



Kentucky Association *for* Environmental Education

Winter 2012

Sustainability Symposium

Friday, June 22, 2012

Russel Acton Folk Center

212 West Jefferson Street, Berea



What does it mean to be *sustainable*? Is sustainability education the same as environmental education? Join us as we explore these questions and more in a day filled with stimulating speakers, local foods, and tours of Berea's EcoVillage, farms, and campus.

Sustainability has been part of KAE E's story from the beginning. We'll learn about the growing sustainability movement, and then see it in action. Berea is the beautiful home to Boone Tavern, Kentucky's first "green" hotel, and Berea College, which has long been a pioneer in sustainable practices. Berea is a great place to begin a conversation about what sustainability means to our organization and to *you* as an environmental educator.

Tentative Schedule

8-9

Registration

9-10:30

Introductory session: What is "Sustainability Education"? How does it overlap or differ from environmental education? How are sustainability practices being put into action in Kentucky's schools and universities?

10:30-12

Walking tour of Berea College's EcoVillage with Dr. Richard Olson, Director of Sustainability & Environmental Studies at Berea College

12-1pm

Lunch (local food) and panel discussion: Sustainability in action in Kentucky's schools and communities, featuring Kentucky Green & Healthy Schools (Merin Roseman) and Bluegrass PRIDE

1-4

Tours (farms or campus buildings)

4

Adjourn for networking, conversation, and dinner on your own with friends

Registration is now open and is \$25 for students, \$35 for KAE E members, and \$45 for non-KAE E members. Cost includes lunch with healthy, local foods and all field trips. KAE E's Sustainability Symposium promises to be a stimulating, fun experience so don't miss out - go to kaee.org/symposium for details on how to register.

KAE E's Sustainability Committee wishes to thank the following partners for making this symposium possible: Berea College, Berea City, Berea Community School Farm to School Program, and Sustainable Berea.

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Since 1976, KAE E has worked to build a sustainable environment through education.

KAE E includes people from all walks of life. KAE E works with members and partners to bring sound environmental education to all citizens of the Commonwealth.

We work together because we care about education, our environment, and our future.



Kentucky Association for Environmental Education

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President's Pen by John LeFevre

There's nothing like being energized by your work, both literally and figuratively. For the past two and a half years, I've had the wonderful privilege of working on energy efficiency and conservation programs and projects for K-12 schools and for postsecondary education. The idea behind the programs and projects known as the Energy In Education Collaborative, is to provide a comprehensive, holistic approach that focuses on energy and sustainability issues in the design, construction and operation of energy-efficient sustainable schools as well as the educational opportunities presented by this focus. The depth and breadth of these programs, I believe, is unique nationally in terms of its impact on the K-12 education sector.

In my opinion, these programs are successful because of the involvement of school board members and administrators at the local level. They are also successful because of the outstanding partnerships with the Energy In Education Collaborative and federal dollars utilized in the 2009 Recovery Act. Unfortunately, as many of you know, Recovery Act funds run out this spring. Our challenge will be to continue these efforts without this funding source.

Each partner has compelling stories to tell and those stories continue to unfold. However, I wanted to take a moment and share some of those successes with you.

- All 174 Kentucky School Districts have established school board approved energy policies.
- 163 Kentucky school districts have established baseline and follow-up energy performance tracking standards.
- Over 220 school building energy assessments and assessment reports have been completed.
- The Commonwealth has a total of 49 energy managers covering a total of 144 districts. All of these districts have established district energy teams.
- The Kentucky Green and Healthy Schools Program experienced a 196 percent increase in enrollment in 2011 and disbursed more than \$33,000 for 58 projects in schools across the state. They also completed the Kentucky Environmental Literacy Plan.
- For the third year in a row, Kentucky NEED was a national leader in ENERGY STAR pledge drives. Together, Kentucky students have reduced over 38 million pounds of greenhouse gas emissions and 23 million kilowatt hours of electricity consumption. That's enough to power 896 homes for a year. Last July, Kentucky brought home two of the 12 national awards at the NEED National Youth Awards Program for Energy Achievement in Washington, D.C.
- More than \$4.5 million in energy savings and \$1.1 million in one-time utility rebates and tax refunds have been identified in Kentucky's schools during the 2010-11 ramp-up year alone as the numbers continue to grow.

