



# SHENANDOAH SAW-WHET

ISSUE #9: SPRING  
2022

A NEWSLETTER OF THE **SHENANDOAH CHAPTER** OF THE VIRGINIA MASTER NATURALISTS PROGRAM.

OUR NEWSLETTER IS NAMED IN HONOR OF THE NORTHERN SAW-WHET OWL — A SPECIES OF GREATEST CONSERVATION NEED IN THE SHENANDOAH VALLEY.

## UPCOMING EVENTS & OPPORTUNITIES

### Virginia Bluebell Bloom – Various Locations

(*Mertensia virginica*)

Approx. mid-April

### Front Royal Earth Day

Saturday, April 23<sup>rd</sup>

### Blandy Garden Fair

May 6<sup>th</sup>-8<sup>th</sup>

### Lake Frederick Kayak Nature Orientation

June 17<sup>th</sup>, 2022

(Contact Mary Beth Yarbrough)

### Chapter Meeting/Social

At Blandy

June 21<sup>st</sup>, 2022

## FROM THE EDITOR

BY TIM KOPPENHAVER

At our February chapter meeting, **Kevin Bowman** and **Linda Greenleaf** presented on the importance of dark skies. As a nice follow up to that presentation, **Paul Guay** has written a very interesting article related to the impact of light on the lifecycle of American Bald Eagles (*Haliaeetus leucocephalus*). The interconnectedness of the natural world is brought home very well by Paul's article.

The famous naturalist being featured this quarter - Wangari Maathai - has a passion for planting trees. She knows of their value in binding the soil, storing rainwater, and providing food.

Some members are recognized for their extraordinary contributions to our chapter and the greater VMN program. And speaking of contributing to the chapter, we spotlight our incoming president **Mary Beth Yarbrough** giving members a chance to get to know her better.

Lastly, some great artwork and photography is presented in this edition under our Photo Stories section.

Hopefully, something in this edition will inspire you to get out-and-about in the upcoming wonderful weather on the way.

## **PRESIDENT'S MESSAGE BY MARY BETH YARBROUGH**

*"In all things of nature there is something of the marvelous."* Aristotle.

I feel like I came "home" when I joined a group in which the members wonder at the marvels of nature, and seek out its mysteries, lessons, healing, and spiritual powers-- as perpetual students, and Master Naturalists. To experience nature in the bounty of the Shenandoah Valley and surrounding Blue Ridge (and in the great natural diversity of Virginia), is a privilege beyond compare.

As many know from our February Chapter meeting, there are some new faces on the board! As the 2022 Shenandoah Chapter President, I have some mighty shoes to fill following **Kelly Macoy's** excellent leadership. Along with outgoing Vice-President **Alex Newhart**, and Treasurer **Janet Rigoni**, all have served this chapter tirelessly, and deserve our gratitude. Keeping our chapter running in the face of COVID has been a herculean task. The new members of the executive board have appreciated their continued support and guidance in this transition. Our new Vice President **Rebecca Harriett** continues in her role as Education Committee Chair (and is engaged full-time in launching and leading our Spring Basic Training class March-May, with a full roster). I'm very grateful she stepped up as VP! **Susan Galbraith** hit the ground running with transfer of account, chapter dues, and 2022 budget preparation as our new Treasurer. We feel extremely grateful **Ellen Schwalenstocker** provided us much valued continuity and insights in her role as Secretary.

During this first quarter, Rebecca and I held many enjoyable meetings with individual chapter committee chairs, project managers, and advisors. It was great to learn more about the details of our numerous chapter activities, as well as get to know individuals better. We came away with a renewed appreciation of how impressive our volunteers are, and why our chapter is phenomenal!

Compiling 2022 goals in collaboration with our leaders has made us excited for the year ahead. Your Chapter Board has goals as well: 1) engage members through enhanced communication and goal setting; and 2) support chapter administrative functions going forward by engaging, recruiting, and grooming new and existing members. It's our hope to ensure the chapter has strong and capable leadership going forward. We'd like 2022 to be the year our full membership feels confident with Better Impact (via training in recording of volunteer hours and becoming familiar with the use of this resource). Opportunities for safe post-covid social and educational gatherings for the membership is a shared expectation for many of our members, and this board.

*"Volunteering is the ultimate exercise in democracy. You vote in elections once a year, but when you volunteer, you vote every day about the kind of community you want to live in."* (unknown).

