



NaturePhile

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The Balsam Mountain Trust inspires people to be responsible stewards of the natural and cultural resources of the Southern Blue Ridge Mountains through education and conservation leadership.



Talk about charismatic megafauna; this humpback whale was 'shot' as it began a deep dive near the whale research vessel Michael and Beth were on during their trip to Alaska in August. These animals have experienced a comfortable resurgence in their population, with a world-wide estimate of about 80,000. They are, however, faced with the continuing threats of noise and water pollution, boat/ship collisions and overfishing. It is still listed as endangered.

Photo by: M. Skinner

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From the Trailhead:

Michael Skinner, executive director

From the Sublime to the Amazing!

Okay, so first, an admission: Yes, I've said the following many times in my life, mostly because I have been witness to many wonderments and because of that, my own personal idiom has pretty much become: **NATURE IS AMAZING!!!** And yes, that's with all CAPS and extra exclamation points. Because, in three words, yes, nature is amazing. It has also been my therapy when my gray-matter is overwhelmed with the news of the day, or days.

With that then, please consider the following two photographs—one of which I took at the Monterey Bay Aquarium on a recent visit and the other, a photo I snapped up at the Boarding House. The myriad of species to which I have been a witness, continuously prompts my mind to consider—and often ask silently, to myself or aloud, to others, “Isn’t that amazing?!”

The jellyfish (and they're not really fish at all, rather, they're invertebrates related to sea anemones and other soft-bodied ocean dwellers), pictured left, is a Pacific sea nettle (*Chrysaora fuscescens*); the other 'creature' is the poisonous Jack-O-Lantern fungus (*Omphalotus olivascens*), which is found on the Preserve and is very common. Isn't the resemblance almost too amazing to believe, yet there it is! Isn't nature **AMAZING!!!**



“You Say Goodbye, and We Say Hello” (with apologies to Lennon and McCartney)

We must announce that after two terms with the Trust, Bethany Sheffer must bid us all, “Adieu”. We believe that the relationship was a win-win for her and the Trust. Her work with the Adopt-a-School program was an unmitigated success as she became an integral part of delivering the message of the mission of the Trust. And her interactions with BMP members received warm praise as well. It's here that I feel compelled to, once again, state in this public forum, how fortunate I am (and have been) to have the level of professionalism imbued in members of the Trust staff with whom I have been so fortunate to work beside.

The AmeriCorps Service program, from which we've had so much success in the form of the people we have engaged with the Trust, continues with Bethany's departure as we say hello to Eliza Hurst. (See article in this issue).

We wish Bethany best wishes on her next journey.

The Trust's New Ambassador: Eastern Screech Owl

The Trust would like to introduce you to our newest ambassador, a gray-phase eastern screech owl. She doesn't yet have a name so, as usual, we'll offer up a naming contest. If you'd like to offer suggestions before the official event, please do so. She is an adult non-releasable bird due to losing a fight with an automobile (which happens more often than we care to think).

She was acquired by a wildlife rehabilitator near Greenville, SC. She is sharing the mew with Rasta and they seem to be getting on well.

With Rasta nearing retirement age, we thought it best to have a bit of a backup. Small birds offer advantages such as being easier to work with among our volunteer corps, easy to travel with and not too much care for cost.

We're always looking for folks who might want to work with our animal ambassadors so stop by and say hello, in screech owl of course, and visit with her and our other amazing 'staff'.

Healing the Hemlocks on the Preserve

We had a large crowd for the Trust Talk Presentation this season about the eastern hemlock. Many BMP members have hemlocks on their homesteads and so wanted to take an opportunity in this publication to remind everyone that if you do have hemlocks on your homestead, we recommend one company (that has been successfully treating hemlocks on the Preserve for many years.

Hemlock Healers is based in Asheville, NC and the owner, Frank Varvoutis was recruited as a company who is honest and fair with pricing for treating your hemlocks. We mention this company because there were a number of companies that sprang up when this cottage industry took off in the early 2000s after the plight of the hemlocks became, literally, front-page news. Inherent in these situations can often be unscrupulous operators when a quick buck is to be made and in this case, there were some companies who price-gouged their clients. Hemlock Healers has been a stellar contractor with which to work when we were treating hemlocks on conservation easement land on the Preserve.

If your trees need treating (and are not being treated) then please reach out them. They also perform various other services related to forest health. Go to: www.hemlockhealers.com or call them @ 828-734-7819. If you're not sure whether or not your trees may need treating you can contact the Trust and we can take a look and/or offer advice about the treatment process.



The photo above illustrates an infestation of the insect called the hemlock woolly adelgid. Once infested, mortality of any eastern hemlock is practically 100%. Treatment will control (but not totally eliminate) the insect.

Educational Mewsings: Settling In

By Jen Knight

Moving the Nature Center is not wholly unlike moving your residence. We've been packing and unpacking boxes, organizing, shifting things into place and ~~arguing~~ debating the best spots for furniture and art. Unlike moving a residence, our first priority for unpacking was not an air mattress or coffee maker (though that came close) but rather the host of tanks, lights, water dishes, perches and heaters necessary for the care and comfort of our educational menagerie.

