**Quincy Bog Notes** 

Conserving Land, Connecting People with Nature

# Spring 2025

## Volume 33 Number 1

# The Junior Naturalist Program: Connecting Kids with Nature

Sarah Dunham-Miliotis, School Programs Coordinator

Quincy Bog's mission to offer the public nature-oriented opportunities for outdoor recreation, land protection, education, and research makes it a natural place for connection and learning. Recognizing the importance of educational outreach specifically for children, in 2009 Board member Betty Jo Taffe and others developed the Junior Naturalist program to foster awareness and understanding about Quincy Bog and empower young people to protect special natural places.

While the Junior Naturalist program was originally geared toward parents and grandparents who wished to have meaningful experiences with children outdoors, it was soon extended as a free opportunity to local schools – first Thornton Elementary and Warren Village Schools – and then further afield. Now, sixteen years later, hundreds of students from area schools including Rumney, Plymouth, Campton, and Heartwood Charter School in Jefferson have become Junior Naturalists. The program is flexible and can be completed by students of all ages, from kindergarten through high school, although third graders are the most

frequent participants. Families can still opt to complete the program on their own and check in with a Bog Host when they are finished to receive their badge.

To become a Junior Naturalist, students engage in three areas of work: the Junior Naturalist Activity Book, visits to the Bog, and a service project.



First, students must complete a certain number of activities (based on grade) in the Junior Naturalist Activity Book, either in one visit or over the course of several months. The book focuses on the three habitats found at the Bog: the pond itself, the wetlands surrounding it, and the drier upland forest. The activities include a simple scavenger hunt of what can be seen, smelled, and heard at the Bog, and observations on which plants live in which of the three habitats. Activities outline the specific differences between bogs and fens

and the role that wetlands play in Earth's ecology, introduce the concept of trail etiquette, and teach how to recognize beaver activity, the differences between broadleaf and coniferous trees, and land use change since the 19<sup>th</sup> century, among others. In 2023, the Activity Book underwent a full revision, adding color



Getting to know natural environments like the Bog can require a close-up perspective

photos and illustrations. It is available as a PDF on the Bog's website, or as a printed copy in the Nature Center (open when a Bog Host is on duty).

Junior Naturalist students also visit the Bog for a volunteer-guided walk twice during the school year (usually fall and spring), providing them the opportunity to observe how seasonal changes affect the landscape and wildlife. "My students love to see how the Bog changes from the fall to the spring! They leave with a deep appreciation for the natural environment," says Tanya O'Brien, a thirdgrade teacher from Thornton.

The knowledgeable and dedicated volunteers that lead school visits are a diverse group that includes retired educators, seasoned naturalists, and high school-aged homeschoolers who grew up visiting the Bog. George DeWolf has been leading school groups since the program's inception, and shares "Over the years, I've witnessed students' innate curiosity and wonder come alive. My hope is that these moments of discovery plant the seeds of love and stewardship for a world that, in so many essential

and unseen ways, sustains us all." He continues, "In a world where many have lost touch with the rhythms and gifts of nature, the air we breathe, the water we drink, the beauty of wildflowers and butterflies, the quiet places that soothe our hearts, it has been one of the great privileges of my life to help children strengthen their bond with the natural world."

Finally, as a capstone to their experience, Junior Naturalists complete a service project for the Bog, further cementing the idea of taking action to care for special places. These projects range from picking up trash along the trails to making interpretative signs, art projects, or calendars that feature students' photos, sharing the beauty of the Bog with others. Many of these projects can be seen on the walls and shelves in the Nature Center.

Once the Activity Book, visits, and service project are complete,

the School Programs Coordinator usually travels to the school for an award ceremony. During this event, students take a pledge: "As a Junior Naturalist, I pledge: 1) To do all I can to protect special places like Quincy Bog; 2) To continue learning about nature; and 3) To share my knowledge of the natural world with family and friends," and are then given their official Junior Naturalist badge and a certificate for their efforts.



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# **Quincy Bog Notes**

## **President's Perspective**

Marguerite St. Laurent-Crowell

At the heart of every thriving ecosystem is balance – a connection between people and the land, between learning and action. Children are not just the future stewards of our planet; they are powerful voices and curious learners today.

The simple joy of walking along trails, searching for critters and plants, is deeply empowering. For children, these experiences nurture critical thinking, empathy, and a sense of responsibility. They start to see themselves not just as visitors to nature – but as a part of it. We are all interconnected.



From the archives: Founding Director Joe Kent shares his love of the Bog with children in the 1970s.

