



From The Nature Conservancy:

## Welcome Oklahoma's Newest Preserve:

# HOTTONIA BOTTOMS!

One of the most biologically rich natural systems in Oklahoma and home to rare plants and wildlife

September 27, 2016

The Nature Conservancy and a group of partners have teamed up to protect 980 acres of forested wetlands on the Antlers Aquifer in the Upper West Gulf Coastal Plain ecoregion, which spans portions of Oklahoma, Texas, Arkansas and Louisiana. Habitats in this ecoregion may contain more than 30 plant species per square meter – a density on par with tropical forests – making it one of the most biologically rich natural systems on Earth.



“Some places are so important, we need to protect and manage them for their biodiversity. This is one of those places,” said Mike Fuhr, State Director for The Nature Conservancy of Oklahoma. “Thanks to the support of our partners, we can preserve this fully intact native landscape and it’s thriving population of rare plants and animals.”

The preserve’s name **Hottonia Bottoms** comes from its ecologically-rich **bottomland hardwood forest** community and *Hottonia inflata*, the American featherfoil, a biologically interesting and attractive native aquatic plant found on the property. *Hottonia inflata* is one of many rare plant species found on wetlands in the immediate area.

(Continued on Page 3)

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## Not an Endorsement , but ...



Click here for access to everything below:  
<http://www.itreetools.org/>

- Quantify structure, risk & environmental services of trees
- Advocacy and management tools for community trees
- Built upon peer-reviewed USFS science
- Free and easy to use

## Quiz!! Quiz!! Quiz!!

This quiz is going to be a tough one because this flower is a rare one. Give it a try, but if you are stumped go to Page 17 for the name and background information.



An environmental education newsletter for the citizens of Oklahoma sponsored by the Department of Biology at Oklahoma City University. Items appearing in this newsletter do not necessarily reflect the opinions or endorsement of the sponsoring organization.

Editor: Beth Landon  
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Please send any submissions to The EnvironMentor Newsletter or The Calendar to:  
[Environmentor@okcu.edu](mailto:Environmentor@okcu.edu)

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Download your EnvironMentor Newsletter in pdf form from:  
<http://www.okcu.edu/artsci/environmentor>

Visit The EnvironMentor Calendar at <http://www.okcu.edu/artsci/environmentor/> Scroll down from The Newsletters. Regularly updated as information becomes available.

(Continued from Page 1)

Rare animal species include goldstripe darter, western chicken turtle, and the American Burying Beetle, a federally-listed endangered species. The property also provides high-quality habitat for migratory birds in the central flyway.

The Nature Conservancy's overarching conservation objectives for Hottonia Bottoms are to maintain and manage for habitat and biological diversity through land protection. Land stewardship activities will focus on maintaining the existing assemblage of habitat types through the use of conservation tools such as prescribed fire, invasive species management, species surveys and ecological monitoring.



Western Chicken Turtle



from: <http://txstate.fishesoftexas.org/etheostoma%20parvipinne.htm>



from the Fish and Wildlife Service

Clear Boggy Creek, a tributary to the Muddy Boggy River, flows along the preserve's boundary. Rivers and streams are the lifeblood of these forested bottoms, flowing across the floodplain during spring floods and leaving behind soil, seeds from upstream forests, and sediments that become natural fertilizer for plants. These rich, moist soils nourish an explosion of biological diversity.

The value of this property includes flood control, erosion control, protection of water quality, and habitat for many bird and aquatic species.

No public use is envisioned at this time for the preserve. However, guided use for the purpose of education, outreach, monitoring, and management will be permitted.

[Learn more](#) about this new preserve and the unique aquatic wildflower, *Hottonia inflata* and read the full article.



© 2003 Eleanor Saulys  
from: <https://www.ct-botanical-society.org/Plants/view/269>



*Blue Thumb  
Water Pollution  
Education  
Program*

**Training Date (2016)**  
Friday, October 28, 6:00  
to 10:00 p.m.  
Saturday, October 29,  
8:30 a.m. to 4:30 p.m.

**Training Location:**  
City of Owasso  
Old Central Building  
109 N. Birch Street  
Owasso, OK 74055

To Register—call  
Candice Miller at  
(701) 659-0008 or  
email her at  
candice.miller@  
conservation.ok.gov

**FREE!**

# Blue Thumb Training for New Volunteers

Sponsored by—City of Owasso, Tulsa County Conservation District and Oklahoma Conservation Commission



## Protect Your Streams!

Come to this Blue  
Thumb training and learn  
about:

- ⇒ stream ecology
- ⇒ pollutants
- ⇒ water testing
- ⇒ watersheds
- ⇒ field collections

## Who can become a Volunteer?

- ⇒ Teachers & students
- ⇒ 4-H members & leaders
- ⇒ retired folks
- ⇒ professionals
- ⇒ farmers & ranchers
- ⇒ college students
- ⇒ anyone with an interest in clean water



**Become a water quality monitor!**  
**Do your part for local streams!**



at the Blue Thumb Volunteer Conference  
Canyon Camps, Hinton, OK



at the Blue Thumb Volunteer Conference  
Canyon Camps, Hinton, OK



**Become a Blue Thumb Volunteer!**  
**Join in the fun!**

SELMAN LIVING LABORATORY INVITES YOU TO

# Star Party

10 miles southwest of Freedom in rural  
northwestern Oklahoma  
Directions available at [www.uco.edu/cms/sll/](http://www.uco.edu/cms/sll/)

Oct. 28, 2016  
7 PM - ?



