



## FORESTS REACT TO A CHANGING CLIMATE

By Margaret Gillespie

When my parents left their home in the Laurentian Mountains north of Montreal, Canada for New Hampshire, they were seeking a warmer climate. The rugged local New Englanders could only shake their heads, probably thinking, “Just wait for your first nor’easter!” This adventurous couple were tired of lingering winters and short growing seasons but they also wanted sugar maples, a relatively northern species of tree. Making maple syrup as a family was a spring highlight of my childhood in Canada. So, somewhat south my parents came, purchasing an 1810 farmhouse in Canterbury, New Hampshire with huge sugar maple trees in the front yard. The sweet smell of boiling sap still rises at the farm in the fresh spring air thanks to the next generation. But times are changing and the climate is changing.

How do trees, decreasing daylength, and leaf coloring dance together into the next season? As temperatures cool, chlorophyll production drops and green pigments decline in leaves. Underlying oranges and yellows emerge. At the same time, red colors develop from sugars in the leaves, all to produce the extraordinary autumn scenery people flock to see.

During an era of climate change, environmental signals to trees have altered. In an article from Columbia University’s Climate School in New York City, Sarah Fecht digs deeper into this relationship. Decreasing daylength is a major factor in the process of trees shutting down for the winter. However, with temperatures remaining warmer longer, the trees get a delayed signal to slow down and stop producing chlorophyll. Leaves stay green longer but trees generally still drop their leaves in the historical timeframe. As a result, we have less dramatic colors over a shorter time span as well as to be determined effects on forest health.



Photo by Dale Lary

continued on page 11

### IN THIS ISSUE...

- Page 2 ..... Forging Trails: Scotland
  - Page 3 ..... Animal Introductions
  - Page 4 ..... Mycelia & Mushrooms
  - Page 5 ..... Kirkwood Gardens
  - Pages 6-7 ... Programs, Events, Lake Cruises
  - Page 9 ..... 2023 Annual Meeting
  - Page 10 ..... Family Picnic and Garden Party
- And much more!

**Trails are open daily through  
Wednesday, November 1, 9:30 a.m. to 5:00 p.m.  
(last trail admission at 3:30 p.m.)**

**Lake Cruises run daily through October 14.**

*Tickets at [nhnature.org](http://nhnature.org).*

# FORGING TRAILS: SCOTLAND



Every year, I lead tours to my homeland of Scotland. This year, I led two trips to the Shetland and Orkney Islands – one in May and one in June. I love sharing the spectacular wildlife and scenery as well as my heritage and culture with fellow travelers and let's not forget introducing them to the delights of haggis, black pudding, Branston Pickle, and Hobnob biscuits!

Every trip conjures up memories of my previous visits. I notice things that have changed since my youth, but, reassuringly, many things are the same. There are sea

cliffs where I watched Puffins fifty years ago as a boy that I visited this year and watched Puffins again.

My very first visit to the Orkney Islands was on a family vacation when I was about 15 years old. I have fond memories of spinning for mackerel with my late father on the Churchill Barriers in Scapa Flow and taking a deep sea fishing boat trip around the famous Old Man of Hoy (a spectacular sea stack). But, one memory is particularly vivid. Someone told my father about a quarry where you could look down from the road and view a pair of nesting Kestrels on a ledge. We went, and I was thrilled to view the lovely little falcons. On each of my recent visits leading trips on Orkney - in 2017, 2014, and 2005 - I had never managed to relocate that quarry... until this year.

As I was driving out of Kirkwall, the capital of Orkney's capital, I took a back road and noticed a large flooded quarry on my left. It looked familiar... could it be? I returned a couple days later and pulled over. I scanned the quarry walls which were filled with Pigeons and nesting Fulmars. Two fully-fledged Raven chicks were near their nest and then... wait a minute... a Kestrel... a ledge... and a brood of three downy chicks huddled together on the cliff. What a thrill. 45 years later, Kestrels are still nesting on that very same ledge.

