



2018 Staff New Year's Resolution

The New Year's holiday is a great time for reflection of one's accomplishments in the past year, and to set goals for a successful new year. The Nature Foundation Staff has created a list of goals for 2018 and are very excited to share our endeavors with our readers.

Liz Fravel, Director, Membership & Special Events

Staff has quietly been working behind the scenes in 2017 to bring you a fresh, user-friendly website. The majority of our program signups are offered online and our intent is to have the majority of our membership renewals online as well. With that in mind, we've updated pages, added features for browsing and fixed glitches. Our target is to unveil our new site in early 2018.

The Sara Ott Golf Classic is our largest fundraiser of the year. After 17 years, we said goodbye to our long time Chair, Jack Daly. 2018 brings a new face at the helm, Greg Robertson. Greg and his wife, Sarah, are longtime Wintergreen residents and Foundation members and avid golfers. Greg has run tournaments for many years for various organizations. We are still in shock he agreed to take the helm but could not be more excited to welcome him on board. We are also working on expanding the committee to encourage new and fresh ideas for this fundraiser.

Each year, we lose members as all non-profit organizations do. People move away or simply forget to renew. 2018 will be the year we focus on better retention of our members while at the same time saying thank you for supporting us through the years.

Doug Coleman, Executive Director

At the time of this writing approximately 25% of Wintergreen's property owners are members of The Nature Foundation. Many things make membership in the Foundation compelling in 2018. The Foundation will do its best to attract more people to join our membership family.

Protecting The Foundation's environmental assets beyond the tenure of those who live and work here today continues to be our goal. A strong endowment fund can ensure The Foundation's future helps Wintergreen remain a unique and special place. A compelling case for endowment is planned for 2018.

A new Nelson County nature park, a community project The Foundation helped fashion, is set to open in 2018. Its unique ecosystems, as well as its historic road passages, will make it a destination for school children, county residents and researchers.

The Foundation continues to attract scientific research with its pristine open spaces and unique ecosystems. Our goal for 2018 is to translate that research into unique educational topics and opportunities for Nelson and surrounding

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Kathie Driscoll – Education Director
Liz Fravel – Membership and Special Events
Sharon Bolmey – Bookkeeping
Josh Palumbo – Forest Management

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county teachers. This translates to teaching future generations of potential land planners, government officials and other decision-makers to have an understanding of how to prioritize and protect environmental assets.

Josh Palumbo, Forest Management

We recognize that The Nature Foundation can't improve on the spectacular views, waterfalls and other wonderful aesthetic features at Wintergreen. But we can improve other important aspects of their hiking experiences. Improved signage, new blazing, erosion control and structural improvement are just a few ways we can enhance hiking at Wintergreen.

The Nature Foundation is a great place to learn about Wintergreen. Adding new exhibits and new methods of learning will greatly improve the educational goals of The Nature Foundation at Wintergreen. So we look forward to unveiling some fun ideas we have for 2018.

Our role as steward of the Wintergreen environment is constantly being bolstered by our participation in research of our forests, fields and water. As our current research project with Virginia Tech nears an end, our goal is to facilitate additional research to increase our knowledge of the flora and fauna at Wintergreen.

Kathie Driscoll, Director of Education

We hope to offer more activities in the interest of our members. These will include exciting hands-on environmental programs, outdoor explorations, tours and workshops.

A renewed Nature Foundation will be seen in a new light in Nelson County. Our environmental education program has had a long and successful working relationship with Nelson County teachers and administrators. Our in-school programs and on-site field trips reach hundreds of Nelson County students annually, reinforcing classroom content and providing meaningful outdoor experiences. The Nature Foundation needs to be seen as an environmental education leader and a vast public resource for subjects, like native plant landscaping, invasive species management, insect identification, even bird encounters.

Our mission is to showcase and protect our natural resources. This is achieved through education. We aim to provide enduring quality environmental education. And education is not possible without people- our volunteers. The truth is we couldn't do half the things we do without our amazing and dedicated volunteers. They not only save us on a daily basis and allow us to grow our programs and maintain the trails but they make coming to work fun as well! Our goal for 2018 is to be the year of the volunteer.

So we may be shooting for the stars, but you're all worth it to us. We can work together to leave future generations a better legacy.

2018 Winter Lecture Series

by Josh Palumbo



I think every single one of us questioned the weather in 2017. From hurricanes to wildfires, it was a crazy year. Was it really the craziest year or do we just have short memories. Did we break records? And has this ever happened before? What happened in 2017 that gave us such insane weather? Join us and learn alongside as we explore the world of weather.