Kentucky has set a high standard for energy efficiency in its schools, and that standard is receiving national recognition. Kentucky currently has 126 School Districts that have become an EPA ENERGY STAR Partner—the highest percentage of districts in the country. That's quite impressive when you consider in 2009, Kentucky had fewer than ten district ENERGY STAR Partners.

Kentucky is home to 134 K-12 ENERGY STAR certified school facilities. Maintaining or surpassing this high standard is a key factor in the Commonwealth's effort to be competitive in a global economy.

So, let's tip our hats to all the hard work done by these organizations, students, teachers and administrators. Together we can create an economically, socially, and environmentally sustainable future for the Commonwealth. Stay energized Kentucky.





KAEE

Calling All Students!

We need more college students involved in EE and KAEE. Possibilities:

- ☞ KAEE student chapter
- ☞ At least one student KAEE board member
- ☞ Develop EE clubs at different universities
- ☞ Socialize with other students
- ☞ Simply join KAEE to gain valuable vocational and avocational experiences

Of course, any member of KAEE is welcome to attend board meetings and share their input. If any of these ideas sound interesting to you or if you have other ideas, please let us know. Contact Ashley Hoffman at director@kaee.org or Jennifer Adler at treasurer@kaee.org.

Sustainability Store at KAEE Conference

Help us transform the conference bookstore by donating your unwanted, gently-used environmental education items to be sold at the 2012 conference. Acceptable items include books, apparel, art, or teaching materials. Contact jill.stoltz@ky.gov for the donation drop-off location nearest you.

KAEE News Blog

Visit and subscribe to the KAEE News Blog to get up to the minute news, events, and information related to KAEE and EE at www.kaeenews.blogspot.com.

Become a KAEE Ambassador.

KAEE wants to increase its presence at local environmental events, conferences, and meetings. Ambassadors serve as a liaison between KAEE and your local community. If you are interested, please contact Ashley Hoffman at director@kaee.org.

Online Membership Renewal

Our strength as an organization comes from our members. We are thankful for all you do. You can renew your membership online at kaee.org/membership. You can also print a copy and mail it.

Professional Development The Whippoorwill Festival (July 12-15)

Skills for Earth-Friendly Living is looking for workshop leaders for its annual fest near Berea at HomeGrown HideAways. Whippoorwill is an all-volunteer, family-friendly festival that seeks to spread knowledge about living more sustainably. Workshops run all day Thursday-Sunday, with meals provided by Food Not Bombs. Evenings feature Appalachian/bluegrass music, speakers, and dancing. Contact Dave Cooper at davecooper928@yahoo.com or 859.299.5669. Learn more at homegrownhideaways.org/Whippoorwill.aspx.

2012 NAAEE Conference (October 10-13)

Visit the [NAAEE website](http://naee.org) for the Call for Presentation Proposals. Experience the appeal of Oakland, CA along with the hundreds of presentations that comprise the premier environmental education professional development experience in North America.

Miscellaneous

Commonwealth Cleanup (March 17-24)

KET's long-running *Kentucky Life* will be showcasing the Commonwealth Cleanup on March 24, 2012. Host Dave Shuffett of "Dave Does It" will be participating in roadway cleanups, river sweeps, landfill projects and more to help promote the week long cleanup effort. KET is asking for support from local communities, organizations, and individuals. To find out how you can help, contact KET's Communications Specialist, Lindsay Sainlar, at 859.258.7257 or lsainlar@ket.org.

Who am I?



photo courtesy of Eddie Huber

Clues

- I am a very small songbird.
- I am adaptable and opportunistic.
- I forage in weedy fields or scrubby thickets.
- I am found in KY during the winter.
- I love to eat seeds from coniferous and deciduous trees .



Answers?

Check out our [Facebook wall](#) to see if your best educated guess was correct. While you're there, let us know what you think of this new section.

If you would like to submit an idea for upcoming newsletters, please contact Alexis at alexis@lacbg.com.



Western Kentucky Spring EE Training

A three day professional development training for educators presented by KAEE.

Join us for a three day training on four nationally recognized environmental education curricula. Participants will receive certification in the Leopold Education Project (LEP), both as a facilitator and educator (can choose to attend only the facilitator event if already a trained LEP educator), Facing the Future, Project Learning Tree (PLT), Population Connection, Project Wet as well as the U.S. Fish and Wildlife Service's aquatic education curriculum, Biologist-in-Training (BiT) Program.