-Learn about the  
night sky  
-Look through a  
telescope in our  
astronomy dome



**FOR MORE INFORMATION AND DIRECTIONS:**

Dr. Rebecca Williams  
(405) 974-5973 · [Rpace2@uco.edu](mailto:Rpace2@uco.edu)

 [UCOSelmanLivingLab](https://www.facebook.com/UCOSelmanLivingLab)  
[www.uco.edu/cms/sll/](http://www.uco.edu/cms/sll/)

UNIVERSITY OF CENTRAL OKLAHOMA



# Why A Remote Corner Of Oklahoma's Panhandle Might Be The Perfect Place To Throw A Star Party

Excerpts from an article by Joe

Wertz with StateImpact Oklahoma

"The Oklahoma Panhandle is empty and hard to get to. The region attracts few people, very little industry and none of the light pollution that accompany both. It's a remote location that's earning a national reputation as the perfect spot to stare deep into space."

"Terry Zimmerman adjusts the eyepiece on the 12.5-inch f5 [Dobsonian](#) he built from a kit — technical talk for a telescope that's so tall, you have to climb a stepladder to take a peek."

"Right now I've got it set on M13," he says, focusing the scope on the [globular cluster of stars](#) in the constellation Hercules. "It looks like a snowball or a popcorn ball."

"Zimmerman says the plateaus in the desolate, shortgrass prairie near the tiny town of Kenton are the perfect environment for stargazing."

The starlight is immersive. It's so bright, attendees can walk around at midnight without a flashlight — which is good because flashlights are banned because they disrupt night vision unless they're outfitted with a red filter.

**The EnvironMentor will keep an eye out for the Okie-Tex Star Party next year.**

To read the entire article click on this URL:  
<http://kgou.org/post/why-remote-corner-oklahoma-s-panhandle-might-be-perfect-place-throw-star-party>

**GLOBE AT NIGHT 2016**

January 1—10	June 27—July 6
February 1—10	July 28—August 6
March 1—10	August 25—Sept 3
March 30—April 8	October 21—31
April 29—May 8	November 20—30
May 29—June 7	December 20—30

**WWW.GLOBEATNIGHT.ORG**  
Get Out and Observe the Night Sky!

Engage people worldwide in observing the nighttime sky.  
Encourage students and families to participate in citizen-science with a hands-on learning activity.  
Gather light pollution data from an international perspective to monitor sky brightness and its effects.

**Can you see the stars?**

There are still some good dates left for an outing in the panhandle ... or in your own back yard!

For the Citizen Science connection read the article on Page 6.

See more on this program on Page .



The [Globe at Night](#) program is an international citizen-science campaign to raise public awareness of the impact of light pollution by inviting citizen-scientists to measure their night sky brightness and submit their observations using a computer or smartphone.

Due to light pollution, the night sky over many of our cities is hundreds of times brighter than a natural, starlit sky. This skyglow hides the stars from our sight and prevents us and all life on Earth from experiencing a natural night, even in areas hundreds of miles away from urban development.

An important part of solving the problem of light pollution is to have a thorough understanding of its magnitude, and a great way to do that is to measure the brightness of the night sky. Thankfully, it is relatively easy to make such measurements, and you can help.

## Become a Citizen Scientist

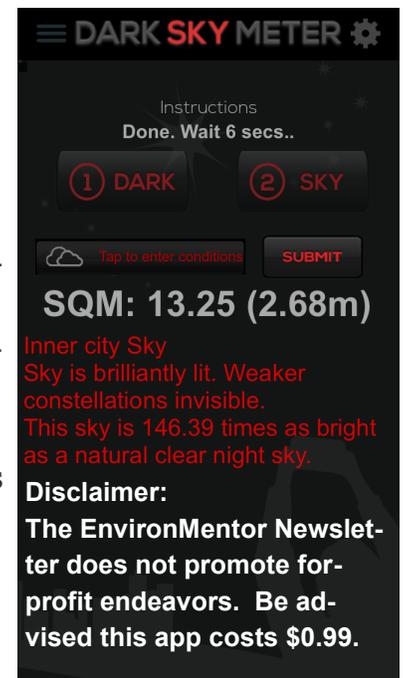
If you would like to access more information about the night sky, you can explore this website: <http://darksky.org/light-pollution/measuring-light-pollution/>

Participating in the [Globe at Night](#) citizen-science campaign is a great way to help our understanding of skyglow and its impact. No special tools are required and observations can easily be reported by smartphone, tablet or computer.

It's also possible to use your smartphone to make night sky brightness measurements. [The Dark Sky Meter app](#) makes use of the iPhone camera to record the brightness of the night sky, while the [Loss of the Night](#) app (this app is free) walks the user through the sky as measurements are made with a different sensitive tool – the human eye. It's available for both [Android](#) devices and [iPhones](#). And now, thanks to the [MySkyatNight](#) project, you can also do your own analysis of all this available data.

(In our research of items in The EnvironMentor Newsletter, we are concerned that the project below may be on hiatus as the last data uploads were in 2015. There may be a delay in processing so we are including the information here.)

Another way you can help is by participating in the [Cities at Night](#) project, which relies on citizen scientists to map and identify photos of cities taken from the International Space Station. This valuable information helps researchers better assess light pollution across of the globe.