January 12 at 7pm – The first of the series begins with The Record Breaking Hurricane Season of 2017. Join Dr. Jeff Halverson, former NASA meteorologist and current professor at University of Maryland on Friday, January 12, 7pm for a fascinating review of last year's storm events which he tracked from inception to impact.



January 26 at 7pm – Nelson County local, Dick Whitehead, hurricane survivor and son of first responder, Sheriff Bill Whitehead, will share with us the story of Hurricane Camille, the most devastating catastrophic event Nelson County has ever endured. Join us on Friday, January 26 at 7pm for our 2nd Winter Lecture series, The Hurricane Camille Storm Event.

From the Director: Science and Education

by Doug Coleman

The Nature Foundation has a strong Science and Education Advisory Committee that advises and weighs in on research potential at Wintergreen. Members of the Committee routinely conduct their research projects here at Wintergreen. Board member Dr. Janet Steven's publication on the interrupted fern study conducted at Wintergreen is currently being ready for publication. Using DNA analysis, Dr. Stevens has determined that the individual clones of this plant in Wintergreen's forests are 300 years old or older making them older than the trees that tower above them. Dr. Dennis Whigham continues to involve The Foundation in the Smithsonian's North American Orchid research, finding this area of Nelson County and the surrounding Blue Ridge very productive. The E-mammal project of several years ago still gives us the best analysis of Wintergreen's wildlife. Last year's spotted skunk study by the Virginia Tech MS student Emily Thorne resulted in unexpected photos of an immature bald eagle attacking a deer carcass.

As these research photos and graphs were presented at the October committee meeting, it was also an opportunity for education experts from local colleges and state organizations including Department of Environmental Quality's Ann Regn, Dr. Linda Fink from Sweetbriar College and Foundation staff to weigh in on methods to incorporate research done at Wintergreen into the curriculum of local and regional teachers and professors. Considerable discussion followed the meeting on the importance of sharing these research findings with those who may become biologists and those individuals who will make decisions in land planning and environmental law.

There has never been a more compelling time for the need to understand and use environmental research as a basis for decision making. Science that describes biological and ecological processes in almost all cases is an honest effort to get at the truth needed to protect our ecosystems and as recent catastrophic events show, sometimes the lives of citizens. Those efforts fail if they are either misunderstood or unappreciated.



Virginia Boasts Diverse National Park Sites

by Paul Spence

Sauntering in the Shenandoah during springtime, enjoying the multicolored wildflowers during blooming season...Rockin' to the sounds of Sting on a warm, summer night...Imagining the hunger in the cold of winter by Lee's soldiers at Petersburg undergoing the 10 month siege in the Civil War by Grant's troops... All of this and more can be experienced only a short drive away from Wintergreen in Virginia, compliments of the National Park Service.

The term National Park often brings images of Yellowstone, Yosemite, the Grand Canyon or the Smoky Mountains. These are certainly part of the system with 58 that are classified as National Parks. However, there is a whole lot more to the National Park System (NPS); in fact, 417 sites in total! The NPS also includes battlefields, memorials, historic sites, seashores, trails, rivers and parkways. Visiting all the sites would take an enthusiast to all 50 states, plus St. John, St. Croix, Puerto Rico, American Samoa and Guam.

Virginia's 17 sites pay tribute to a variety of topics, including:

- **The Civil War** – Appomattox, Lee's home, Cedar Creek, Fredericksburg, Manassas, Petersburg, Richmond
- **Natural Beauty** – Assateague Island, Prince William Forest, Shenandoah
- **Historical Figures** – Booker T. Washington, George Washington, Maggie Walker
- **The Revolutionary War** – Jamestown and Yorktown
- **Performing Arts** – Wolf Trap

All have visitor centers with rangers that have scheduled talks and tours. While most sites are free, some do cost. However, an annual pass for an individual and guests is \$80. For those 62 and over, a lifetime pass is also available for \$80. Take advantage of these incredible gems funded by our tax dollars and visit National Park sites regularly!



Power Hike Series Changed My Life

by Julie D'Angelo

A recent report from the U.S. Department of Health and Human Services states that 80% of American adults do not get enough regular exercise; potentially setting them up for years of health problems.¹

Nature Foundation's Journey to High Places hiking series began in the fall of 2016 and is designed as a power hike. By true definition a power hike is really a runner's conditioning strategy to gain endurance by briskly walking difficult terrains. A regular participant in our High Places expeditions Julie D' Angelo has this to say about her experience.