Thank you VMN volunteers!

## **MEMBER PROFILE – MARY BETH YARBROUGH**



Earlier this year, Mary Beth Yarbrough stepped into her new role as our chapter's president. She brings with her a variety of life experiences that will amplify her tenure as president.

As a child, Mary Beth loved the natural world by being out in it – climbing trees, finding nests, poking around in creeks, etc. She was fascinated by creatures in the “disappearing pond” at her grandmother’s New Jersey home in the pine barrens. Of course, this was her first introduction to vernal pools.

After a BA in Foreign Languages from Duquesne, Mary Beth completed an MBA from George Washington University and began a foreign service career with the US Agency for International Development. A mutual friend introduced her to her Texan husband, Steve. For 25 years they made Texas their home, raised a family, and Mary Beth began a second career in education.

With retirement, Mary Beth yearned for the temperate climate and mountains of Virginia, and easily convinced Steve to make the move. She's said that returning to Virginia felt like a homecoming, especially after joining our VMN chapter in 2019, where she could deepen her learning about the natural world of Virginia.

Once back in Virginia, Mary Beth worked as a seasonal interpretive ranger at Shenandoah National Park (SNP), where she met **Karen Fall**, who introduced Mary Beth to the VMN program. ...and that was that, as they say.

Mary Beth has jumped into her new role as president with thoughtful enthusiasm. She and her VP Rebecca Harriett met with officers and committee chairs to assess our chapter's projects, needs, and goals. Mary Beth is compassionate, understanding the challenge all volunteer organizations face – *that volunteers don't necessarily have the time; they have the heart.*

In addition to Virginia's mountains and SNP, another favorite place is her Lake Frederick community. She's involved in the chapter's project there, and you can find her out hiking or kayaking, exploring what the lake has to offer.

Besides leading our chapter, Mary Beth enjoys hiking, yoga, skiing, world travel, international cuisines, creative writing, the sheer joy of learning, and has a true passion for just giving back. Mary Beth comes to the role of President with a wide variety of life experiences.

As VMN naturalist our job is to educate the public. When Mary Beth was asked what point she feels is most important for the public to know about VA's natural resources, she offered a powerful message we all share:

*Our VMN program should simply encourage people to care about the natural world.*

## **CHAPTER MEMBER RECOGNITIONS**

Five of our chapter members have achieved impressive milestones!

250 Hours: **Juli Bowers, Ellen Schwalenstocker, and Mary Beth Yarbrough**

500 Hours: **Rebecca Harriett**

1,000 Hours: **Paul Guay**

5,000 Hours: **Alex Newhart.** Alex is the third of only 3 members to achieve this milestone in the Chapter's history. This makes him a Golden Circle volunteer – a special State-wide recognition.

Congratulations to all!

## **FAMOUS NATURALISTS**

The first African woman to receive a Nobel Prize, biologist and environmental activist **Wangari Maathai** was truly a trailblazer. Born in rural Kenya to a farming family, Maathai unlike many girls at the time received a formal education, first at the local primary and secondary schools, then in 1960 she was awarded a scholarship to go to university in the United States.

She attended Mount St. Scholastica College in Kansas, where she attained a degree in biology. Two years later she completed a masters in biological sciences from the University of Pittsburgh. She later returned to her native Kenya, where she completed her PhD in veterinary anatomy at the University of Nairobi. Professor Maathai became the chair of the Department of Veterinary Anatomy and an associate professor. In both cases, she was the first woman to achieve those positions in the region.

Through her work with the National Council of Women of Kenya, an organization in which she was very active, Maathai became interested in the idea of community tree-planting. She proposed this as a way to reduce poverty whilst conserving the environment. This idea became the *Green Belt Movement*, a grassroots organization that she founded in 1977 to respond to the needs of rural Kenyan women and restore their degraded environment.

*“When we plant trees, we plant the seeds of peace and hope.”*  
**Wangari Maathai**

Maathai encouraged women to plant tree nurseries across the country, and they were given a small stipend for doing so. The Green Belt Movement, which has planted over 50 million trees, promotes environmental conservation to build climate resilience and empower communities, especially women and girls, to foster democratic space and sustainable livelihoods. In addition to this huge achievement in environmental conservation Maathai also became recognized for her strong commitment to human rights and democracy. She addressed the UN on a number of occasions and became a UN Messenger of Peace in 2009.