(Continued on Page 7)

(Continued from Page 6)

In addition to the smart phone apps and the Globe at Night project, more rigorous, long-term monitoring is also being conducted. The section below describes standards for collecting and reporting skyglow measurements.

## Community Standards for Reporting Skyglow Observations

The introduction of the Sky Quality Meter and the International Year of Astronomy Lightmeter have led to a large number of permanent online skyglow monitoring stations. At the same time, a number of individuals and groups have developed their own non-commercial devices for measuring skyglow.

While these developments are excellent news for those interested in monitoring light pollution, there isn't yet a common standard for recording measurements from these devices. This has greatly hampered efforts to compare measurements from different locations, and to develop databases containing long-term measurements from around the world.

At the Cabauw Lightmeter InterComparison (CLIC) workshop in May 2012, a group of light pollution researchers defined a proposal for a new standard format to be used for recording skyglow measurements. The goal of the standardization is to make comparisons of future measurements easier, regardless of whether the measurements were taken using currently available detectors or by new detectors. For this reason, the community has designed a format that hopefully anticipates the needs of potential future devices (e.g., multiple channels with different filters or opening angles), but without making the format so open as to not actually be helpful.

After a four-month period of public comment, the new standard was officially adopted at the 12th European Symposium for the Protection of the Night Sky held in 2012. Although the public commenting phase is officially over, if you notice something in the format or documentation that should be changed, please contact Christopher Kyba at [kyba@gfz-potsdam.de](mailto:kyba@gfz-potsdam.de).

Both companies have pledged to release new versions of the readout code that conform to the community standard. The format is explained in detail here: [Sky Glow Definitions](#)

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## More news from Crow Creek:

The Crow Creek Community is posting tips for "Winterizing your Yard" on Facebook. Here is the latest tip:

### Plant Food for Winter Foragers

Birds and many mammals are active throughout the winter. Include native shrubs, trees and perennials in your landscape that will feed wildlife. Stop dead-heading perennials now to give them time to produce seeds favored by native birds and small mammals. After you dispose of frost-killed plants in vegetable gardens, plant a cover crop on the beds. The cover crop will enrich garden soil, prevent soil compaction and erosion, support soil organisms and provide food and shelter for invertebrates.



For more tips like this one



**The Crow Creek  
Community**



TENKILLER STATE PARK WELCOMES  
THE OKLAHOMA CITY ASTRONOMY CLUB  
OCTOBER 14 AND OCTOBER 15, 2016.

**OCTOBER 14, 2016**

STAR GAZING: Behind cabins 27 and 28 at 8:00 P.M..

**OCTOBER 15, 2016**

SATURDAY 1:00 P.M. Glen Kilgore of the Oklahoma City Astronomy Club will be at the Driftwood Nature Center with a beautiful PowerPoint presentation about our universe. Bring your camp chairs and join us..

**OCTOBER 15, 2016**

STAR GAZING: Behind cabins 27 and 28 at 8:00 P.M..

WELCOME TO OKLAHOMA'S HEAVEN IN THE HILLS.

# Songbirds in Snow

Two years after featuring Painted Bunting, Baltimore Oriole, Scarlet Tanager, and seven other species in a series of colorful first-class songbird stamps, the U.S. Postal Service is celebrating four birds that brighten cold winter days across North America — Golden-crowned Kinglet, Cedar Waxwing, Northern Cardinal, and Red-breasted Nuthatch.

The new Songbirds in Snow Forever stamps, pictured below, were dedicated August 4 at the American Philatelic Society's Stampshow 2016, in Portland, Oregon.

The winter birds are the handiwork of well-known illustrator and designer Robert Giusti, who painted each in acrylic on canvas board. The Swiss-born artist also painted the songbirds that appeared on the 2014 stamps.

"The Postal Service has a long tradition of putting birds on stamps — to celebrate and raise awareness of these amazing creatures," said Cliff Rucker, of the Postal Service. "And the four stamps we're dedicating today," he added, "are truly beautiful works of art."

Here's a mini-profile of each bird species depicted:

## Golden-crowned Kinglet



Though only a little larger than a hummingbird, Golden-crowned Kinglet can survive nighttime temperatures of  $-40^{\circ}\text{F}$ . The tiny birds roost in evergreen forests and huddle together in small flocks high up in the branches to stay warm. Kinglets are wary of taking food from a bird feeder; their winter diet is made up mainly of dormant insects and their eggs as well as overwintering caterpillars.

[Photo ID: Separating Ruby-crowned and Golden-crowned Kinglets.](#)  
[See photos of Golden-crowned Kinglet.](#)

## Cedar Waxwing

Cedar Waxwing gets its name from its favorite winter food, cedar berries, and the waxy red tips of its wing feathers. One of the few North American birds that thrives on a diet of mostly fruits, the waxwing also consumes the winter fruits of the juniper, mistletoe, crabapple, and other plants. It generally inhabits open woodlands and hedgerows, but in winter it will join a flock around fruiting plants, including those in backyards and gardens.



[Laura Erickson: Why I'm drawn to Cedar Waxwings.](#)  
[See photos of Cedar Waxwing.](#)

## Northern Cardinal



The state bird for Illinois, Indiana, Kentucky, North Carolina, Ohio, Virginia, and West Virginia, Northern Cardinal is found in thickets along forest edges or in shrubby, overgrown fields and hedgerows as well as in backyards. Cardinals usually appear in pairs but can gather in small flocks in winter. Their diet is mainly seeds and fruit, but they also eat insects. They are frequent visitors to bird feeders. Sunflower seeds are a favorite.

