

# TRAILBLAZER

*Oregon Ridge Nature Center Council – Supporting Oregon Ridge Nature Center since 1982*

SPRING-SUMMER 2021

## Spring's First Flower

*by Michael Eversmier, Oregon Ridge Naturalist*

While taking in the spectacular winter wonderland around me on a photo hike in the park back in mid February, I remember thinking to myself... Phil, the Seer of Seers groundhog in Pennsylvania, may have prognosticated correctly - six more weeks of winter. I was following some fox tracks in the snow near the Oregon Branch stream hoping for a photographic encounter towards the end of my hike. Seemingly out of place, near the edge of the trail, there were a few small circles of melted snow. Heating their way through the frozen white ground covering were the oddly shaped first flower of spring the Northern Skunk Cabbage (*Symplocarpus foetidus*). Maybe Phil's forecast wasn't accurate after all.

While you're out on our trails this spring and into the early summer, keep an eye out for the life cycle of this interesting native plant. Found in the wetland and bog habitats of the park this member of the arum family (*Araceae*) starts blooming very early because of its unique ability to metabolically generate heat for flower growth and to melt its way out of the icy mud and snow. Because these flowers are very delicate and easily damaged, staying on the trail is important. Watch for a 4" to 5" tall, dark red-colored flower bud with a twisted and pointed hood-like shape similar to that of a little garden gnome. Mature flowers will give off a stinky, putrid smell to attract early pollinators like flies, gnats, and beetles. Hence the "skunk" part in its common name.

The skunk cabbage's leaves emerge in early spring from a single fast growing spear-shaped bud. This is the only time the plant is edible by animals in the forest. Once the leaves mature, they become toxic and if bruised or torn, give off the same skunk-like smell as the flower. The "cabbage" portion of the name is derived from its leaf shape. As the leaves unfurl in a spiral pattern they eventually form a very large rosette shaped plant. For a few weeks in spring, skunk cabbage may appear to take over a stream valley or wetlands like a vibrant, bright green blanket until the shade of the overhead tree canopy develops and other plants fill in. By early summer, the flower has withered and dropped its seeds to be spread around the forest by water or animals. The fan shaped leaves will have darkened and elongated and then slowly start dying back. By the end of summer, little remains on the surface. All the energy the skunk cabbage generated has pulled back into a deep taproot with a large fibrous root system. For the remainder of the year the Northern Skunk Cabbage patiently waits beneath the forest floor... waiting for its big moment to crank up its internal heater and accurately forecast spring is on its way.

# Spring into Pollinator Time

by Glen Schulze, Master Naturalist

Pollination is the transfer of pollen grains from the anther (male flowering part) to the stigma (female flowering part). This process leads to the production of seeds and fruits which produce the next generation of plants. The majority of cross-pollination is by insects. The ecosystem's health is affected by pollination which helps clean the air, stabilize the soil, and support wildlife. As an example, without honey bees, fruit production would be greatly reduced. The *Chocolate midge* is the only fly that is small enough to pollinate the tiny flowers of the cacao plant.



Flowers provide nectar which contains sugars and pollen that contains protein. Pollinators collect pollen for food for themselves and for their young. Since flowering plants need pollination, plants need to attract pollinators to provide pollination services. They advertise to attract pollinators by displaying pollen on their florets and by providing nectar as a reward for the pollinators.

A flower's scent helps pollinators find flowers of a particular species. Even plants that are *malodorous* (have a bad odor) are attractive to certain pollinators, such as flies. Shape, size, and color of a plant's bloom lure the appropriate pollinator. For example, bees are drawn to blue and near-ultraviolet colors, sweet scents, and easy access to the flower head. Butterflies favor showy colors including reds, yellows, and orange. They are drawn to large flowers and clusters of small flowers.

Bees, beetles, butterflies, moths, flies, and wasps make up the majority of insect pollinators. Bumblebees and honey bees have special types of hair on their hind legs known as *corbiculae* (pollen baskets). Some bees, such as *Leaf Cutter* bees, have hairy abdomens, while other bees such as *sweat* bees have hairy legs. These specialized hairs are called *scopa*. These traits assist bees in collecting pollen from flowering plants.



Beetles will eat the flower parts in search of pollen. They were among the first insect pollinators. Ancient plant species such as magnolia depend on beetles for pollination. Some plant attributes that attract beetles are light colored cup-shaped flowers, sweetish scents, and high pollen content. Butterflies are accidental pollinators. A butterfly can carry pollen from flower to flower because the pollen adheres to its wings, legs, and *proboscis*. The *proboscis* is a tubular sucking body part that a butterfly uses to obtain nectar from the flower's blossom. Two common butterflies native to Maryland are the *Painted Lady* and *Variegated Fritillary*.