This training will take place Friday through Sunday, May 4–6, 2012 at the West Kentucky 4-H Camp in Dawson Springs. Participants will be welcome to stay overnight at the camp in cabins with other participants in a dormitory style setting. Evenings will include networking, campfires, and a chance to get to know other environmental educators in the state. Because of the location of this workshop (Western Kentucky region), we also invite educators, naturalists, park rangers, volunteers, etc from southern Illinois, eastern Missouri and western Tennessee.

Instructor

Amanda Patrick
Public Affairs Specialist
KAEE Advisory Board Member
U.S. Forest Service - Shawnee National Forest

When Friday, May 4–Sunday, May 6, 2012

Where West Kentucky 4-H Camp
260 Camp Drive
Dawson Springs, KY

What do you get?

Participants will leave with:

- Leopold Education Project Curriculum Guide (two curricula total for LEP)
- Leopold Facilitator Guide
- LEP Task Cards
- Leopold Journal
- *A Sand County Almanac* by Aldo Leopold
- Facing the Future curricula resources
- Project Learning Tree (PLT) K-8 Guide
- Population Connection curriculum CD and Population Growth DVD
- Project WET Guide
- Materials from the U.S. Fish and Wildlife Service's aquatic education curriculum
- Biologist-in-Training (BiT) Program
- Other freebies and goodies

Registration Information

Participants may register for part or all of this workshop.

For more information, visit kaee.org/announcements or contact Ashley Hoffman at 270.214.0587 or director@kaee.org.

Cheryl Messenger Receives Freeman Tilden Award



Mammoth Cave's award winning environmental education program received further accolades in November when its leader, Cheryl Messenger, received the regional Freeman Tilden award, recognizing Messenger as the best interpreter in the Southeast Region of the National Park Service (NPS).

"I am not bragging when I say that Mammoth Cave's environmental education program is second to none," said Superintendent Patrick Reed. "Past honors seem to fuel Cheryl and her staff on to greater endeavors and deeper partnerships that bring unparalleled opportunities to teachers and students in south central Kentucky."

The Freeman Tilden Award is an annual award recognizing outstanding public contributions in interpretation and visitor services by a NPS employee. Freeman Tilden, who wrote *The National Parks: What They Mean to You and Me* as well as *Interpreting Our Heritage*, greatly influenced the development of NPS interpretation and education programs.

By partnering with Western Kentucky University Education Department (WKU), Messenger received a National Park Foundation grant to initiate the largest inquiry-based outdoor learning training for education majors in the country. Focusing on students who are about to become teachers, it demonstrates the advantages of using outdoor settings and inquiry-based learning techniques to teach critical thinking skills in both science and social science subjects. Since the grant began two years ago, 400 WKU students have been immersed in the overnight, in-park learning experience.

"Very few teacher-education programs provide outdoor learning as part of their curriculum requirements for graduation," said Reed. "This grant combines Western Kentucky University's goal to produce innovative and well trained teachers, with the park's goal to connect people to the value and significance of Mammoth Cave through learning experiences."

"Inquiry-based learning produces a sense of discovery as students seek answers to their own questions and interests," explained Mike Adams, chief of interpretation at Mammoth Cave, who nominated Messenger for the award. "The process creates a powerful personal and intellectual connection to the park. We have been told by students that this was one of the most useful courses in their college career. Many students who were hesitant to participate have left enthused, anxious to bring their own classes to the park or use inquiry-based learning in other settings."

Messenger and her staff also work with more than 30,000 K-12 students each year, both in the schools and all around the park.

*Article released by Vickie Carson and
Mammoth Cave National Park*



KAAEE Annual Conference

36th Annual Conference

“Creating Balance”

Lake Cumberland State Resort Park
Jamestown, KY

September 14-15, 2012

This year’s conference will take place at Lake Cumberland State Resort Park in Jamestown. As environmental educators, we take a non-advocacy stance on environmental issues. Our goal is to educate others and teach them *how to think, not what to think*. This difficult balancing act inspired the theme for KAAEE’s 36th annual conference, “Creating Balance.”

Join us Friday, September 14 through Saturday, September 15 for a fun-filled conference and networking opportunity. Enjoy our keynote speaker, Kentucky Afield’s Tim Farmer. We will continue our family-friendly activities, so bring the whole crew! Children will be able to participate in hands-on presentations geared just for them.