Back in 2009 in this column I shared news of the discovery of a still-active Gyrfalcon nest in Greenland that was 2,500 years old. Researchers at the Edward Grey Institute of Field Ornithology at the University of Oxford reported that they carbon-dated guano and other debris from thirteen falcon nests in central-west Greenland. The date range of one nest at 2,360 to 2,740 years old surprised even the researchers. The oldest feather came from a Gyrfalcon that lived 670 years ago.

So, I guess my 45-year span for the Kestrels pales in comparison to the data from their bigger cousin in Greenland, but it seems like a long time to me!

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Puffin, June 2023 Scotland Nature Tour by Iain MacLeod

## SQUAM LAKES NATURAL SCIENCE CENTER

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Squam Lakes Natural Science Center is a non-profit educational institution incorporated in 1966 as a charitable organization under statutes of the State of New Hampshire with its principal place of business in Holderness. Its mission is to advance understanding of ecology by exploring New Hampshire's natural world.

*Tracks & Trails* is a regular publication of Squam Lakes Natural Science Center distributed to members and contributors. Comments are welcomed by newsletter editor Amanda Gillen.

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# OPENING A WINDOW TO THE NATURAL WORLD

By Amanda Gillen, Development and Communications Director

You may have noticed a theme buzzing through some of our summer events and efforts at the Science Center this season: pollinators. These small but vital creatures play a pivotal role in our ecosystem, ensuring the survival of countless plant species and contributing to the bounty of our world.

Pollinators were everywhere from the theme for the Family Picnic, to Kirkwood Gardens as the location for the Garden Party and Annual Meeting, to honey products in the Howling Coyote Gift Shop, to a pollinator themed Sponsor A Species gift-ready package. In addition, last August a pollinator garden was planted at Blue Heron School and was buzzing with life this summer. Plus, keep an eye out for our upcoming pollinator garden on the live animal exhibit trail (between the White-tailed Deer Exhibit and the River Otter Exhibit).

Just as pollinators selflessly give back by pollinating our food, donors to the Science Center contribute generously to support our mission. Your contributions empower us to nurture our community and educate future generations not only about pollinators but about New Hampshire's nature. Your contributions allow us to further our mission *to advance understanding of ecology by exploring New Hampshire's natural world.*

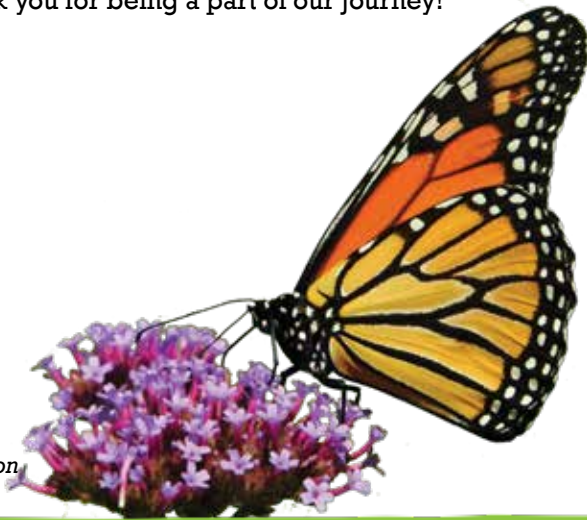
We couldn't make the impact we do without your support and enthusiasm. Thank you for being a part of our journey!



*Pollinator garden outside of Blue Heron School*



*Pollinator garden under construction on the live animal exhibit trail.*



## ANIMAL CARE: ANIMAL INTRODUCTIONS

by Lauren Moulis, Animal Care Director

Have you ever wondered how animals that are unrelated and often different ages or sexes come to live together here at Squam Lakes Natural Science Center? You are probably not alone in wondering! As so many of our animals are injured, or previously kept illegally as pets, this can sometimes be tricky. For this reason, the Animal Care staff take animal introductions seriously to minimize stress and prevent injuries.