[See photos of Northern Cardinal.](#)  
[Species profile: Red wonder, Northern Cardinal.](#)

(Continued on Page 10)

(Continued from Page 9)

## Red-breasted Nuthatch



Listen for Red-breasted Nuthatch's distinctive call: It sounds like a tiny toy horn. The bird prepares for winter by caching conifer seeds, a preferred food, in openings in tree bark. The nuthatch later collects the seeds as it walks headfirst down the trunk. It lives mainly in coniferous forests, but it is attracted to bird feeders, drawn particularly to sunflower seeds, peanuts, and suet.

[See photos of Red-breasted Nuthatch.](#)

The new Songbirds in Snow Forever stamps are available in booklets of 20, with each of the four designs repeated five times. You can purchase stamps at your local Post Office, at the [Postal Store website](#), or by calling 800-782-6724.

The Postal Service receives no tax dollars for operating expenses and relies on the sale of postage, products, and services to fund its operations.

[Read more about Songbirds in Snow Forever Stamps.](#)

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# This Swimming Spot Has The Clearest, Most Pristine Water In Oklahoma

from [springcreekok.org](http://springcreekok.org)



**This boulder reflects the crystal clear water found in Spring Creek.**

We all know Oklahoma is filled with fresh water – from lakes to rivers to streams, everywhere you turn you can find it – however, it's not always the cleanest water. But we found a creek in Oklahoma that boasts some of the clearest, most pristine water in Oklahoma – Spring Creek in northeastern Oklahoma. It starts in Delaware County and flows southwest about 34 miles through Cherokee, Delaware and Mayes Counties. Spring Creek is listed as high quality water (only five bodies of water in the state have this high quality) found to be clear of harmful levels of pollution. It runs through private and public land and can be accessed at several spots along the banks.

To read the rest of this article and see many more pictures click on this URL:  
[http://www.onlyinyourstate.com/oklahoma/pristine-swimming-spot-ok/?utm\\_medium=bsts&utm\\_source=oklahoma&utm\\_campaign=bsts](http://www.onlyinyourstate.com/oklahoma/pristine-swimming-spot-ok/?utm_medium=bsts&utm_source=oklahoma&utm_campaign=bsts)



## Fall Workshop Schedule

One of the best times to be in the forest is in the autumn. Come out to fill your lungs with good fall air and your eyes with the beauty of changing leaves. See below for three chances to do this:

- PreK-8th grade Workshop; Comanche Nation College, Lawton, October 8th, 2016 9am-3pm
- PreK-8th grade Workshop; Oxley Nature Center, Tulsa, November 5th, 2016 9am-3pm
- PreK-8th grade Workshop; OKC, November 12th, 2016 9am-3pm

All workshops have a \$25 registration fee for curriculum and resources. To sign up visit [www.forestry.ok.gov/workshop-schedule](http://www.forestry.ok.gov/workshop-schedule)



To learn more about Oklahoma Project Learning Tree or Oklahoma Forestry Services visit [www.forestry.ok.gov](http://www.forestry.ok.gov)



# 2016 plant id for soil health trainings



**Still two  
trainings  
to go.  
Don't  
miss out!**

**October 18 in Nowata, OK** **New date!**

register at Nowata Co. CD 918/273-1100

**October 19 in Pawhuska, OK\*** **New date!**

*Tall Grass Prairie Preserve*

register at Osage Co. CD 918/287-3290

## **Plant ID the 'Cowboy Way'**

Spend the day learning:

- \*To identify native plants
- \*How plants work together
- \*Beneficial plants for livestock
- \*Prairie ecosystem dynamics

**MUST BE REGISTERED  
TO ATTEND**

**Lunch is NOT provided.**  
**(Please bring a sack lunch.**  
**Water & ice will be available.)**

\* Lunch provided at some locations. Inquire  
when you register.





October 22nd, 2016  
Turkey Mountain Urban Wilderness

Join us for a Walk in the Forest! This family friendly event will have activities for kids and opportunities to learn about your backyard forest.

October 22nd, 2016  
10am-3pm

Turkey Mountain Urban Wilderness  
6850 S Elwood Ave, Tulsa, OK 74132

Giveaways and resources will be available while supplies last.

For more information visit [forestry.ok.gov](http://forestry.ok.gov)



Hosted by:  
Oklahoma Division of the Society of American Foresters,  
Oklahoma Forestry Services,  
and Oklahoma State University NREM





## Lake Thunderbird Watershed Clean-up

Join us for a conversation on  
Lake Thunderbird water quality and help clean up the  
watershed!

Get answers to such questions as:

- What is "stormwater" and why should I care about it?
- How can I help keep Lake Thunderbird clean?

Then grab a trash bag and some gloves and help make a difference in  
our watershed by removing trash from the park!