Providing nature-based educational opportunities is a core part of our mission. This is rooted in the belief that education is lifelong. When we explore the outdoors, we ask questions about the world around us. And as we begin to understand how ecosystems work, we build lasting, meaningful relationships with the environment. Our hope is to foster lifelong learners through our educational programs from the Junior Naturalist program to our summer program offerings.

When was the last time you looked up at the clouds and watched them form shapes-a pastime known as nephelococcygia—only to watch them shift and morph again? Or savored the earthy scent of rain on dry ground-called petrichor-during a thunderstorm? Maybe you even ran through it, soaked to the bone. Go for it! Thrive under those open skies, with muddy boots and a sense of wonder-whether it's spotting a Red Eft for the first time or observing that birds build such different nests. These small moments matter. They shape our values, inspire action, and build a community ready to protect the natural world.

This summer, our programs and weekend walks offer wonderful opportunities to get

outside with family and friends. Join us to learn about the Timber Rattlesnake—the rarest animal in New Hampshire—identify shrubs and trees, observe butterflies, gaze at the stars in a night sky lesson, explore the history of wildfires in our state, or take part in our kids' nature walk.

All events are free and open to the public. And don't forget to check out the iNaturalist app to see what community members are observing and sharing. Currently, there are 6,109 observations and 1,021 species, with 959 identifiers to date. Let's explore, learn, and grow – together. See you at the Bog!

**Marguerite St. Laurent-Crowell** happily splashes in puddles, stops frequently on hikes to check out plants and mushrooms, and loves being outdoors.



# Community Science Opportunity: Help Monitor New Hampshire's Bats This Summer

Do you know of a barn, garage, shed, or other building used by bats as a summer roosting site? If so, you can help New Hampshire Fish & Game and UNH Cooperative Extension gain insight into the status of bat populations in the state.

Bats play an important ecological role – and benefit us! – as natural 'pest control' agents through their voracious consumption of insects. Of New Hampshire's eight species of bats, five spend the entire year in the New England region, surviving the winter through hibernation. Unfortunately, hibernation makes these species vulnerable to White Nose Syndrome, a disease caused by a non-native fungus. The fungus, which thrives in the cold, humid conditions of caves and mines where bats often hibernate, can damage their wings and disrupt key physiological functions. Infected bats can awaken from hibernation too soon (and more often), depleting vital energy reserves before spring. Between 2006 and 2012, it's estimated that a staggering six million bats in the northeastern U.S. and Canada succumbed to this disease.

Now, almost 20 years after the appearance of White Nose Syndrome in North America, monitoring bat populations helps biologists determine if these species are rebounding and update conservation plans to help them. Summer offers a great opportunity to monitor bat species whose females use communal sites (called maternity roosts) to raise their young – particularly if they use buildings (like barns or sheds) for this purpose. In New Hampshire, our two most common bat species – Little Brown Bats and Big Brown Bats – both fit this description and are the focus of the NH Bat Counts project.

If you know of a summer colony location, the NH Bat Counts project invites you to join volunteers who, at least twice each summer (once in June and once in July), count the number of bats emerging from these roosting sites. Each "bat count" requires a commitment of about an hour and a half, starting half an hour before dusk. Your observations will add to a statewide data set of great value to wildlife biologists.

Interested in learning more about NH Bat Counts?

- For instructions on conducting a bat count and additional information, visit: www.wildlife.nh.gov/wildlife-and-habitat/nongameand-endangered-species/bats-new-hampshire/nh-bat-counts
- Join an online information session on June 18<sup>th</sup> from 12-1 PM. To register, go to: extension.unh.edu/event/2025/06/nh-batcounts-office-hours
- Contact Haley Andreozzi from UNH Extension with questions (email haley.andreozzi@unh.edu or call 603-862-5327)

### References:

- nhfishgame.com/2025/05/05/got-bats-participate-in-the-nh-bat-counts-project-2/
- wildlife.nh.gov/wildlife-and-habitat/nongame-and-endangered-species/bats-new -hampshire
- whitenosesyndrome.org



# Spring 2025

# Junior Naturalist Corner

An excerpt from the Junior Naturalist Activity Book

# Nature's Engineers

ACTIVITY #8

Beavers have lived at Quincy Bog on and off for thousands of years. They are common when the food supply is adequate, but move on when this resource is exhausted. Because they alter the environment to meet their needs, beavers are often called "nature's engineers." At Quincy Bog they have changed a small pond and free-flowing outlet stream into the large pond you see today.

As you walk the trail around the Bog, look for 3 things that show that beavers have lived at Quincy Bog and draw them ...