Moths have hairy bodies and are good pollinators. The *Ailanthus Webworm Moth* is a tropical species commonly found in the U.S. It feeds on milkweed, a plant that provides a lot of nectar and a sweet scent. The Webworm is one moth that comes out primarily in the daytime. Moths that feed at night look for blooming flowers such as the Evening Primrose.

At first glance, a bee may not truly be a bee. It could actually be a fly. This is a feature that helps to protect it from predators. One clue to look for is wing structure - flies have two wings and bees have four. These mimics are *Syrphid* flies, also known as Flower flies, Hover flies, or Drone flies. There are many species of *Syrphids* - some are generalists and are satisfied by finding blooms that have pollen and nectar. Others are also attracted by bloom colors, specifically yellow, followed by blue, pink, and purple. Scent plays an important role in the ability of a bloom to attract *Syrphid* flies.



*Tachinid* flies resemble house flies. They are attracted to plants which are dull in color and have a bad (putrid) odor. There are over 1,000 species of *Tachinid* flies in North America. These flies are efficient pollinators due to their fuzzy, hairy bodies.

Wasps are good pollinators with a high metabolism requiring nectar for their energy source. Although its coloring signals may be dangerous, the *Great Digger Golden* wasp is a solitary insect that is a gentle creature. It will sip on nectar of flowers and likes to feed on the flower of Butterfly Milkweed. Wasps typically are not very hairy which makes them less efficient pollinators than bees. Many species are specialist pollinators. They are selective of the flowers they choose to visit. Those flowers rely specifically on the specialist wasp for survival.



Each of our insect pollinators is critical to the eco-system. According to the USDA, starting in 2006 there have been yearly declines in honeybee colonies. At least 5 species of North American bumblebees are in decline. As of 2019, the *Monarch* butterflies are still below their historical average population. Both environmental and human factors are contributing to this decline. Examples include: habitat destruction, pesticides, non-native plants, and pathogens.



Pollinators have four common needs... food, water, shelter, and space. Enhancing and protecting habitats provide these needs. Other practices that strengthen pollinators' chances to survive include eliminating pesticide use, re-introducing native plants to the garden, removing invasive plant species, and conserving natural habitats.

Starting in early spring and lasting through late fall pollinator conservation practices are in place at the Park. The fields and gardens provide an excellent environment for season-long encouragement of pollinators. The *Butterfly Waystation Garden* provides information on common butterflies found in this area. The *Pollinator Garden* was planted to attract the various species discussed in this article. In addition, the Nature Center has created structures to provide environmentally safe housing for *Mason* bees and *Leafcutter* bees.



# Oregon Ridge Attractions... *Before It was a Park* by Bob Cooke

For hundreds of years, people were drawn to Oregon Ridge not so much for its natural beauties as for its natural resources. From Native American hunting parties to pre-Civil War mining crews, this territory witnessed the disappearance of one culture and the rise of another.

## *Hunting & Trapping Game*

The Susquehannock tribe had already occupied the mid-Atlantic region of North America for hundreds of years by the time explorer Captain John Smith met them in 1608. Known as skilled hunters and fierce warriors, they dominated the Susquehanna River watershed and eventually expanded their territory to include hunting grounds in what is now Central Maryland down to the Potomac River. This, of course, included the 1,000+ acres of today's Oregon Ridge Park.

The Susquehannocks built fortified villages on ridges so they could watch for approaching enemies and farmed the lowlands, planting corn, beans and squash (the traditional "three sisters"). They also foraged for nuts, berries and mushrooms, and fished and gathered shellfish in the Chesapeake Bay and its tributaries.

The only Native American tribe to engage in the fur trade with all the colonial powers in this area—the French, English, Dutch and Swedes—they fought off competition from Iroquois and other tribes that challenged them. Their success, however, was cut short by infectious diseases and continuing conflicts with Europeans and other tribes. By 1700, there were only 300 Susquehannocks left, and they disappeared as a tribe soon thereafter.

## *Mining Iron & Limestone*

Baltimore County was one of the most industrialized counties in Maryland during the first half of the 19th century, and Oregon Ridge had natural resources that could generate profits for mining companies.