"Initially when I signed myself up for the moderate to strenuous hike at Fortune's Cove with the Nature Foundation in February 2017, I did not realize how truly out of shape I was. I've been on hikes before but this hike was definitely a wake-up call to improve my own health. Through months of conditioning hiking the many diverse trails Wintergreen has to offer, I managed to drop weight and become healthier."

So come join us on these adventures so you too can reap the health benefits of these carefully planned outings!

Fortune's Cove Hike Picture 2.23.2017



Julie D'Angelo before

Humpback Mtn to Rockfish Gap Hike Picture: 10.19.2017



Julie D'Angelo after

¹ U.S. Department of Health and Human Services. Healthy People 2020. Available at: <http://www.healthypeople.gov/2020/default.aspx>.

How's the Weather?

by Josh Palumbo

This year was quite the weather year. I am happy that we have a weather station on top of Trillium House. Thanks as always to *Blue Ridge Life Magazine* for supporting our weather addiction!

Warmest Day of the Year: **84.9 F (July 19)**

Coldest Day of the Year: **-2.1 F (Jan 8)**

Warmest Month: July – **71.3 F**

Coldest Month: January – **34.4 F**

Average Daily Temperature: **51.8 F**

Highest Wind Gust: **47 mph (Mar 1)**

Average Wind Speed: **3.2 mph**

Rainfall Total: **56.89 inches**

Rainiest Month: **May – 15.93 inches**

Average Daily Humidity – **74.2%**



Our weather website:

<https://www.wunderground.com/personal-weather-station/dashboard?ID=KVAWINTE1>

Can a Rat be Lovable?

by Josh Palumbo

The word "rat" rarely conjures up positive connotations. Instead of envisioning cute, curious creatures, the mind races to images of plague carrying vermin defining the word "pest". Like it or not, living amongst us at Wintergreen is a cute, sweet-natured rat that may change your mind, the Allegheny woodrat.

This summer Nature Foundation's staff spent three nights alongside Virginia Tech researchers surveying sites at Wintergreen in search of the elusive Allegheny woodrat. The purpose was twofold: to gather DNA from a Blue Ridge site and ascertain if Wintergreen could be included in future woodrat studies. After two nights of unsuccessful trapping, constant disturbance by raccoons, night number three proved profitable. One trap out of fifteen that were spread over three locations had success. This was great news indeed...Wintergreen has rats! Also great news....Wintergreen is not going to be overrun by our minuscule Allegheny woodrat population.



It is time everyone learns a little bit more about this four legged, furry Wintergreen resident. The Allegheny woodrat is a member of the pack rat family, the species in the genus *Neotoma*. These nocturnal creatures are identified by their cinnamon-colored coat, long furry tails, long whiskers, blunt nose and large eyes and ears. They are easily differentiated from the Norway rat that has pointed noses and a naked tail.

Pack rats earn their name. The Allegheny woodrat spends much of its time foraging for food such as fruit, nuts, seeds and grasses as well as gathering up nesting supplies such as twigs, leaves, feathers, bones and any other piece of refuse they can find. Their cluttered, cup sized homes are called middens.



The Allegheny woodrat has a state ranking of "S3" by the Virginia Department of Natural Heritage which is defined as "rare to uncommon in Virginia with between 20 - 100 occurrences; may have fewer occurrences if found to be common or abundant at some of these locations; may be somewhat vulnerable to extirpation in Virginia." This species has seen rapid decline over the past 30 years due to two primary reasons. The first is habitat fragmentation. They depend on rocky habitats for nest sites surrounded by forest for foraging. As forests get fragmented by development, the crucial habitats begin to shrink. The second primary cause of decline is a parasitic nematode, called raccoon roundworm. The rats contact the parasite from raccoon feces. Once infected, the parasite attacks the nervous system of the woodrat resulting in death.

Research is being done across the home range of the Allegheny woodrat studying the decline of this unique little creature.

Wintergreen may get a chance to aid in the study of this unique critter this winter alongside our spotted skunk study. Stay tuned to The Nature Foundation at Wintergreen facebook page for updates on this project.