**Door  
Prizes!**



**Snacks  
Provided!**

**Prizes for the Most Unusual Item, Most Recyclables  
Collected, and others!!**

**When?** Sunday, October 30th from 2:00 pm to 4:00 pm

**Where?** Lake Thunderbird Sailing Club  
4324 Cannon Drive

**Questions?** Contact Aaron Milligan  
City of Norman Engineering  
405 366-5435  
aaron.milligan@normanok.gov



# Announcing:

## Research Digest

New evidence for advancing  
the children and nature movement.



children & nature  
NETWORK

## New Research Library & monthly Digest launched to help you "make the case" for children and nature.

We are so pleased to announce the launch of our upgraded [Research Library](#), containing nearly 400 peer-reviewed research articles relevant to the children and nature movement. This expertly curated, free online resource offers robust search functionality to help you find the scientific evidence you need to increase nature access for all children, families and communities.

Articles in our Library are international in scope, represent a variety of research methodologies, and are drawn from the scientific literature of different disciplines, including public health, urban design, education, psychology, conservation, architecture and more.

We curate and summarize peer-reviewed literature exclusively, and update our collection regularly. To keep you informed of the latest additions to our Research Library, we're also launching a monthly **Research Digest**.

Best Regards,

*Your friends at the Children & Nature Network*

For some reason The EnvironMentor Newsletter is not able to provide a clickable URL for the first issue of the *Research Digest*, but it can be accessed by entering "children and nature research digest" in your browser.

### The Environmental Outlook: Celebrating And Understanding Our Urban Forests

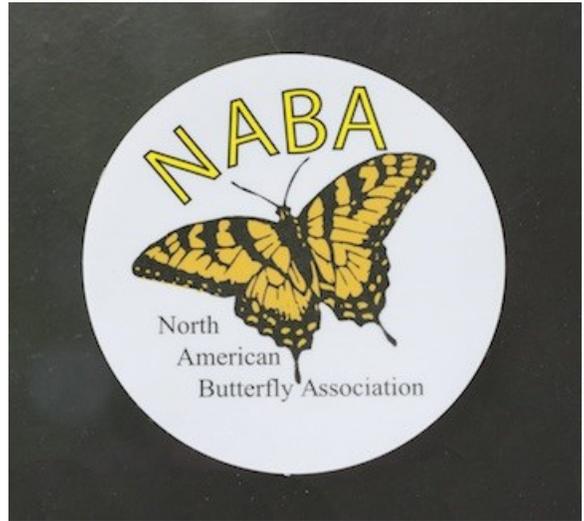
To stream this radio show through your computer click on this URL:

<http://thedianerehmshow.org/shows/2016-10-05/celebrating-and-understanding-our-urban-forests>

"America's cities are full of trees but despite encountering them all the time we tend to take them for granted or know little about their natural history and civic virtues. But in a new book, "Urban Forests", author Jill Jonnes says trees play an extraordinarily important role in our cityscapes and they are the dominant component of what is now called green infrastructure."



# North American Butterfly Association Seeks Student Chapters



NABA, the largest single organization dedicated to the study and enjoyment of wild butterflies, is announcing the opportunity for butterfly enthusiasts at colleges and universities to establish Student Chapters. Institutions of higher learning foster environmental stewardship in the next generation, enhance butterfly research and work to engage communities on and off-campus. By partnering with students and their faculty sponsors, NABA intends to extend the reach of its mission and interface with today's (and future) natural resources leaders.

Student Chapters will be integral to increasing butterfly counts across the continent, hosting field trips and inviting guest speakers to campuses across Canada, Mexico and the United States. These activities will highlight the conservation needs of butterflies in the face of intensified land use and other population threats. Creating and maintaining quality pollinator habitat will be an important undertaking for the new Student Chapters. NABA's immense 30-year data set for butterfly populations will serve as unprecedented material to be analyzed through student projects.

Student Chapter meetings will be open to the public to improve the collaborative nature of gatherings. Membership benefits include access to NABA publications: American Butterflies & Butterfly Gardener. Students will be exposed to networking opportunities which will result in on-the-job training in butterfly identification, study design, survey techniques, data management and learning host plants necessary to complete butterfly life cycles.

Those interested in forming a Student Chapter should contact NABA's Chapter Liaison, Laura Bianco at [bianco@naba.org](mailto:bianco@naba.org) to receive sample bylaws and other information. The North American Butterfly Association (NABA) is a 501 c(3) non-profit entity headquartered in Morristown, NJ. The organization's largest project is the National Butterfly Center in Mission, TX. Through an active Chapter system and engaged membership, NABA works locally to promote on-the-ground conservation work and institutes policy initiatives to further its mission. For more information visit <http://www.naba.org>. Connect with us on social media @NABAButterfly.

## Answer to Quiz! Quiz! Quiz!

*Here is a close-up of the flower from <http://www.jeffpippen.com/plants/spiranthes.htm>.*



**“Rare orchids are blooming on Red Slough Wildlife Management Area in southeastern Oklahoma! Biological Aide David Arbour expects these Fragrant Lady’s Tresses to be in peak bloom by the end of the week [this was a week or two ago]. Fragrant Lady’s Tresses occur in southern marshes and swamps and grow to 2-3 feet tall.”**

Who?

You!

Where?

The Salt Plains  
National Wildlife  
Refuge



from [https://www.allaboutbirds.org/guide/Whooping\\_Crane/id](https://www.allaboutbirds.org/guide/Whooping_Crane/id)

What?

The Oklahoma Ornithological Society is hosting a 1-day Crane Chase to look for Whooping Cranes on their fall migration. This event consists of field trip to look for Whooping Cranes and Sandhill Cranes. We will drive around the Refuge and surrounding areas to find the cranes and observe their behavior. Participants will also take part in a discussion about their migration behavior and management with ornithologists/wildlife biologists.