Do you think beavers are currently active at the Bog? Why or why not?

Hint: Look for fresh signs of beaver activity!

The complete Junior Naturalist Activity Book is available at the Nature Center or can be downloaded at quincybog.org

# Books We're Reading at the Bog Timefulness: How Thinking Like a Geologist Can Help Save the World

A review submitted by Mark Runquist

Marcia Bjornerud is a Professor of Geosciences at Lawrence University, but in this book (Princeton University Press, 2018) she expands her reach far beyond her students. She has seen the earth's structure firsthand, from New Zealand to Svalbard, Norway – a place where there is no agreed upon time zone. In this book she launches into the relationship between human time and geologic time.



With the term "timefulness" Bjornerud extends the concept of "mindfulness" to being mindful to *time*. The main text of the book

journeys through standard geologic topics with bookend chapters that delve into her observations of our human interactions with the planet.

One chapter covers the ongoing quest of humanity to understand the age of the earth, first via geologic stratigraphy and finally through radioactive dating. Determination of Earth's age is a recent landmark in science – we knew about the motion of planets, the laws of thermodynamics, and the creation of atomic power before we learned the age of our planet.

Subsequent chapters outline Earth's long-term rhythms – plate tectonics and the wonderful coincidence that rates of global uplift match those of global erosion. This phenomenon ensures that the earth is neither a barren plain, nor with bedrock locked into high mountain ranges untouched by the rock cycle. As she aptly

notices, geologists and others should *see rocks as a verb, not a noun*, since rocks seem fixed for human generations but are actually in constant states of re-arrangement and re-creation. Other chapters detail our use of radioactive dating and explanation of the latest ice ages.

While this geologic tour of the planet we live on is scientifically straightforward, Bjornerud also urges us to comprehend our actions in the context of deep time. She relates a personal example when, as an undergraduate, she walked past a No Trespassing sign and entered an old pegmatite mine. Upon seeing a beautiful watermelon-colored tourmaline crystal, a desire to make it hers drove her to attempt extraction without the proper tools. She broke the crystal and, with regret, realized she had personally and with a single blow destroyed something that had existed for a third of the earth's history.

She uses this story to urge all of us to understand ourselves, and more importantly, future generations, and to move toward a timeliterate society that makes decisions on intergenerational timescales. Perhaps we should think more deeply about following the seven generations concepts of Native American cultures or Kurt Vonnegut's admonition that we need a 'department of the future' where an imagined person from the future has a say in decisionmaking.

**Mark Runquist** is a recovering geologist and has always had a soft spot for igneous and metamorphic rocks, whether it be at his birthplace in the Canadian shield in northern Minnesota or his current home in Campton.



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Quincy Bog Notes is a twice-yearly newsletter of information, announcements, and news about the Quincy Bog Natural Area and Pemi-Baker Land Trust.

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# **Quincy Bog Notes**

### (Continued from page 1, Dunham-Miliotis

This spring, both Campton Elementary and Jefferson's Heartwood Charter School will turn out a fresh crop of Junior Naturalists. Genavieve Oliveira, a fourth-grade teacher at Heartwood says, "This program provides my students with an invaluable opportunity to gain hands-on experience in learning about this unique ecosystem. Students look forward to their fall and spring visits to the Bog where volunteer guides share their knowledge of the history of the Bog, and the various plant and animal species that make up this vital ecological resource. By instilling an understanding of how human actions can affect delicate ecosystems, the Junior Naturalist Program supports my students in learning



Board member Betty Jo Taffe (center) volunteers with Rumney elementary school students and their teacher at the Nature Center in 2015. about the importance of conservation and responsible stewardship of natural areas."

If you have any questions about the Junior Naturalist program, would like to begin the program and schedule a school visit, or wish to volunteer as a school program guide, please reach



out to by sending an email to schoolcoordinator@quincybog.org.

Sarah Dunham-Miliotis is an environmental educator and home-schooling mom. She started coordinating School Programs at the Bog in 2021.

# Help Us Protect Special Natural Places

Over 50 years, the Bog and other natural places protected by the Pemi-Baker Land Trust have been serving our community as areas of tranquility and respite, as outdoor classrooms, and as spaces to connect with wildlife, friends, family, and pets. Please consider supporting our efforts to conserve these habitats for wildlife and people by donating to the Quincy Bog Natural Area. All gifts are tax deductible. You can mail a check payable to Rumney Ecological Systems to P.O. Box 90, Rumney NH 03266, or visit quincybog.org to donate online via PayPal. We thank you!