2012
KAAEE
CONFERENCE

Following a full day of concurrent sessions, on-site and off-site workshops as well as networking time on Friday, we will head over to Wolf Creek National Fish Hatchery. Enjoy a locally-catered dinner followed by live music from Jim Scott. After the concert, you won’t want to miss our live auction for great deals on local artwork, EE curricula, books, and more!

Rooms and cabins are being held for \$64.95/night. To save money and practice sustainability, consider staying at the campground for \$22/night. Early Bird conference registration will open June 15th. For more information about Lake Cumberland State Resort Park, please visit <http://parks.ky.gov/parks/resortparks/lake-cumberland/default.aspx>.

Tell
everyone
you’re
coming!



Presenters

The **Call for Proposals** online submission form can be found at kaee.org/conference/call-for-proposals. Call closes April 15th.

Please feel free to share this link with others. We’re always interested in hearing from new presenters about the many facets of environmental education.

Exhibitors

Exhibitors, please visit kaee.org/conference/exhibitor-registration-2.

Sponsor Benefits

Please consider sponsoring our conference. For more information, visit kaee.org/conference/sponsor-form.

\$3000

logo on website, in program, & on presentation; full page in program, exclusive sponsorship of awards luncheon; 3 exhibit hall tables; & 3 registration fee waivers with meals

\$1500

logo on website, in program, & on presentation; 1/2 page in program, exclusive sponsorship of keynote speaker; 2 exhibit hall tables; & 2 registration fee waivers with meals

\$500

logo on website, in program, & on presentation; 1/4 page in program, exclusive sponsorship of reception or break; 1 exhibit hall table; & 1 registration fee waiver with meals

\$100

logo on website, in program, & on presentation; & 1 exhibit hall table

\$50

logo on website, in program, & on presentation; & 1 exhibit hall table



KAEE Annual Conference

Tim Farmer (photo courtesy of ket.org)



Saturday's Keynote: **Tim Farmer**

Tim Farmer is the host of the nation's longest running outdoor television show. Kentucky Afield is in its 56th year and has become a Kentucky Classic.

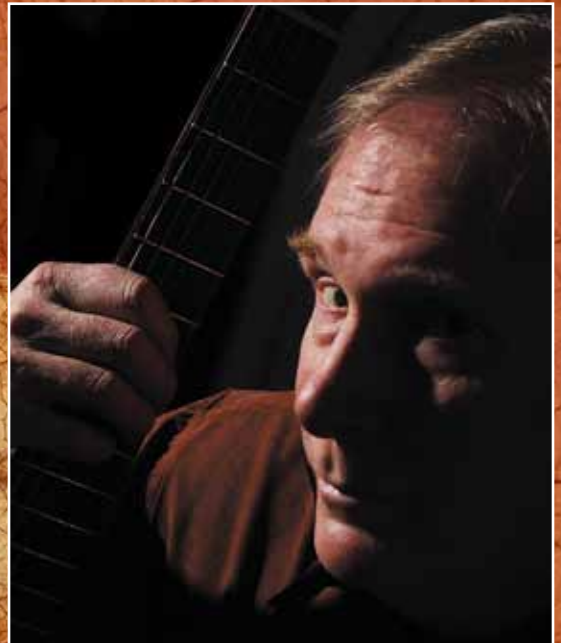
A life-long Kentuckian, Tim has been an outdoor lover since his childhood. He was fly-fishing and squirrel hunting by the age of 8. In 1984, Tim was injured in a motorcycle accident, which left him without the use of his right arm. Due to his strong will and ability to adapt to any situation, Tim continues to do what he loves best. He has learned to shoot a rifle cross-shouldered, tie a fishing line with his mouth, and shoot a bow and arrow with his teeth.

In 1995, Tim became the host of Kentucky Afield. He has won several local and national broadcasting awards along with 2 Emmy's for Host and Executive Producer of Kentucky Afield. He has again been nominated this year.

Tim feels very fortunate in his position to be able to share the joys of the outdoors with viewers around the state. He helps many outdoorsmen and women alike to get back to enjoying the outdoors by overcoming any physical barriers they may have.

Tim is a husband and father who believes that any place outdoors can be a place for families. Each week he finds himself in the woods or on the water in the great state of Kentucky.

