy and fewer who are not.

Companies like Green Toys (www.greentoys.com) make products that are made completely in the USA out of 100% recycled materials. Even their packing is recycled. They are sturdy, imaginative, and colorful toys made for indoor and outdoor activity. Our biggest seller is the EcoSaucer Flying Disc which we sell for $5.

Home grown companies like Jabedo, Jim Clift Designs and Your True Nature all manufacture their products in the USA, many from recycled materials, all to green standards. PEEC’s store carries earrings, pins and notebooks made and distributed by these artisans.

PEEC sells lots of plush toys from Mary Meyer, Douglas Cuddle Toys and Wild Republic, all known for their environmental friendly products.

And, so far this year, store sales have flourished, funding 14% more PEEC programs than last year, over 20% more than the year before! Even I have been amazed at the positive feedback from customers and their desire to live greener. Customers are seeing “green” (as in sustainability) as a positive thing… which, indeed, it truly is.

So, beautiful trails; a wide variety of workshops, from quilting to photography to catching frogs; Family Nature Getaway weekends… all of these things describe PEEC. Classes on sustainable living, muck raking and butterflies; Summer Day Camp, Easter Seals Camp and Adventure Residential Camp; hikes for singles, night hikes, waterfall hikes… all describe PEEC. A great Bookstore filled with great American made products, recycled/recyclable items, amazing sustainable bargains, gifts and books; selling items produced in a healthier, greener, more sustainable manner; contributing to the education of our visitors and neighbors … this also describes PEEC.
Acorns
By Sheri Bone

What did the acorn say when it grew up? “GEOMETRY!” (Get it? “Gee, I’m a TREE!”)

Enough of the math jokes. This is a science article.

Acorns. What are they? What is their purpose? Why are some round and some oblong?

Acorns are the nut/seed of the oak tree (genus Quercus).

Different species of oak trees have characteristics unique to their species which help make identification possible. For example, there are two main ‘families’ of the genus Quercus in North America: red oaks and white oaks. Red oaks generally have little tips or points at the end of the lobes of their leaves, (‘red’ is short and to the point) while leaves on the trees in the white oak family have rounded lobes.

Similarly, acorns of different species of oak have different characteristics, and each species of oak tree’s acorns will be different from that of another species. If you have ever collected acorns as a child (or adult), you will have noticed that some acorns are rounder than others. Some have a cap that is at the very end of the acorn, while on some varieties, the cap almost completely covers the acorn. Some acorns, when ripe, are brown while others are tan.

The cap is really called a “cupule” and is where the acorn is produced. It is not part of the actual acorn, and is mostly needed for protection. The shape, size and characteristics of the different cupules and acorns can tell you what kind of oak tree produced it.

Descriptions about the acorn size and shape usually accompany the description in field guides to trees. For example, in “A Guide to Field Identification – TREES of North America,” the description of the acorn of the White Oak (Quercus alba) reads “The oblong acorns, 0.5 to 0.8 of an inch long, are set in a bowl-like cup covered with warty scales.” The acorns of another white oak family member that is commonly found in our forests, the Chestnut Oak (Quercus prinus), are described as “oval acorns, 1 to 1.5 inches long (that) are lustrous and short stemmed, their lower third covered with a thin cup with fused scales.” As you become more familiar with the different acorns, you will easily be able to identify the tree from which they came!

Acorns provide food for many forest creatures, thereby enhancing the habitat for many animals. Turkeys, jays, some ducks, and several species of woodpeckers are among some birds that eat acorns. Mammals that feed on acorns include mice, squirrels, bear and deer. Squirrels are known for creating caches of acorns that not only help them have food during the winter, but also contributes to spreading these oak seeds throughout the forest.

Native and early Americans (and other peoples throughout history) have used acorns as a source of food, too. As a rule, acorns from white oak trees have less tannin than those of the red oak family, thereby giving them a less bitter taste. Making acorn flour requires time and patience as there are quite a few steps: leaching out tannins; shelling and grinding the acorns; and finally, drying. The result is a nutty-flavored, gluten free flour that is also full of nutrients. According to http://www.eattheweeds.com/acorns-the-inside-story/, acorns from Quercus alba, — the white oak — are 50.4% carbohydrate, 34.7% water, 4.7% fat, 4.4% protein, 4.2% fiber, and 1.6% ash. Because it contains fats, it will spoil if not stored properly, so you must plan for that, too.

If you are interested in making acorn flour or finding other ways to cook with acorns, just search the internet (‘cooking with acorns’) and use good judgment as you would for any article found on the web.

The mighty oak started as a tiny acorn and provides so much for so many. Amazing.