The American Industrial Revolution had a huge appetite for iron and steel, and Oregon Ridge had abundant iron ore for the taking. Low-cost laborers—including slaves and Irish immigrants—extracted the ore from open pits and sent it off on mule-drawn wagons to a nearby furnace for smelting. The Oregon Ridge Iron Works, situated on the Oregon Branch stream, began processing local ore in 1849. In its prime, it supported a town of about 250 workers at a site just north of the Nature Center.

The Oregon Furnace produced "pig" iron by subjecting a mixture of iron ore and limestone to intense heat, separating the iron from impurities and casting the molten metal in ingots that reminded people of suckling piglets lined up on a sow.

Iron producers in the county benefited from the fact that limestone was also abundant in the immediate area. In addition to being used as flux in the iron smelting process, limestone was also valued by farmers, who used it to "sweeten" their soil. The local quarries also unearthed high quality marble, which is formed when limestone is subjected to intense heat and pressure.

The rudimentary furnace at Oregon Ridge closed down before the end of the 19th century, outdated by rapidly advancing iron and steel production technologies, and nature began reclaiming the land. The Baltimore County Department of Recreation & Parks has owned and operated the park since 1969 and added the Oregon Ridge Nature Center in 1983.

The scars of the park's industrial past have been transformed. One ore pit has become a beautiful lake, and another is now a picturesque ravine crossed by the footbridge near the Nature Center.



# Bluebird Monitoring at Oregon Ridge

*by Judy Breitenbach, Master Naturalist*

As you walk through the meadow along Miners Trail you will notice white bird houses mounted on metal poles in an orchestrated line outside the tree borders. Unknown to most visitors, these meticulously placed homes are nesting boxes for the Eastern Bluebird population... a project that Oregon Ridge has been involved in since 1988. I reached out to volunteers Mary Scholl, Paul Kilduff, and Martha Johnston to learn more about the project and its importance to the revitalization of the Eastern Bluebird population in this region and here is what they had to say along with volunteers Alex Brun and Cathy Czajkowski.

## ***Why did ORNC get involved in saving the Eastern Bluebird population; why is the project important?***

The Bluebird Trail Project was established in response to the rapid decline in the Eastern Bluebird population (1970 the population's numbers had declined by 92%) because of competition for available nesting sites with non-native House Sparrows and European Starlings which were introduced to North America in the mid-1800's. Contributing to the bluebird decline was habitat loss and the increased use of agricultural pesticides resulting in fewer insect food sources. Bluebirds are secondary cavity nesters and have relied on cavities in trees either naturally made or those created by woodpeckers. It is important to maintain a balance in the natural world. This is attained by assisting native species to flourish in a challenging environment. Bluebirds help to control unwanted insect populations; therefore, they can be used for integrated pest management for farms and gardens. The beauty of the Eastern Bluebird is their vibrant blue backs and ruddy chests.



## ***What are the bluebird nesting habits and food needs?***



Bluebirds eat mostly insects in the summer. In the winter they eat fruits and berries. They spy their prey from 60 feet or more away while perched on a fence or tree limb. In the Park, there are two feeding platforms in the meadow area just south of Shawan Road. There you can spot the bluebird feeding technique in action. The male Eastern Bluebird scouts for nesting sites starting in late February-early March. After he attracts a mate, he will direct her to the nesting sites in his territory. It is the female that makes the nest box selection and constructs the nest made of dried grasses. She will lay one egg per day early in the morning with a clutch size of usually 5 eggs. Incubation of the eggs is initiated after most of the eggs are laid. The incubation period last 12-14 days. After the young hatch, it is another 16-22 days until they fledge. Both the male and female are responsible for feeding the young a diet of caterpillars and small insects. After fledging, the male may continue to feed the juveniles as the female prepares for a second or even third brood.

## ***How did each of you get involved with this project?***

It's a privilege to be able to contribute directly and through data collection to the recovery of the Eastern Bluebird population. I particularly enjoy observing the adult birds' behavior - feeding, nest building, caring for young, coaxing chicks to fledge. It is interesting to watch their perching behaviors and how they find a favorite spot. I've also developed an appreciation for meadows and open fields as important for many breeding bird species. -

***Martha Johnston***

When I became a volunteer nest box monitor in 1995, it was initially to provide a home school, science-based activity to share with my daughter, Christa. I quickly realized what a learning opportunity this was for me! One of the first things I explored was a field guide for bird nests that I found in the ORNC library. Beside the Eastern Bluebird, I needed to know about the other cavity nesting birds that used our boxes. This opportunity awakened an interest I hadn't explored since I was a young child. Twenty-five years later, I am still charmed, amazed, and excited as spring approaches and I am given the chance to participate in a project to help increase the population of Eastern Bluebirds and other native, cavity nesting birds. - ***Mary Scholl***