Jim Scott (photo courtesy of jimscottmusic.com)



Friday's Music: **Jim Scott & Friends**

Composer, guitarist and singer Jim Scott brings a warmth and humor with his well-crafted jazz and world folk influenced songs. Formerly a member of the Paul Winter Consort, Jim was co-composer of their celebrated "Missa Gaia/Earth Mass" and sang their anthem song "Common Ground." He uses well a prodigious guitar mastery and clear voice, to encourage all to get involved with the messages celebrating ecology, justice and peace.



Whale FM: *What is that whale saying?*

When we think about observing the world around us or conducting scientific experiments, we often focus on the things we can see. However, what we hear (or don't hear) can be just as important. "Whale FM" is a new citizen science project that encourages participants to make auditory observations while providing important visual clues for those of us who are more visual learners.

The calls of a single whale are often quite complex, may overlap with other sounds, and may not always be recorded at the same distance from the microphone. All of these variables make it difficult for a computer to automatically sort and classify the sounds. Computers can make broad groupings of the sounds, similar in some ways to being able to tell Spanish from Chinese. However, when it comes to making detailed classifications of sounds, such as identifying a single word spoken with different accents, people can sort through all the variables better than a computer. The problem is that research projects studying whale calls (or the sounds made by other animals) can produce HUGE datasets that would take a single person months or longer to listen to and classify. Even then you would only have that person's opinion of how those sounds should be classified.

Whale FM provides volunteers with the opportunity to assist marine biologists in categorizing the different sounds that orcas (killer whales) and pilot whales make. To do this, recordings from many different marine studies have been uploaded to the website along with spectrograms of the recordings. Spectrograms are the visual representation of how a sound would look if it was drawn on a graph. They make it easy to do quick visual scans of the sounds to pick out the ones that are most likely to be similar. You can then listen to and compare those sounds while skipping ones that appear less similar.

To participate in Whale FM, go to whale.fm and register for an account. Once registered, you will be presented with a large spectrogram in the center of the page and a tray of smaller spectrograms at the bottom of the page. The smaller spectrograms are for sounds that the

computer thinks may be similar. Click on the large spectrogram to hear the call associated with it. Then scan the smaller spectrograms for one that looks similar. If you think you find one, click on it to listen to that call. If the two sounds match, mark them as a match. If they don't match, remove it from the lineup. If you can't find a match, click the "skip" arrow and you'll be given a new spectrogram. If you want to discuss something about a call, there is even a place to click which will start a discussion with other participants about that sound.

Because so many people are working on the same dataset, the work goes much faster than if a single person was trying to tackle it alone. Also since multiple people are classifying the same sounds, misclassifications can be caught relatively easily without affecting the quality of the larger dataset.

Citizen science projects provide valuable benefits to both the scientific and environmental education fields. With projects like Whale FM, huge datasets can be processed faster and more accurately than a single person could do. In many citizen science projects, data is collected from many different sites at the same time, allowing the study to focus on a larger scale than a single scientist or team of scientists could do. All of these projects are designed so that the information collected by the citizen scientists will help answer important scientific questions.

From an environmental education standpoint, citizen science projects provide an opportunity for people to become directly involved with science, research, and the object of the study. As we all know, getting people involved in hands-on activities is an important technique for creating connections and helping them learn to care about the object or organism. Citizen science projects provide one method of achieving this. They also allow us to provide our audiences with an opportunity to make a real contribution to science while learning about the environment and organisms that inhabit it.

Photo courtesy of WA State Department of Ecology



Lend your ear to the
Whale Song Project at whale.fm



Members Matter

by Jill Hunter Stoltz

Alexis Sohlden is ready to work.

As the Environmental Education Program Manager at Life Adventure Center of the Bluegrass near Versailles, Alexis keeps busy. Her many tasks include coordinating EE programs for a variety of groups and working in conjunction with three main programs at the Center: equine, challenge course, and wilderness living. During the fall, she successfully managed more than 400 students that visited "Kentucky's Largest Corn Maze."

After joining KAAE last summer, Alexis jumped straight in and became an active KAAE ambassador. As she puts it, "Working together as one large entity helps environmental education continually grow and become more effective." Alexis has also taken on co-editing and layout of KAAE's quarterly newsletter.