Long before our offices were organized, taxidermy put in place, or our minds caffeinated, we made sure that the animals were situated. Their wellbeing is our greatest responsibility and we do our best to not only meet their basic needs but try to provide the utmost quality of life within our means. Staying on top of current best practices and research helps guide decisions like when to upgrade equipment, what training regimes to implement, and the top food sources for healthy captive diets.

When we redesigned the Nature Center space, we knew we had a chance to improve

not only how we displayed the animals but also their enclosures and care. We consulted with veterinarians and animal care experts at several other facilities to determine the kinds of changes we wanted to make.

The most obvious change we made was grouping most of our reptiles into the "animal wall" in the front entry. Besides making a dramatic first impression, this arrangement consolidates tank access and care to a single location: the animal care room located behind the wall. Our animal care routines are more efficient and visitors are greeted by the kind of welcome committee you can only expect at the Nature Center!

A less obvious change, though possibly more significant to the critters, is the addition of new UV lights for the snakes. Ultraviolet light (UV) is a natural component of sunlight. Some of you nerdier types may remember that UV light sits between x-rays and visible light on the electromagnetic spectrum. Humans cannot perceive UV rays, but special lamps like black lights do allow us to observe fluorescence – a glowing reaction given off by some materials when exposed to UV radiation.

Besides making our velvet posters look cooler, why does UV radiation matter? Humans and most other land vertebrates require some exposure to UVB, the middle of the UV spectrum, to produce vitamin D₃. This critical nutrient facilitates the body's absorption of calcium and, in mammals, helps regulate the endocrine system and promotes the production of serotonin – a neurotransmitter tied to mental health and wellbeing. UV exposure also has positive effects on the immune system and skin health across a variety of vertebrate species. However, too much of the same exposure can cause sun burn, eye damage, and increased risk of some cancers in humans.

The absolute necessity of maintaining adequate levels of D₃ in captive animals have made supplemental UV lamps commonplace in the reptile trade over the past 20 – 30 years. Snakes and nocturnal species, however, have always been the exception to the rule. It is well documented that these animals derive sufficient D₃ from their diets and so UVB supplementation has traditionally been viewed as unnecessary.

Scientists have learned a lot about how different animals use UV radiation over the past several decades. In addition to absorbing UVB to synthesize D₃, we now know that many animals can see at least some part of the UV spectrum, generally UVA. Reptiles and amphibians use UVA to identify individuals of the same species and find food. UV exposure may also play a role in thermoregulation, establishing circadian rhythm, and perceiving seasonal cues to breed, migrate, etc.



These discoveries have led an increasing body of reptile keepers to consider other physical and psychological effects of UV radiation in addition to those necessary to maintain the basest functions of life. It is for these reasons we built UV lights into our new exhibit budget. I am happy to report, at least anecdotally, that our snakes have seemed more active and generally visible than they have in the past. This, along with the coffee maker finally set up in the kitchen, has put all of us well on our way to finally feeling at home.



AmeriCorps Update

By Eliza Hurst, (New) CTNC AmeriCorps Service Member

Hello everyone! I am thrilled to be the newest AmeriCorps member serving at the Balsam Mountain Trust (BMT) as it is near and dear to my heart because I volunteered here in 2015. I have some big shoes to fill as the previous AmeriCorps member, Bethany Sheffer, has definitely made quite an impact in the western North Carolina communities the Trust serves. I cannot wait to see what this term of service holds for me!

I was born and raised in Pompano Beach, Florida. I developed a deep love for the ocean and marine life through scuba diving with my dad and brother. This gave me a foundation for appreciating natural habitats. When I decided to move to western North Carolina for college, I was excited to explore the ecosystems of the Southern Appalachians.

I started school at Western Carolina University (WCU) in the fall of 2014. I was dead-set on majoring in elementary education. One general education geology class in my first semester of college was all it took to change my mind. Soon after I found myself in the advising center changing my major to geology. I was and still am, fascinated by the way geologists are able to piece together “clues” in the natural world to make interpretations of the environment that existed millions of years ago. Searching for these hidden messages in the rocks heightened my awareness and curiosity of the natural world.

The more I discovered about the natural world, the more obsessed I became. I wanted to study everything from mushrooms to birds, streams to salamanders and what I could do to preserve the places I loved. I seized any opportunities to learn more about conservation and the environment around me. This is when I began to volunteer at BMT. Additionally, I interned in the Office of Sustainability and Energy Management at WCU. I graduated May 2018 with a B.S. in geology, concentration in environmental hydrology, but couldn’t escape the desire to teach. A position in informal science education has been a dream job for me in the past years because it would be an ideal way for me to share my passions with others.

While attending WCU I began to feel a strong sense of belonging in the Southern Appalachian Mountains. I am delighted that I can serve this community that means so much to me. During my time at BMT I will be working on many programs designed to reach underserved populations. I will be delivering the Adopt-A-School, monarch and pollinator programs at elementary schools in Jackson and Haywood counties. I will also be developing new programs to introduce to Jackson and Haywood county libraries. One project I am especially excited about is working to further develop a field biology internship for a high school student.

If you visit the Nature Center please stop in to say hello. I am eager to meet members of the Preserve community. I am looking forward to an exciting year of learning opportunities, new adventures and giving back to the community!



An Alaskan rainbow—one of many sighted by Michael on his trip.