When?

Sunday, November 20, 2016. This is a date when the cranes have been present on fall migration in recent years. The event length will depend on when we find the cranes. We will scout ahead of time to get an idea of where they will be, but some driving will be required.

Why?

Because cranes are awesome!

How?

We will meet at the Salt Plains National Wildlife Refuge Headquarters/Visitor Center. Directions to the HQ/VC can be found at this link [https://www.fws.gov/.../Salt\\_Plains/visit/plan\\_your\\_visit.html](https://www.fws.gov/.../Salt_Plains/visit/plan_your_visit.html) . The meeting time is 8 AM on Sunday November 20.

Field trip leaders will include Doug Wood and Jimmy Woodard. The Refuge Biologist is planning to attend as well. We will carpool/caravan as much as possible. Standard field gear. Recommend that you bring pack lunch/snacks as there is not much in the way of eating establishments in that area. RSVP: Please send an email to Doug Wood ([dwood@se.edu](mailto:dwood@se.edu)) if you plan to attend, so we have an idea of who will be attending/headcount.

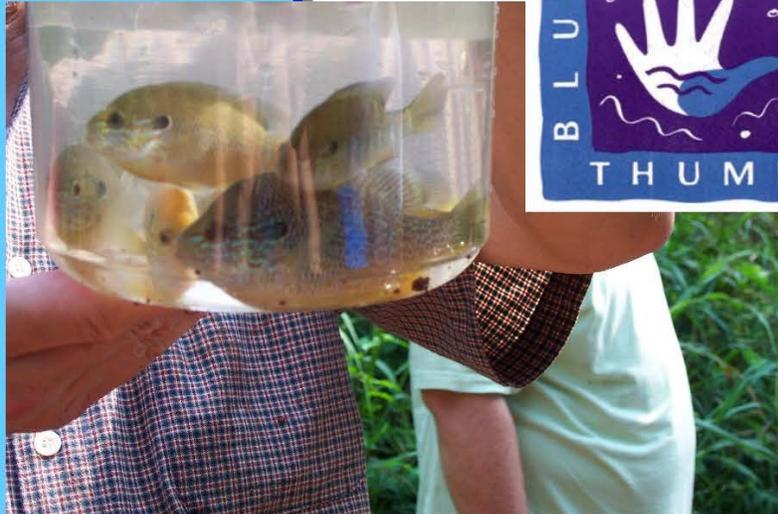


“Want a fun activity that benefits native bees and that the entire family can do right in your backyard? Build a bee hotel.”

Read the rest of the article at this

URL: <http://www.mnn.com/your-home/organic-farming-gardening/stories/how-build-hotel-wild-bees>

Do your  
part to  
protect  
water!



**T**his **FREE** training will be held Friday and Saturday .  
Participants will learn about:

- \* performing water quality tests
- \* stream ecology
- \* field collections
- \* educating the public about  
pollution prevention

### **Who can be a volunteer?**

Middle and High School Students  
Teachers  
Farmers & Ranchers  
Retired folks  
Professionals  
4-H Leaders & members  
Anyone with an interest in clean water!

**FOR MORE INFORMATION AND TO REGISTER,  
CONTACT:  
KIM SHAW  
405-522-4738  
KIM.SHAW@CONSERVATION.OK.GOV**

## **Blue Thumb New Volunteer Training**

**FREE!!!!**

**January 27-28, 2017**

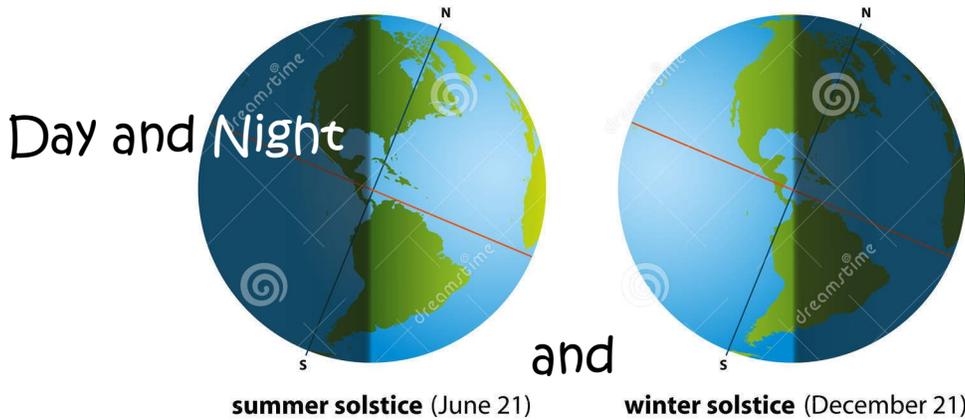
### **Oklahoma City University**

2501 N. Blackwelder, OKC, OK  
**Science & Math Building**  
Room # (TBA)

**Friday 6pm-930pm  
Saturday 830am-430pm**

**BLUE THUMB IS SPONSORED BY:**

Oklahoma Conservation Commission  
USDA Natural Resources Service



As the seasons change, we can think of ancient times. What did our ancestors think was happening?