I started monitoring nest boxes for my wife, Mary, when she was unavailable. I had no idea what I was doing. At some point I saw that some of the old, 70s-era nest boxes needed repair. I went to the lumber store and got a piece of pressure-treated 1x6, cut it, and replaced the rotted components. After consulting with my brother, the builder, I learned that lumber at that time contained arsenic which is detrimental to young bluebirds. I researched more about make bluebird nesting boxes and found a community of people involved in rebuilding habitats for the bluebird population. Now, I am the Nest Box Trail coordinator for the Park. Current nest boxes follow the general design recommended by the North American Bluebird Society which include the use of predator baffles, face guards, and an extended roof size. - ***Paul Kilduff***

My interest in the nesting boxes started in 2016 when I was visiting the park to learn how to photograph birds. I quickly became involved in the nesting project through the Baltimore County Agricultural Center and then became a monitor for Oregon Ridge. Being a nest box monitor has given me insight into nature and the positive and negative impact human beings can have. Because of this experience, I have become more active outdoors and have shared what I have learned with those I have encountered on the trails. Best of all, I have made some wonderful new friends! - ***Cathy Czajkowski***



While I was working towards a degree in conservation biology at University of Maryland, I had been looking for volunteer opportunities that would complement my studies. Providing nesting sites for Eastern Bluebirds and monitoring their success seemed like a perfect fit. Admittedly, I did not know much about bluebirds when I began volunteering, but I was soon fascinated by their behavior. This is my tenth season and I feel the same excitement I always do when I see my first bluebird eggs. All the monitors who participate in the program are incredibly passionate about providing the best possible outcomes. It has made working with them such a rewarding experience. - ***Alex Brun***

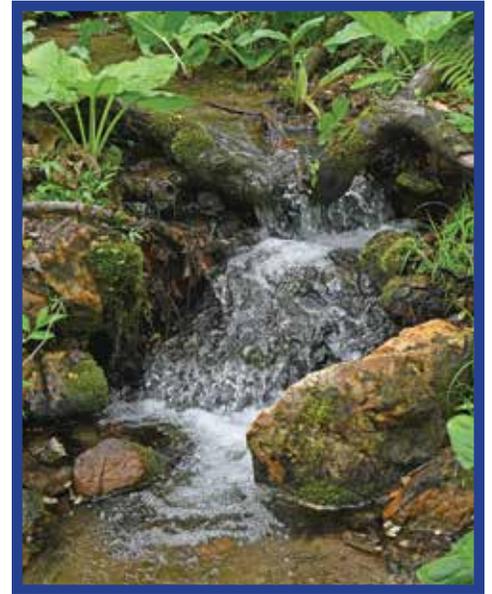
# Streams can be Teeming with Life

*by Molly Glassman, Master Naturalist*

Oregon Ridge streams are a key part of the Loch Raven watershed which empties into the Chesapeake Bay. The Chesapeake watershed is 64,000 square miles extending from New York to West Virginia, with more than 2,700 species of plants and animal life. There is a total of “6.2 miles of headwater and larger streams that originate or transverse the Park” ([www.oregonridgenaturecenter.org/pdf/oregonridge-forestplan.pdf](http://www.oregonridgenaturecenter.org/pdf/oregonridge-forestplan.pdf)). The Red (Loggers) Trail follows one creek that feeds into Oregon Branch, the larger stream that you cross over on the bridge to get to the main parking area. The Black (Miners) Trail also runs along Oregon Branch. The Yellow (S. James Campbell & Ivy Hill) Trail will take you to Baisman Run.

Summer is an excellent time to explore and bear witness to stream ecosystems. Ecology comes from the Greek word *oikos*, which means home. So before you begin to explore the various streams, remember the importance of being a good steward of the stream's home.