Some species, mostly mammals, are introduced through a “howdy” cage or have their exhibit set up that allows for a soft introduction. This allows two or more animals to be introduced to each other slowly, by smell or sight but without a physical risk to each other. This process is often moved at the pace set by the animals, so it could take a long period of time for animals to be allowed free access all the time to each other, or it could go amazingly well the first time and we can move to the next step. Others, mostly birds, fish and amphibians, are given a hard introduction with close observation.



*Red-shouldered Hawks at the Raptor Exhibit.*

While we do know our animals best after closely working with them and monitoring their behaviors, any introductions come with inherent risk and choosing the right method of introduction is in everyone's best interest. Regardless of which method we use, staff are always at hand and prepared to stop the intro by allowing an animal a means to get away from the other.

Once the green light has been given that the animal care staff can step back with initial observations, we still want to collect data on how the animals are doing once we are no longer right there. Thankfully, we have a wonderful team of volunteers that take turns to observe animal behaviors to create a Behavioral Ethogram. This ethogram, or catalogue of all possible behaviors that may be seen during interactions, then shows the animal care staff what is being seen while we are not able to be there to observe and we can form decisions on how to better their welfare.

# NATURALIST'S CORNER

## THE MYSTERIES OF MYCELIA & MUSHROOMS

By Phoebe Hartvigsen



Autumn is a great time to explore the natural world around you. The heat has dissipated, the air is crisp. Before the chill arrives, take a moment to walk in the woods. Crane your neck up to admire the canopy of red and gold. Listen to the leaves crunch beneath your shoes.

During the fall we often focus on foliage. Though its beauty is breathtaking, there is an entire world beneath the fallen leaves. Cooler temperatures help soil moisture collect, creating the

perfect microclimate for a variety of small organisms to thrive. A notable emergence is that of fungi. Despite being present throughout summer, mushrooms tend to crop up more often in spring and fall due to higher moisture levels. These organisms are neither plants nor animals and instead belong to their own kingdom, Fungi.

When a mushroom first emerges, only its cap peaks up through the soil in what is called the button stage. This fleshy protrusion is covered in a thin material called a veil. As the mushroom pushes upward, the veil slowly tears, leaving a small lacey skirt around the stem. A full-size mushroom often consists of a stem rising from the ground topped by a conical or flat cap.

We might assume a mushroom is an organism all on its own but in reality it is just the tip of the iceberg. Like an apple growing from an apple tree, a mushroom is merely a small fruiting body on a much larger individual. The main body of the fungus is found beneath the soil and is composed of tiny,

hair-like branches called hyphae. Together, the hyphae make up the mycelium network. This intricate network is constantly growing and gaining new information as it seeks out nutrients. The mycelium of a single fungus can be massive. It can cover thousands of acres and could even weigh over 1,000 tons. That means it can weigh as much as seven blue whales or more!

The mycelium network is the fungus itself and only grows a mushroom when it is ready to produce offspring. While apples spread seeds in order to reproduce, mushrooms spread spores. If you press your cheek against the earth and look up at a mushroom cap from below, you might see paper-thin flaps of tissue radiating out from the stem like spokes on a wagon wheel. These are called gills. Other mushrooms may have pores, spines, teeth, or ridges. Regardless of the layout, the underside of the cap releases billions of tiny spores to float away on the breeze with the hope of spreading the fungus' genes.

These fascinating organisms can be found throughout the world including in your own backyard or local park. The next time you walk in the woods, take a moment to crouch

down and look for mushrooms poking up through the earth. Gently brush aside the soil around them. You might be lucky enough to see a few branching hyphae, just a glimpse at the huge mycelium network beneath your feet.



## FROM THE HERON'S NEST

Blue Heron Students were busy harvesting from their garden all summer and enjoying munching on tomatoes and beans. School orientation completed for new families and school officially began after Labor Day. We welcome Alexis Plunkett, a former Blue Heron School intern, as the new Associate Teacher in the east classroom. We are looking forward to a busy and happy school year!