Some people say that in the beginning, the world was dark all the time. The stars gave a bit of light, but not enough to see very clearly.

from: <https://www.dreamstime.com/royalty-free-stock-image-summer-winter-solstice-america-image38313806>

Bear liked having night all the time. Cool dark was good for sleeping. Other animals liked to use their keen senses of smell or hearing, or their very special night vision, to hunt in the dim starlight. *What are some animals that hunt at night?*

But other animals had trouble in the dark. They were afraid of the night-hunting predators. And the plants that they ate couldn't grow in the dark. *What are some animals that would prefer light?*

Rabbit was tired of bumping her nose on trees and rocks in the dark. She went to the Maker of Everything and asked for more light. But Bear came too and said, "No, my friends and I like the dark."

The Maker decided they should have a dancing contest to see whether Earth would be dark or light.

Their friends came to cheer for them. *(Divide your group into Rabbit's friends and Bear's friends.)*

First Rabbit danced, while her friends chanted "Light, light, light, light!"

Then Bear danced, and his friends chanted "Night, night, night, night!"

Rabbit danced again, faster, and her friends chanted louder "Light! Light! Light! Light!"

Bear danced faster, his friends chanting "Night! Night! Night! Night!"

*(Repeat getting faster and louder.)*

Finally the Maker of Everything said, "You both have danced and chanted very well. I love all my creatures, and I want them all to live contentedly. So you will both win: Part of each day will have light, and part will have night."

And so it has been, ever since.

*From The Earthteller,*

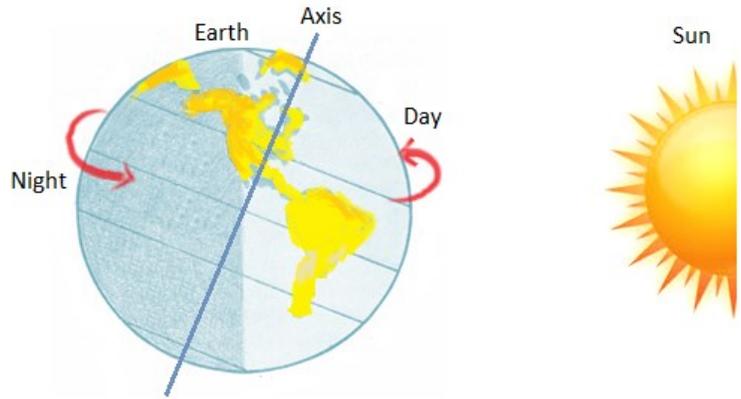
*Fran Stallings*

How come we have sunlight during the day, and dark at night? Some ancient peoples thought that after the Sun traveled east to west over our flat Earth each day, it had to sneak back through an underground tunnel to start in the east again. But now that we know the Earth is a sphere constantly rotating in space, we can see that our day happens when our part of the planet faces the Sun, and we experience night when our part rotates to the shadowed side.

*(Continued on Page 21)*

(Continued from Page 20)

*(Hey kids you can be the earth by dimming the room lights and placing a lamp (Sun) in the front of the room. When you face the lamp, you experience "day." If you turn to face away from the lamp, your faces are in "night." You can chant "Light, light, light, light!" or "Night, night, night, night!" as you turn when you read the story.)*



But Earth continually rotates, completely around: day, night, day, night.

Meanwhile, Earth orbits around the Sun.

*Get a globe or a ball. There are beach balls printed like the earth. A sticker can mark your location so that everyone can see it travel from light to dark and back again.)*

How come we have longer, warmer days in summer, and shorter, colder days in winter?

It's not because Earth's orbit takes us further away from the Sun in winter. It's because Earth tilts to one side: our axis of rotation seems to point to Polaris, the North Star.

*(Do you know what the "axis of rotation" is? Tilt the globe toward a corner of the room (Polaris) while rotating it in front of the lamp/Sun. The actual tilt is about 23 degrees. Toothpicks can be stuck into a foam ball or a large piece of fruit to represent the north and south poles.)*

*Notice that if the Sun is between the globe/ball and Polaris, it will be leaning towards the Sun. This gives longer exposure to light, and the rays are more direct: SUMMER! At the North Pole, the Sun never sets in mid-summer.*

*But when its orbital path takes it between the Sun and Polaris, the globe/ball leans away from the Sun. Days are shorter, and the rays come at a low angle: WINTER!*

## SOURCES

**Folktales:** There are many Native American stories about a dance contest to determine whether we get dark all the time, or light part of the time. I learned this one from Lynn Moroney (Chickasaw). Bear is usually the dark champion, But in many stories from further west, Ant Woman dances for light, fasting and tightening her belt. We remember this when we see the tiny waist on an ant.

<https://coyotecooks.wordpress.com/2009/12/26/american-indian-storytelling-how-daylight-came-to-be-ant-and-bear/>

<http://discoveringourstory.wisdomoftheelders.org/story-2-ant-and-bear>

**Facts:** Lynn Moroney worked with NASA's Lunar and Planetary Institute to develop "Skytellers" astronomy teaching resources that paired Native American folktales with scientific explanations. The science text and diagrams are still available:

[http://www.lpi.usra.edu/education/skytellers/day\\_night/](http://www.lpi.usra.edu/education/skytellers/day_night/)