She won the Nobel Peace Prize in 2004 for her “for her contribution to sustainable development, democracy and peace.”

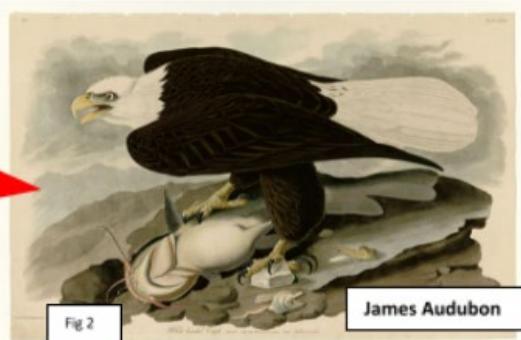
## The Alchemy of Eagles



From this

To this

**PERIPHYTE:**  
Latin for 'around a plant'



By Paul Guay

Periphyton is more than just algae covered rocks lining a stream bed. It's a community. It's a gathering of tiny machines. Its AUTOTROPHS (organisms capable of photosynthesis) like algae and its chloroplasts and cyanobacteria and diatoms (the PRIMARY PRODUCERS) churning out carbohydrates and protein, all made from sunlight, air, and water. It's the first link in a very long food chain, and thrives in fresh water and brackish tidal flats as well.

It's the aquatic version of the great grasslands of North America and Africa. And like those great grasslands, there are grazing herbivores here (the PRIMARY CONSUMERS). They are bacteria and protozoans, insect larvae and tadpoles, crayfish, and minnows. All grazing. Not on grass but on algae, making their own store of protein and fats; the nutrients that will eventually work their way up the food chain.

And they are also carnivores. They are the predators who devour the herbivores that grew fat on the algae. It's the tiny ones at first. Zooplankton like ROTIFERS and CLADOCERIANS eat the bacteria. And tiny fish that eat the zooplankton and insect larva, and tiny fish that eat other tiny fish, and big fish that eat the tiny fish. Nutrients moving up the food chain.

Periphyton is indeed the basis of a long food chain. So long, in fact, that it extends onto dry land. Tadpoles, salamanders, frogs, snakes, turtles, raccoons, opossums, muskrats, beavers, otters, foxes, bats, and bears all dine at the Periphyton banquet table.

The Periphyton 'long chain' even has a branch that reaches to the birds in the sky. Innumerable songbirds relish the adult BENTHIC insects (insects with an aquatic larval stage), the larvae of some were once fearsome under water predators. Other birds like shrike, kingfishers, ducks, herons, egrets, osprey, and eagles eat the fish, amphibians, reptiles, and insects that grew, well fed, from the Periphyton nutrient chain.

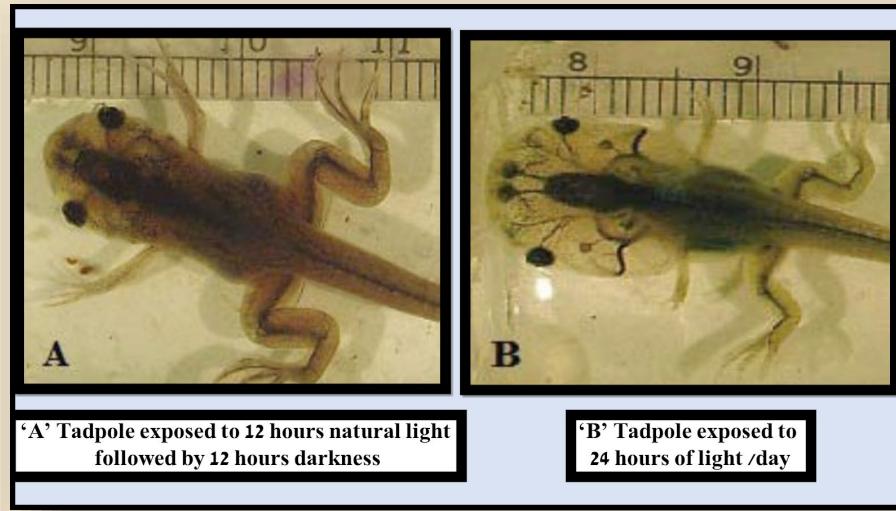
It's the chain of life that's anchored to moss covered riverbed rocks and the chloroplasts of algae. Look for periphyton and know **it really is the marvelous alchemy that turns sunlight, air, and water into Eagles.**

(continued on Page 6)

So much life springs from the living, moss-covered, creek-bottom food machine called Periphyton. But until recently, little was known about the intricacies of this fresh water ecosystem. Is it any less important than the World's more celebrated eco-systems like the great grasslands of North America and Africa, or the Equatorial Rainforests, or the Coastal Tidal Wetlands? Even the underwater ecosystems beneath the Antarctic Ice Sheet are better documented.