2017 Summer Interns Share Their Experiences

by Ania Golos



As a junior environmental studies major from Lynchburg College, I was excited to spend my summer working in the Blue Ridge Mountains. My experience as a Naturalist Intern at the Nature Foundation was absolutely wonderful. One of the main responsibilities of my internship was assisting Kathie Driscoll in creating and implementing programs for children. Since I did not have a lot of experience with children, it was enlightening to watch them learn about topics such as astronomy, bird life, and forest animals. Planning and putting together the programs was tricky. I had to make sure to be both informative as well as entertaining. I thoroughly enjoyed working in the nature center's Shoppe and talking to many locals and visitors that stopped by the Foundation. I learned so much from countless people who stopped in and told me stories about what they had seen in the woods. One of my favorite parts of the internship was training days, where usually Josh Palumbo, Gage, the other intern and I would go out and explore Wintergreen and others spots in the area. During some of the trainings, we focused on botany, geology,

learning how to canoe, identifying ferns and mushrooms, and exploring an abandoned copper mine. Through these training days, I was truly able to experience Wintergreen and the Blue Ridge Mountains and the lessons I learned are ones I will never forget. I also participated in deer surveys led by Josh. We would drive around the mountain and the valley at Stoney Creek, counting the amount of deer seen per square mile. I personally enjoyed learning about the flora at Wintergreen, as well as the many animals that call the forest home. Overall, this internship was one of the best summer jobs I've ever had and I will take away many delightful memories from it. I would like to continue teaching and working with adults and kids, focusing on the areas of sustainability and education.

by Gage Carrol



My time spent this summer at the Wintergreen Nature Foundation has been nothing short of wonderful. From the moment I walked in the door on my first day, I was made to feel welcome and at home. This case was strengthened as I met each staff member.

I worked as the forest management intern. My main responsibility was to help maintain Wintergreen's thirty plus miles of hiking trails, on the mountain and in the valley, to ensure the safety and satisfaction of hikers. These tasks included surface cleaning and trailblazing our twenty-five trails, ensuring hikers would not get lost. While trail maintenance was a priority, additional responsibilities included stream quality testing, research projects involving animals such as: bears, skunks, gypsy moths, and deer, and working in the Shoppe at the Trillium House. Working in the nature center consisted of tasks such as assisting Wintergreen guests with information about the trails, answering any questions they might have and explaining our exhibits. Working in the Shoppe

provided retail experience that could be very helpful in the future. I also participated in scheduled weekly trainings covering a variety of topics including: plant and tree identification, geology, mycology and symposiums that dealt with salamanders and medicinal plants. The trainings were very educational and taught me valuable information that will be helpful in the future.

I have always been interested in the outdoors from a young age. As an environmental studies major at Lynchburg College, my internship with the Nature Foundation at Wintergreen has confirmed my interest in forestry as a potential career choice. Wintergreen provided a unique opportunity because the community was located within the forest. We not only conducted research on the elements of the forest itself but also the interaction between the community members and the forest. I am very thankful to have spent my summer working with the Nature Foundation. It was a great opportunity I will never forget.



The Attack of the Blob!

by Kathie Driscoll

You may have seen it as you innocently wade into a lake on a warm late summer day or paddle past a nearby dock. You may say to yourself, reassuringly, "it's just a glob of amphibian eggs." But what is it really that lurks just below the surface? What are these strange creatures of the deep?

They thrive in warm, slow moving freshwater as they hang on tight to old logs, tires or a dock's pilon. These are known as magnificent bryozoans (*Pectinatella magnifica*), ancient colonial invertebrate that have lived over 500 million years in freshwater, and yet most humans know little if anything about them!

Each mass houses hundreds of white speckled individual animals called Zoids. The Zoids are tightly compacted to the outer surface while the majority of the colony is composed of water and a gelatinous material. These masses can grow as large as a football! Although bryozoans are native to North America, their range had been restricted to warm freshwater systems east of The Mississippi. Populations have been discovered in Texas and other western states, and of late, in Canada. Some experts believe bryozoans are cryptogenic, meaning they cannot be proven to be native or introduced.

Much like the coral in our oceans, bryozoans require a hard substrate to attach themselves. They have tentacles that reach into the water to filter feed small, microscopic organisms and need fairly clean water to thrive. The colony grows exponentially in warm water during late summer to early fall. Before the water temperature drops, the colony releases thousands of seed-like discs called "statoblast" that remain dormant over winter and germinate the following spring.

While *P. magnifica* does not present a great impact on humans, large masses of magnificent bryozoans can clog drains and water pipes. So the next time you wade out into the deep, remember that the blob, magnificent bryozoans may be lurking and waiting for you!



Photo from <https://projectwildamerica.org/2016/08/05/the-mighty-bryozoan/>

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Can you Find Your Way Out of This Blob?