<http://www.lpi.usra.edu/education/skytellers/seasons/>

# Green Words for All Ages

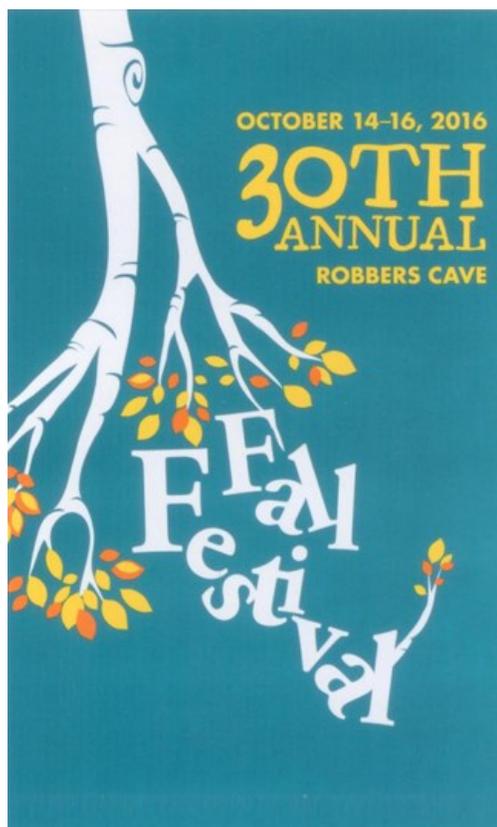
Ordinarily in this spot, there are reviews of books for kids, adults, and everyone in between; however, I am going to take this spot hostage for this issue to review a coming-of-age film that recently caught my interest right from the title: *A Birder's Guide to Everything*. This is a low-key, funny, vindication for everyone who thinks that their interests are too nerdy. Along with the sheer entertainment of the film, there is an abundance of good information about what it means to be a birder. It can be a lifestyle; you can belong to small or large groups of like-minded people, add to your leisure activities with photography and drawing, and become engrossed in an area of interest in which there is an unending supply of information and intellectual pursuits to be followed.

Note to parents: This film is rated PG-13. If you preview this film for about the first 20-30 minutes you will be able to make a determination as to its appropriateness for your child.

I will return this spot to its original purpose in the next issue of The EnvironMentor Newsletter.



Review by Sarah Markham



## ROBBERS CAVE STATE PARK

Amusement Rides 🎡 Quilt Show 🧵

200 Arts & Crafts Spaces

Fantastic Foods 🍷 Entertainment

🏍️ Dedicated Free Motorcycle Parking

Sunday Worship & Gospel Music 🕊️

### SATURDAY ONLY

Fall Foliage Cruise 🚗 Car Show

🚌 Free Shuttle Buses  
(PARK IN TOWN AND CATCH SHUTTLE TO PARK)

Robbers Cave Antique Tractor & Implement Show—June 25TH  
Poteau Balloon Fest—October 14TH & 15TH

918.465.3400

robberscavefallfestival@hotmail.com



On February 23, 2013 The EnvironMentor dipped a toe into social media. We made this decision because, at this time, there are two to three months between issues of the Newsletter. During this past gap an important event had an application deadline of April 1st so an announcement went out from Facebook. We won't bother you with anything trivial, so ...

**“Like” The Environmentor on Facebook!!**



## QUIKList Oklahoma

Leopold Education Project

<http://www.aldoleopold.org/Programs/lep.shtml>

Type in Oklahoma

Oklahoma Blue Thumb

<http://bluethumbok.com/>

Oklahoma Blue Thumb Association

[ok.bluethumb.association@gmail.com](mailto:ok.bluethumb.association@gmail.com)

Oklahoma Green Schools

<http://www.okgreenschools.org/>

Oklahoma Master Naturalists

<http://okmasternaturalist.org/>

Oklahoma Native Plant Society

<http://oknativeplants.org/>

Oklahoma Recycling Association (OKRA)

<http://www.recycleok.org/okra/>

Project Learning Tree (PLT)

<http://www.plt.org/>

<http://www.forestry.ok.gov/project-learning-tree>



10301 South Sunnyslane Road  
405-814-0006

<http://>

[www.museumofosteology.org/](http://www.museumofosteology.org/)

Monday - Friday 8 a.m. - 5 p.m.

Saturday 11 a.m. - 5 p.m.

Sunday 1 p.m. - 5 p.m.

Project WET

(Water Education for Teachers)

<http://projectwet.org/>

[http://projectwet.org/where-we-are/host/oklahoma\\_conservation\\_commission/](http://projectwet.org/where-we-are/host/oklahoma_conservation_commission/)

Project WILD

<http://www.projectwild.org/>

As with all hyperlinks in The EnvironMentor Newsletter, these are clickable.

Do you know an environmental group in Oklahoma that should be listed. Send that information to:

[environmentor@okcu.edu](mailto:environmentor@okcu.edu)



# The Calendar

Most people who remember The EnvironMentor Newsletter know that the pages at the end of the issue were reserved for The Calendar. Being online has some great advantages. When you downloaded your copy of the newsletter you may have noticed the box on the right side of the webpage. This is a convenient listing of the next events from The Calendar. This will always be up-to-date because it happens automatically. For more information on the event just click on it and a window will open up with all the details. If you wish, you can access the rest of the calendar from the there.

To have your event posted to The Calendar, copy and paste the following list into an email, fill in as much information as you wish, and send it to: [Environmentor@okcu.edu](mailto:Environmentor@okcu.edu)

Title of your event:

Start Date and Time

End Date and Time

Location

Location Address

Contact Name

Contact Phone

Contact Email

Details in Narrative Form

Location Link

Event Link

Map Link

Please note: We are not able to publish for-profit information.

To go directly to The Calendar click on:

<http://www2.okcu.edu/environmentor>