You hear it before you see it. Hiking up the Red Trail, well past the bridge at the Nature Center, listen: the water rushes and splashes along stones. The stream comes into view, streaks of silver in slivers of sunlight. As the trail curves to bring you closer, the air feels cooler. The stream's flow is an indication of its health. Is it fast, going around curves and bubbling at times? All positive signs of a thriving tributary because it provides ideal habitat for aquatic life. The stream's temperature is important as well. Many freshwater fish, amphibians, and invertebrates require cooler temperatures to survive (under 70 degree F). The ideal acid/base level for a stream is between a pH of 6.5 and 8.5; 7.4 is the optimum pH. The presence of riparian vegetation prevents soil erosion and provides shade, food, and shelter for insects (*macro-invertebrates*), crustaceans, snails (*gastropods*), and worms (*oligochaeta*). While watching the flow of the stream do you see any tiny black springtails hopping across the water's surface on their pogo-stick tails? Do dragonflies hover and then dart away quickly?



The health of the Oregon Ridge forest is important for maintaining healthy stream systems. The forest helps to block precipitation, provides shade to reduce temperatures, filters pollutants, and prevents soil erosion along stream banks. Standing on dry land, look up at the tree canopy. The tall poplars and oak trees provide food and habitat for many insects, birds, and mammals that also rely on the stream for water and food. According to “*The State of Chesapeake Forests*, oaks are the most ecologically important species in the Chesapeake Bay region's forests.” ([www.oregonridgenaturecenter.org/pdf/oregonridge-forestplan.pdf](http://www.oregonridgenaturecenter.org/pdf/oregonridge-forestplan.pdf)). The forest floor also has a lot to offer. Many insects and amphibians like frogs and salamanders make their homes in the fallen leaves and dead wood logs/branches. To learn more about stream macro-invertebrates go to [https://dnr.maryland.gov/streams/Documents/dnr\\_bugsheet.pdf](https://dnr.maryland.gov/streams/Documents/dnr_bugsheet.pdf). ORNC offers guided Nature Programs to further explore this topic. Check out the monthly program list online.

## The Return of Brood X

*by Bob Cooke*



It was hard to miss the buzzing millions of 17-year cicadas that blanketed Maryland and 14 other states in the spring of 2004. But few people would have noticed when, weeks later, their offspring dropped from tree branches as nymphs and burrowed into the ground. This oversight will soon be corrected. The latest generation of Brood X periodical cicadas will begin emerging in mass this May, once the soil temperature reaches 64 degrees.

Not to be confused with so-called annual cicadas—which are greenish and appear every summer—these black-bodied, red-eyed members of the genus *Magicicada* spend 17 years underground sucking nourishment from tree roots. When they finally tunnel out of the ground, they have just one thing in mind: reproduction. They don't even bother to eat. The males fly up into the trees, from which they belt out their mating call at about 90 decibels (comparable to a lawn mower). After mating, females deposit eggs in pencil-thin tree branches and all the adult cicadas die.

Why the 17-year life cycle? The emergence of a multitude of adults... often hundreds of thousands per acre, and trillions altogether... helps ensure their success as species. There are simply too many of them for birds and other predators to eat. Another significant advantage derives from the fact that 17 is a prime number, so predators with shorter cycles will not develop population booms that are synchronized with the cicada boom.

Whether you think the emergence of Brood X is irritating or fascinating or both, you'll have to wait until 2038 for a repeat performance.

# FUN FACTS - DID YOU KNOW?

by Carol Johnston, Master Naturalist

## Spicebush (*Lindera bensoin*)

The aromatic spicebush is a wonderful native Maryland plant. There is a lovely mature one along the North side of the walkway to the nature center at Oregon Ridge. The spicebush is an under story plant found in swamp and woodland areas throughout North America. It flowers in early spring. From July through September the female trees produce small bright red oval-shaped berries which are eaten by birds and small mammals. They can be used as a cooking spice. In addition, the leaves are also eaten by animals and used in making tea. The spicebush is also a good food source for the colorful spicebush swallowtail caterpillar.



## Olympic Gold Medalist or Bungee Jumper?

Let's hear it for *Salticidae*, commonly known as the jumping spider. These fuzzy, little, jumping arachnids, have 8 eyes with 2 of the biggest and cutest in the front of their heads. While they are ground-dwelling, they can quickly scale vertical surfaces aided by their hairy legs that have 32,000 contact points per leg. Their bristles detect air currents, tastes, and smells. When they want to jump, their legs are engorged with hemolymph (a fluid analogous to blood in vertebrates) which allows them to fully extend their legs and jump up to 25 times their body length. Before launching, they attach a silk line to their launch point as a safety net. They aren't afraid of humans and will even crawl up your arm. They are not hostile, but have been known to bite.