Enter the Leibniz Institute of Freshwater Ecology and Inland Fisheries near Berlin, Germany. Research on the effects of ALAN (**Artificial Light At Night**) began here in 2016. Snowmelt water from an alpine stream was diverted into five stainless steel troughs installed in an agricultural field drainage ditch. The troughs contained cobbles (stones) of varying composition and unglazed white ceramic tiles to serve as standardized substrate for the Periphyton. The alpine stream water was allowed to naturally populate the flumes and tiles with locally native periphyton and macroinvertebrate fauna. Different sections of the trough array were exposed at night to no ALAN or ALAN generated by the white LEDs commonly used in street and parking lot lighting.

**CONCLUSION:** Researchers found that ALAN **significantly** decreased the biomass of the algae by 57%, of cyanobacteria by 54% and diatoms by 11%. Researchers speculated that ALAN deprived the Periphyton's flora and fauna of their nighttime resting phase, essential to produce the master growth hormone **MELATONIN**, thereby disrupting cell division, metabolism, regeneration, and reproduction. Also, at night the newly emerged adult aquatic insects would gather and remain under the light fixtures, altering the natural distribution and availability nutrients to the surrounding environs.



When ALAN begins to intrude on natural wetlands, productive and essential ecosystems can be permanently altered in ways that we don't fully understand.

One day when ALAN illuminates our last wild wetland will we witness the end of the marvelous Alchemy of Eagles?

## VOLUNTEER SERVICE

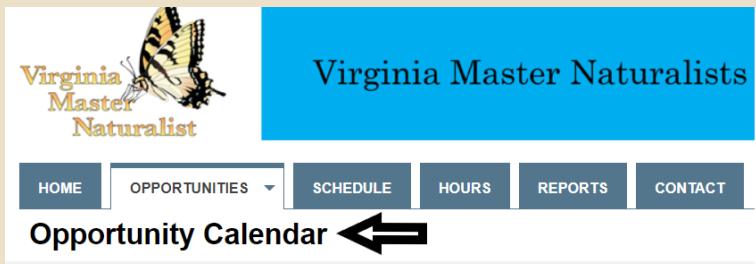
VIRGINIA MASTER NATURALISTS ARE DEDICATED TO VOLUNTEERING IN THEIR COMMUNITIES PERFORMING DUTIES SUCH AS CITIZEN SCIENCE, EDUCATION, STEWARDSHIP, AND CHAPTER ADMINISTRATION. A SAMPLE OF SHENANDOAH CHAPTER MEMBER'S EFFORTS IS PRESENTED BELOW.

### **CHAPTER PROJECT REPORTS**

Ever wondered about the many projects of our Chapter, but not sure where to learn more? Check out our new "Chapter Project Reports" section in Better Impact Files. Going forward, project leads will regularly submit their project overviews, along with updates, status, news, and anticipated volunteer opportunities for their projects. Interested members will be directed to these updates during Chapter Meetings for more details.

### **VOLUNTEER OPPORTUNITIES**

Please remember to check Better Impact's *Opportunity Calendar* to see upcoming volunteer and continuing education events:



### **Interested in becoming Outreach Chairman for our chapter?**

In addition to being a member of the chapter's board, Outreach Chair coordinates chapter outreach activities (approx. 6/yr.), maintains brochures, updates display board, and keeps websites (chapter page and Facebook) up to date.

If interested in this great opportunity to contribute to our chapter, please contact one of our chapter's officers.



If you're not already doing so, please consider joining our Chapter's Facebook Group:  
[www.facebook.com/groups/518874388134005](https://www.facebook.com/groups/518874388134005)

A lot of great resources and member interactions are shared here. As are some great photos.