Now to end with a joke. How do you catch a squirrel? Go up a tree and act like a nut. Or in this case, an acorn!
Colors of Autumn

By Derek Scott

Every year, people across the country are mesmerized by the beautiful colors of autumn. Oranges, yellows, and reds are everywhere you look but have you ever stopped and wondered why this amazing phenomenon occurs? Yes, the leaves are getting ready to drop from their trees for the season, but there is much more to it than that.

Throughout the growing season of spring and summer, leaves spend most of their time producing food for the tree. The green pigment that we associate with leaves comes from the chlorophyll inside—a chemical capable of converting sunlight into chemical energy. Sunlight is absorbed by the chlorophyll and mixed with carbon dioxide and water to yield carbohydrates in the form of sugar and starch.

In the fall, as the days grow shorter and temperatures begin to drop, the trees stop making food and begin preparing for winter. The chlorophyll in the leaves begins to break down, resulting in other pigments within the leaves becoming visible. Carotenoids and xanthophyll, which are present year-round in the leaves, begin to show their oranges and yellows without being masked by chlorophyll. Around the same time, anthocyanin is produced in the leaves to help draw out the remaining nutrients resulting in the red pigment associated with fall colors. The chemical compositions within each leaf vary between tree species and can often result in a variety of oranges, yellows, and reds.

Weather can also play a big factor in the colors of fall from year to year. Late summer droughts will often result in color changes later in the season. Early frosts can cause a rapid turn-over, turning most leaves brown before they truly show their beauty. Warm, wet weather can really dull the colors while cool, overcast conditions make them extremely vibrant.

Unfortunately, all good things must come to an end at some point and the leaves eventually fall from the trees. After all the nutrients have been salvaged, the leaves form thin cell layers between their petiole and the tree, which cuts off the support system of the leaves. While this is happening, the trees will also produce a similar seal along the branch. Once wind knocks the leaf off the tree under its own weight, the result is sealed over area which is referred to as a leaf scar. It is important to note that while most trees will lose their leaves this way, some species such as the American Beech will keep the dead leaves until the new growth appears the following spring.

Fall is the time of year when nature really gets a chance to show off its beauty. For most regions, color changes often occur in the early weeks of October. The spectacle doesn’t last for very long though, so make sure you get out and enjoy it while you can because it only comes once a year!

Content Credit: SUNY ESF
Environmental Information Series
Photo Credit: James Maloney
**Autumn Programs and Getaways 2015**

**PRE-REGISTRATION REQUIRED**

Unless otherwise indicated.

**TO REGISTER:**

Call PEEC at 570-828-2319

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**October**

**Fall Photography Weekend w/Del Morgan**

From Friday, October 02, 2015

To Sunday, October 04, 2015

Includes 2 nights lodging and meals from Friday dinner – Sunday lunch.

**$270 / $220 Commuter Rate**

Join Del Morgan, Professional Fine Art Photographer and Educator, for a fun-filled weekend dedicated to understanding and developing the skills necessary for creating visually stunning images. Don’t miss this wonderful opportunity – capture the beauty of autumn under the guidance of an amazing teacher!

**Fall Photography w/ John Barclay**

From Monday, October 12, 2015

To Sunday, October 18, 2015

**Weekend or Week-Long Option!**

October 12-16 -- $750 / $700 Commuter

October 16-18 -- $290 / $240 Commuter

Capture the beautiful fall colors with world renowned photographer, John Barclay. Learn about exposure, composition and more. Geared towards DSLR type cameras. A tripod is recommended, but not required. Includes lodging and meals. Don’t miss this wonderful opportunity – capture the beauty of autumn under the guidance of an amazing teacher!

**Nature at Night**

Saturday, October 17, 2015, 6-8pm

Cost: $5

A cool fall 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.

**Ecozone Discovery Room!**

Sunday, October 18, 2015, 1-4pm

Cost: $2 per person

Climb into a bald eagle’s nest, crawl into a bat cave, and dig in a fossil pit! Explore this indoor discovery room and enjoy hands-on exhibits on natural history, sustainability and the local environment. No registration required.

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**November**

**Boy Scout Badge Fest**

Saturday, October 24, 2015, 9am-4pm

Payment is required at registration.

Space is limited - call early!

Cost: $20 Full Day

Attention all Webelos and Boy Scouts! Join us for a fun day of badge work! Webelos will focus on the new Webelos Walkabout Adventure. Boy Scouts will work towards the Environmental Science merit badge; blue cards will be provided by PEEC.

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**Fire Building**

Sunday, October 25, 2015, 10am-12pm

Cost: $5

Learn some primitive fire making skills. Try your hand at a flint and steel fire, a bow drill fire, and more! Ages 10+ please.

**Wilderness Skills**

Sunday, October 25, 2015, 1-3pm

Cost: $5

Learn a variety of outdoor survival skills, ranging from fire building and camping preparedness to tracking and stalking animals. Ages 10+ please.