Blue Heron School is a nature-based Montessori school for children ages three to six. For information please visit [nhnature.org/](http://nhnature.org/) programs or contact Blue Heron School Co-Directors Jordan Fitzgerald or Jordy Gianforte at 603-968-7036 or [blueheron@nhnature.org](mailto:blueheron@nhnature.org).

# KIRKWOOD GARDENS

By Emma Erler

## SLUGS

**Q: What can I do to control the slugs in my garden?**

**A:** Slugs can represent a huge challenge for many gardeners, particularly after periods of wet weather. They attack a wide variety of herbaceous plants including annuals, perennials, and vegetable crops. In Kirkwood Gardens the marigolds and dahlias were particularly hard hit by slugs this year. Slug damage looks much like the feeding of caterpillars or other insect pests, but with one distinct difference. As slugs move and feed, they leave behind a noticeable mucus trail which hardens and appears shiny during the day. Slugs have a rasping mouthpart that they use to chew holes in the leaves and flowers of plants.

To reduce the slug population in your garden, you need to start by changing the environment in the garden. Remove all slug hiding places such as old plant debris, mulch, stones, or logs - basically anywhere a slug may be drawn to hide during the day. Next, make sure plants are spaced adequately and prune them to encourage good air circulation.

If you've changed the habitat in your garden and still have issues, the next step is to set traps for them. Place boards or damp paper towel rolls on the ground in the evening. When morning comes, the slugs will use these places to hide, at which time you can kill them. Many gardeners also have luck placing beer in shallow plastic containers which attracts slugs and subsequently drowns them.

Diatomaceous earth can be spread around the base of vulnerable plants. Diatomaceous earth keeps the slugs away by cutting the outside of their bodies and thus causing them to dehydrate. It works best under dry conditions and must be reapplied after every rain event or irrigation session.

You can also purchase chemical slug baits that attract slugs and kill them by poisoning. Using pesticides alone is rarely enough to measurably reduce slug populations. However, pesticides used in concert with cultural changes in the garden can make a big difference. If using any pesticide product, remember to read and follow the instructions on the product label.

## PLANT SPOTLIGHT

### Joe Pye Weed

#### *Eutrochium purpureum*

**Culture:** Easily grown in average, moist, organically rich soils in full sun to part shade. Joe Pye weed is a tall New Hampshire native perennial that occurs naturally in low moist areas such as wet meadows, thickets, and stream margins. Plants may require staking in garden settings to prevent stems flopping over in wind or wet weather.

**Bloom:** Tiny pinkish-purple flowers held in large, domed, clusters bloom from late summer to early fall.

**Height:** 5 to 7 feet

Joe Pye weed is one of the best pollinator plants a gardener can grow. Nectar-rich flowers are very attractive to bees and butterflies, especially Monarch butterflies on their fall migration. Joe Pye weed's large size and unruly habit makes it best for large, informal gardens where it can be grown at the back of borders. It is also an excellent choice for naturalized areas, native plant gardens, and water edges.



**Kirkwood location:** middle of lower garden in the background on the driveway side

### Hardy Hibiscus

#### *Hibiscus 'Cranberry Crush'*

**Culture:** Grows well in average, consistently moist soils in full sun. Considered a good choice for rain gardens or low areas for its wet soil tolerance. Can be planted in light shade, but full sun and good air circulation produce the strongest stems and best flowers. New shoots are very slow to emerge in spring. Zones 4-9.

**Bloom:** Large (7" diameter), hollyhock-like, slightly cupped, dark red flowers with five petals each. Individual flowers last only one day, but multiple flower buds arise from each stem for a long bloom period in mid-late summer.

**Height:** 3-4 feet

'Cranberry Crush' hardy hibiscus is a vigorous, woody-based, herbaceous perennial which sends up multiple shoots each spring to form a large mounded plant. The leaves are dark green with purple overtones, and the flowers roughly resemble those of tropical hibiscus. It can be used as an accent plant, a temporary summer hedge, or along the edges of streams or ponds.