## **NATURALIST RESOURCES OF NOTE**

### **WILDFLOWER CALENDAR**

Shenandoah National Park: [www.nps.gov/shen/learn/nature/upload/WildflowerCalendar\\_Web.pdf](http://www.nps.gov/shen/learn/nature/upload/WildflowerCalendar_Web.pdf)

### **WHAT'S BLOOMING NOW**

State Arboretum of Virginia:  
[blandy.virginia.edu/arboretum/what-s-blooming-now](http://blandy.virginia.edu/arboretum/what-s-blooming-now)

### **VIRGINIA BIRDING AND WILDLIFE TRAIL:**

[vafwis.dgif.virginia.gov/FindWildlifeVA/#/findWildlife](http://vafwis.dgif.virginia.gov/FindWildlifeVA/#/findWildlife)

### **WILDLIFE VIEWING TIPS**

Virginia Department of Game & Inland Fisheries:  
[www.dgif.virginia.gov/wildlife-watching/respect-wildlife/](http://www.dgif.virginia.gov/wildlife-watching/respect-wildlife/)

### **PHENOLOGY VISUALIZATION TOOLS**

From USA National Phenology Network:  
<https://data.usanpn.org/vis-tool/#/>

### **WELL-READ NATURALIST**

Reviews of books about natural history  
<https://www.wellreadnaturalist.com/category/reviews/>

### **NATURESERVE EXPLORER**

Provides conservation status, taxonomy, distribution,  
and life history information for more than 95,000 plants and animals in the United States.  
<https://explorer.natureserve.org/>

### **ANSROP**

Alliance of Natural Resource Outreach and Service Programs  
promotes awareness and citizen stewardship of natural resources through science-based education and service  
programs. <https://anrosp.wildapricot.org/>