**Little Eco Explorers: Bats**

Saturday, October 31, 2015, 10am-12pm

Cost: $5 per child

It’s a new program for 3-6 year olds! Join us for a story, craft, and activity focusing on a particular critter. Call for details.

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**Ecozone Discovery Room!**

Saturday, October 31, 2015, 1-4pm

Cost: $2 per person

Climb into a bald eagle’s nest, crawl into a bat cave, and dig in a fossil pit! Explore this indoor discovery room and enjoy hands-on exhibits on natural history, sustainability and the local environment. No registration required.

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**Fall 2015**
SeasonsPEEC
Continued from Page 9

**NOVEMBER**

**Sunday for Singles Nature Hike**
Sunday, November 01, 2015, 1-3pm
Cost: Free
Enjoy a guided hike on a PEEC trail. This program is all about exploring nature and meeting new people.

**Girl Scout Badge Fest**
Saturday, November 07, 2015, 9am-4pm
Payment is required at registration.
Space is limited - call early!
$12 Half Day / $20 Full Day
Attention all Girl Scouts! Come to PEEC for a fun day of hands-on badge work. Brownies will work on the Hiker and Senses badges, Juniors will focus on the Animal Habitat badge, Cadettes will work towards the Trailblazing badge, and Seniors will work towards the Adventurer badge.

**Game Dinner**
Saturday, November 07, 2015, 5-7pm
5pm - Reception
6pm - Dinner in the Dining Hall.
Cost: $35 / $60 couple
Enjoy the bounty of the season at PEEC's 5th annual game dinner! This dinner features local game and seasonal harvests. Bring your friends & family to enjoy this cozy evening.

**The “Easy Does It” Hike**
Sunday, November 08, 2015, 1-3pm
Cost: Free
Enjoy a nice leisurely walk through the woods. Join us for easy hikes, slow paces and interpretive natural history.

**Ecozone Discovery Room!**
Saturday, November 14, 2015, 1-4pm
Cost: $2 per person
Climb into a bald eagle’s nest, crawl into a bat cave, and dig in a fossil pit! Explore this indoor discovery room and enjoy hands-on exhibits on natural history, sustainability and the local environment. No registration required.

**Lenape of the Eastern Woodlands**
Sunday, November 15, 2015, 12-2pm
Cost: $20
Mike Dennis of Traditional Earth Skills will teach you about the day-to-day activities of the Lenape culture. The food, clothing and shelter of the local hunter gatherers will be presented, along with handmade artifacts. Ages 10+ please.

**Around the Campfire**
Saturday, November 21, 2015, 4:30-6pm
Cost: $5
Enjoy a lovely evening around the campfire. S’mores provided. Bring your favorite campfire song! Pre-registration required.

**Introduction to Astronomy**
Saturday, November 21, 2015, 6-7:30pm
Cost: $10
Step out for an evening of star gazing and learn about some of the constellations in the sky. Pre-registration required.

**Holiday Bows and Boughs**
Sunday, November 29, 2015, 12-2pm
Cost: $10
Create your own holiday decorations using natural materials! We provide evergreen boughs and materials for you to make wreaths. You can also bring your own supplies and decorations. Pre-registration required.

**DECEMBER**

**Flying Needles Quilt Camp**
From Thursday, December 03, 2015
To Sunday, December 06, 2015
$255 / $205 Commuter
All UnFinished Objects and fiber arts are welcome! Join Patti Shreiner for a relaxing weekend in the beautiful Pocono Mountains. Beginners are always encouraged to join. Focus projects: all fiber arts. Includes lodging and meals!

**Winter Ecology Hike**
Sunday, December 06, 2015, 10am-12pm
Free for Members | $5 for Non-Members
Learn how different plants and animals survive the winter. Join us on a hike and experience PEEC in the wintertime. All ages welcome.

**Scouting Jamboree Weekend!**
From Saturday, December 12, 2015
To Sunday, December 13, 2015
Ages 11 and older: $125
Children 7-10: $95
Children 4-6: $65
Free under 3
Friday night lodging option and commuter/day rates available – call for details
Bring your troop or family to spend a weekend in the woods! Learn about survival and animal tracking, go on interpretive hikes, make a craft, and eat s’mores around a campfire! Price includes one night of lodging, four meals, and classes led by expert PEEC staff. Both Boy Scouts and Girl Scouts are welcome at this weekend! Scouts will be able to apply the skills learned toward outdoor, nature and environmental badges. Parents/Leaders must supervise children at all times. Call for more details or to register. Don’t forget to bring swaps!

**Ecozone Discovery Room!**
Saturday, December 12, 2015, 1-4pm
Cost: $2 per person
Climb into a bald eagle’s nest, crawl into a bat cave, and dig in a fossil pit! Explore this indoor discovery room and enjoy hands-on exhibits on natural history, sustainability and the local environment. No registration required.