One of Alexis' favorite aspects of environmental education is that "ah ha!" moment that happens when a student suddenly gets a concept. She enjoys when her students understand a concept so well that they start asking questions. "I love being stumped by questions because I realize they get it and they're now challenging me to dig deeper," says Alexis.

This obvious enthusiasm for environmental education hasn't always been her approach. Alexis was prepared to major in biology and chemistry before she attended the freshman orientation at the University of Wisconsin-Stevens Point. After explaining her desire to spend time outside working with people, her advisor suggested a degree in environmental education. "I started my degree and never looked back," says Alexis.

In the midst of her busy schedule, Alexis finds serenity wandering around and exploring the woods with her new pup Greyson. She loves taking in the sounds around her and seeing new things for the first time. Says Alexis, "I can be in the worst of moods and a simple walk will completely change my attitude."

Alexis believes that environmental educators play a crucial role in interpreting our natural resources to others, bridging the gap between scientific jargon and direct experience. She is proud to call herself an environmental educator and help contribute to the environmental literacy of others. We are proud she is an environmental educator too, and thankful for the all she contributes to EE in Kentucky. Thanks, Alexis.

*Alexis leading
Grain GPS
lesson for
Lexington
Traditional
Magnet
School.
(LACBG, 2011)
Photo courtesy of
Alexis Sohlden*





Light & Color in the Winter Sky

by Roberta Burnes

Winter is the perfect time to watch the skies— and not just at night. To be sure, the cooler drier air this time of year does make for clearer skies at night. But I’m talking about daytime sky watching, and in the winter this means atmospheric phenomena.

I’m something of an atmospheric phenomena geek. I actually have a “life list” of atmospheric effects I’ve witnessed, from double rainbows to sun pillars, and rarer phenomena like glories and circumzenithal arcs. Once you know what to look for and when to look for it, you start noticing things that others rarely see— and some of it is pretty amazing.

Atmospheric light shows happen all the time. Think of the colors you see at sunset, or the way sunlight creates those convergent rays when peeking through clouds (called crepuscular rays). Chances are, you’ve seen many of these effects and wondered what caused them. It generally comes down to one or more of the following properties of light: reflection, refraction, diffraction, and scattering.

People have written whole books about this topic and I’m not going to go too deeply into the physics of it here, but in case you’re interested I recommend Robert Greenler’s fine book *Rainbows, Halos, and Glories*. There are several great websites on this too, including www.weatherscapes.com.

Atmospheric phenomena can happen anytime of the year, day or night, but wintertime can be especially good for glimpsing ice crystal effects. Here are a few of my favorites:



Ice Crystal Halos

Halos are large, white rings of light that partially or completely encircle the sun or moon. Halos are caused by sunlight refracting through specific shapes of ice crystals in the upper atmosphere. When you see a halo, chances are it will be located 22 degrees away from the sun or moon in any direction. If you hold your fist at arm’s length and extend your thumb and pinky, the span between thumb and pinky will be just a bit more than 22 degrees. The 22 degree halo is very common and can be seen practically anytime there are high altitude cirrus clouds in the sky near the sun or moon.



Sundogs

Sundogs are very common and resemble bright spots of light about 22 degrees away from the sun on either side. Sometimes you’ll see concentrated rainbow colors in sundogs, with red on the side closest to the sun and blue on the outside. They occur most often when the sun is low in the sky, and are frequently associated with halos.

Sundogs form as sunlight is refracted by hexagonal plate-shaped ice crystals that have their flat faces horizontally oriented with respect to the viewer. The ice crystals act like prisms, bending sunlight to create the effect. A similar phenomenon can happen at night with the full or nearly full moon, called a moon dog.



Circumzenithal Arc

As its name suggests, this delicate arc of rainbow-colored light appears to partially encircle the zenith—the overhead point in the sky. It is one of the most overlooked atmospheric phenomena, mainly because one must look very high in the daytime sky to see it.

The same milky white cirrus clouds associated with halos and sundogs often create circumzenithal arcs. The sun must be less than 32 degrees in elevation to see them. I always make a habit of looking up when I go outside, covering the sun with my hand to prevent glare and looking high overhead for this beautiful arc.

Keep Looking Up!

All of these phenomena can be seen year-round in the daytime sky if conditions are right. Hopefully, I’ve enticed you to keep your eye on the sky so that you, too, can enjoy nature’s light show.

Photos courtesy of NOAA & Wikipedia