## **CHAPTER PROJECTS OF NOTE**

Sky Meadows: Sensory Trail, Outdoor Lab, Pollinator Plot and Bluebird Trails

Bluebird Trial at Blandy Experimental Farm

Lake Frederick Educational Outdoor Lab

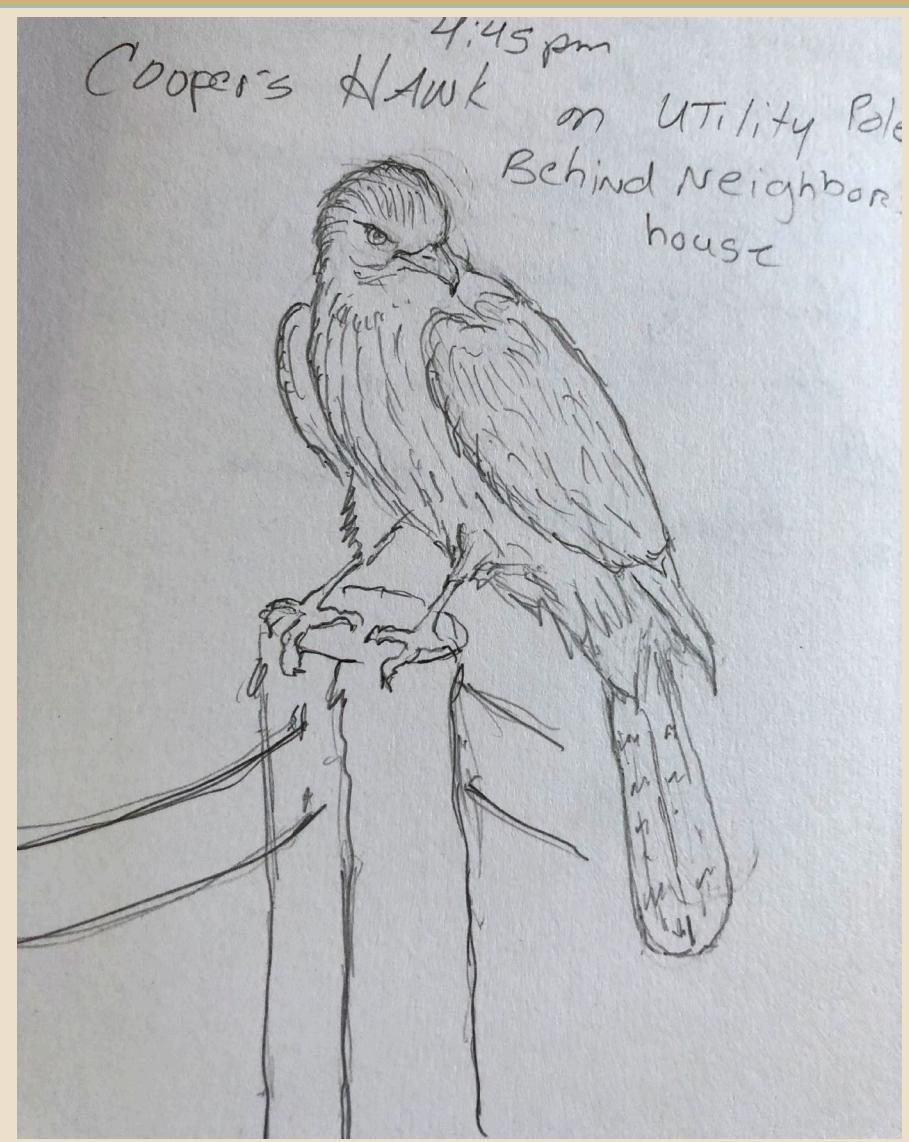
Blue Ridge Wildlife Center Volunteering

The Trails at the Museum of the Shenandoah Valley

*If interested in helping with these projects, please reach out to any of our  
chapter officers or committee chairs or email us at [ShenandoahVMN@gmail.com](mailto:ShenandoahVMN@gmail.com)*

## PHOTO STORIES

IMAGES CAPTURED BY SHENANDOAH CHAPTER VMNS ALONG WITH DESCRIPTIONS OF THE SPECIES, PHOTO TECHNIQUES, AND OTHER USEFUL TIPS & INFO.



**ARTIST:** Dennis Wert

**LOCATION:** Winchester, Virginia

**SUBJECT SPECIES:** Cooper's Hawk (*Accipiter cooperii*)

**PHOTOGRAPHER COMMENTS:** Drawing from the journal of Dennis Wert



-EST Photo

**PHOTOGRAPHER:** Ed Tobias

**LOCATION:** Goðafoss waterfall in northern Iceland

**NOTES:** The long exposure time smooths out the water flow.

**CAMERA:** Olympus E-M1, Mark II. Lens: M. Zuiko 8-25mm (16 - 50 full frame equivalent). Shot at:13 mm; 2 sec exposure at f/8.0



**PHOTOGRAPHER:** Richard Stromberg

**LOCATION:** George Washington National Forest, Mine Gap Area

**SUBJECT SPECIES:** Turkey Tail fungus (*Trametes versicolor*)

## MEDIA RECOMMENDATIONS

*Interactive Website Recommendation*

**[www.natureserve.org/natureserve-network-van-tour](http://www.natureserve.org/natureserve-network-van-tour)**

### Overview

For nearly fifty years, NatureServe has been the authoritative source for biodiversity data throughout North America. To protect threatened biodiversity, NatureServe works with a Network of over sixty programs and over 1,000 conservation professionals, scientists, land managers, and others to collect and analyze standardized information on imperiled species and ecosystems. The NatureServe Network Van Tour highlights how we use information to sustain biodiversity through technology, collaborative science, and local expertise.



If you would like to contribute Media Recommendations for publication in an upcoming newsletter, please send feedback to **shenandoahvnm@gmail.com** and include why you feel our chapter would benefit from your recommendation.