## Fireflies, Glowworms, Lightning Bugs are Actually Beetles

Summer is the time of year when fireflies, also known as glowworms or lightning bugs, take to flight as the sun goes down and summer temperatures rise. Fireflies are cold-blooded insects dependent on the heat from the surrounding environment. Their larvae live underground in the winter and mature during spring, and emerge in early summer.

*Bioluminescence* is the word for firefly dating. Their tails contain two chemicals: luciferase and luciferin. Luciferase is the enzyme that triggers their ability to emit light. Over the years the firefly has been threatened by pesticides, herbicides, and light pollution. Excessive outdoor light hinders the ability of fireflies to find a mate, threatening their survival. Beside not using chemicals on your lawn another way to promote the firefly life cycle is to turn off outdoor lights during firefly season.



## The Night Sky

The night sky brings wonder and delight to the curious observer. Clear, dark skies provide the gateway to view various planets and constellations. A star map like *AstroViewer*, *Starmap*, or *Google Sky* will help to guide your discovery. Fainter stars and star clusters can be seen with the use of binoculars or a telescope.

A good starting point for star gazing is to learn how to identify the North Star, *Polaris*, located in the constellation *Ursa Minor* (*Little Dipper*). *Polaris* marks the tip of the *Little Dipper's* handle.

Meteor showers are spectacular to view. The most familiar is *Perseid*. It becomes active from July 17 through August 24th and makes its peak appearance between August 12th and 13th. The *Perseid* is one of the brighter meteor showers. It is named after the constellation *Perseus*.

Visit [www.space.com/39240-when-to-see-planets-in-the-sky.html](http://www.space.com/39240-when-to-see-planets-in-the-sky.html) to learn when, where, and how to see the planets in the 2021 night sky.



# KID'S CORNER

## Constellation Viewer

*by Molly Glassman, Master Naturalist*

Summer is the perfect time for stargazing. If you aren't able to come to Oregon Ridge for one of the night hikes this season, you can still have fun creating these viewers to learn the different constellations.

1. You will need an empty toilet paper tube for each constellation viewer you'd like to make, as well as white copy paper, black construction paper, a piece of cardboard, a thumbtack or push-pin, glue, tape, scissors, a pencil and a permanent marker like a Sharpie.
2. Using the white paper, trace around one end of the tube to make a circle. Cut out the circle.
3. Cut the black construction paper into a 4 1/2-inch square per constellation viewer.
4. On the circle, draw a diagram of a constellation, with dots to show where the stars are. Popular choices are Orion, Ursa Major (the Big Dipper), Cygnus (the Swan) and Cassiopeia. The website [www.startwithabook.org](http://www.startwithabook.org) has easy-to-copy diagrams, as well as other activities, at <https://www.startwithabook.org/sites/default/files/spacerangers-stars-constellations.pdf>
5. After penciling in the stars, "dot" them with the permanent marker. Be sure to put the white circle on top of cardboard, because the marker will "bleed" through the paper. Then turn the white paper over and glue it in the middle of a black square.
6. Place the black square on the cardboard. Use the thumbtack to poke holes for each dot. To make sure the holes go through the two layers of paper, hold it up to a light.
7. Cut the black square into a circle, then cut 10 "wedges" from the outside circle to the edge of the white paper circle. Fold down every other wedge, so you have 5, and tape them to the tube. Then fold down the remaining flaps and tape them to the tube. Look through the open end toward a light, and you'll see your constellation!
8. Decorate the tube with paper or stickers and be sure to write the name of the constellation on it. Make more and store them together in a shoebox.

Adapted from Mama Owl's Lab at <http://mommaowlslab.blogspot.com/2013/09/diy-constellation-tubes.html>



Newsletter Committee: Judy Breitenbach and Bob Cooke

Contributors to this issue: Michael Eversmier, Glen Schultze, Bob Cooke, Judy Breitenbach, Mary Scholl, Paul Kilduff, Martha Johnston, Alex Brun, Cathy Czajkowski, Molly Glassman, Carol Johnston, Karen Jackson, Kathy Kadow, Jessica Jeannetta

The Newsletter Committee is always looking for additional members to join the team and individuals interested in contributing an article related to ORNC's mission and goals. If interested, please contact Judy at [jembreiten@gmail.com](mailto:jembreiten@gmail.com). The newsletter committee reserves the right to edit all submissions.



Oregon Ridge Nature Center Council  
 13555 Beaver Dam Road  
 Cockeysville, MD 21030  
[www.OregonRidgeNatureCenter.org](http://www.OregonRidgeNatureCenter.org)

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