# PLACES OF NOTE

INTERESTING LOCATIONS TO VISIT IN OUR SHENANDOAH CHAPTER TERRITORY

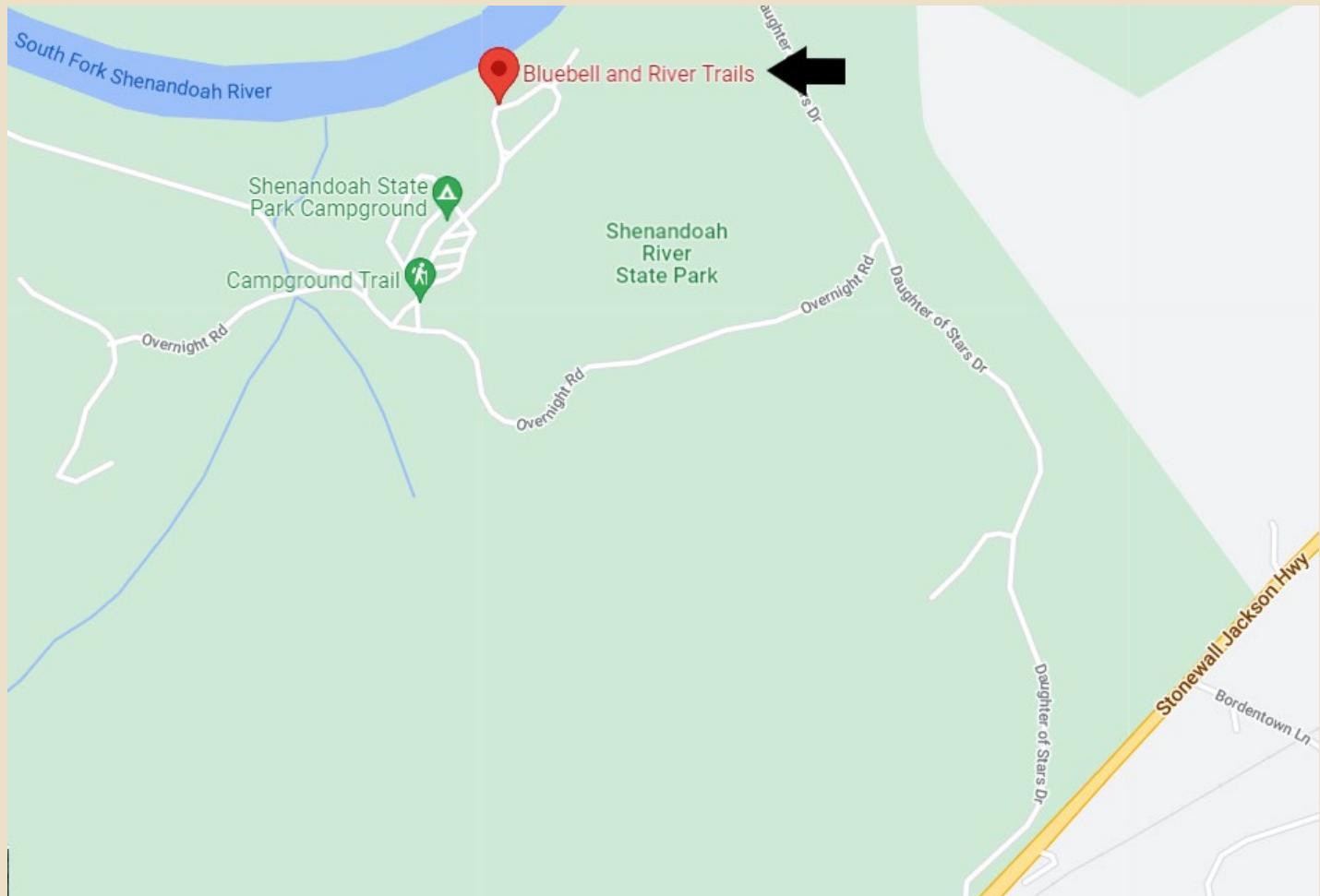
## **SHENANDOAH RIVER S.P. BLUEBELL TRAIL**

### Overview

There's much to see at Shenandoah River State Park, but spring provides a wonderful opportunity to see a profusion of Virginia bluebells (*Mertensia virginica*). In fact, one of the most popular trails at the park is the Bluebell Trail whose trailhead is found at the main parking lot. The bluebells can hit peak profusion around mid-April. Check with the park's personnel to get exact updates.

### Location

Located 13 miles south of Front Royal off Route 340:





*The Virginia Master Naturalist program and the Shenandoah Chapter are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer.*

## **CONTACT US**

Shenandoah Chapter of the Virginia Master Naturalists

Chapter Website: [vmnshenandoah.org](http://vmnshenandoah.org)

Chapter Email: [ShenandoahVMN@gmail.com](mailto:ShenandoahVMN@gmail.com)

**President: Mary Beth Yarbrough**

**Vice President: Rebecca Harriett**

**Secretary: Ellen Schwalenstocker**

**Treasurer: Susan Galbraith**

Education Committee Chair: *Rebecca Harriett*

Membership Committee: *Alex Newhart*

Volunteer Opportunities: *Michelle Fontaine*

Outreach Committee: *Tim Koppenhaver*

Program Committee: *Kelly Macoy*

Sky Meadows Outdoor Lab: *Ed Tobias*