**Kirkwood location:** middle of lower garden on the driveway side



Plant Spotlight and Kirkwood Gardens are sponsored by Belknap Landscape Company, Inc. [belknaplandscape.com](http://belknaplandscape.com)

**VOLUNTEER!** Visit the Volunteer page at [nhnature.org](http://nhnature.org).










# UPCOMING PROGRAMS & EVENTS

Programs have limited capacities.  
Advanced registration and tickets are available on the Calendar of Events at [nhnature.org](http://nhnature.org).



## SEPTEMBER

<p><b>SEPTEMBER 16 SATURDAY</b> 10:00 a.m. to 4:00 p.m. For all ages</p>	<p><b>Special Event: Raptor Migration Celebration</b> <b>Featuring Birds of Prey program with Vermont Institute of Natural Science (VINS)</b> Fall is a season of transition and many animals are on the move to wintering grounds. Join us to see migratory raptors at Up Close to Animals presentations in the amphitheater at 10:00 a.m., 12:00 p.m., and 2:00 p.m. Learn about where our raptor species go each winter, how long it takes them to get there, and why they bother to return. Do not miss the special Birds of Prey program at 10:30 a.m. or 12:30 p.m. by the Vermont Institute of Natural Science (VINS), featuring a flight demonstration with their raptor ambassadors. <i>Cost: Included with trail admission. Pre-registration required for Birds of Prey programs at 10:30 a.m. and 12:30 p.m. Last admission at 3:30 p.m.</i></p>
<p><b>SEPTEMBER 30 SATURDAY</b> 10:00 to 11:30 a.m. For adults</p>	<p><b>Garden Workshop: Creating a Wildlife Friendly Garden</b> Join the Science Center's Lead Horticulturist, Emma Erler, in Kirkwood Gardens to learn how to establish a haven for animals, while still having an attractive, appealing garden. In this workshop you'll discover how to plant and maintain trees, shrubs, perennials, bulbs, annuals, and grasses to benefit insects, birds, and small mammals. <i>Cost: \$15 for members/\$20 for non-members; Advanced registration required.</i></p>

## OCTOBER

<p><b>OCTOBER 15 SUNDAY</b> 9:30 a.m. to 3:30 p.m. For all ages</p>	<p><b>Special Event: Fall New Hampshire Day</b> New Hampshire residents receive \$5 trail admission. Enjoy Up Close to Animals presentations at the Amphitheater at 11:00 a.m. and 2:00 p.m. Advance tickets required and available at <a href="http://nhnature.org">nhnature.org</a>. Limited spaces available. <i>Sponsored by:</i></p> <div style="display: flex; justify-content: center; align-items: center; gap: 20px;">   </div>
<p><b>OCTOBER 17 TUESDAY</b> 10:00 to 11:30 a.m. For adults</p>	<p><b>Garden Workshop: Composting Basics</b> Join the Science Center's Lead Horticulturist, Emma Erler, in Kirkwood Gardens for this workshop to learn how to turn your yard and kitchen waste into finished compost fast. By composting, you can build your soil, provide essential nutrients to your plants, and reduce waste going to landfills. <i>Cost: \$15 for members/\$20 for non-members; Advanced registration required.</i></p>
<p><b>OCTOBER 28 SATURDAY</b> 9:30 a.m. to 4:00 p.m. For all ages</p>	<p><b>Special Event: Owl-O-Ween</b> Join us for Owl-O-Ween to celebrate all things owl! Meet live owls at Up Close to Animals presentations throughout the day at the amphitheater. See the animals along the live animal exhibit trail enjoying a variety of pumpkin treats. Come in your favorite costume. Children will receive a bag of Halloween treats at the end of their visit to take home. <i>Cost: Owl-O-Ween activities are included with trail admission. Last trail admission is 3:30 p.m.</i> <i>Sponsored by:</i></p> <div style="text-align: center;">  </div> <div style="text-align: center; margin-top: 10px;">         </div>

### ON THE TRAIL

-  **It's A Wild Life Exhibit** - A visual project highlighting IF/THEN Ambassadors, women and gender minorities, whose careers intersect with the natural world. Daily along the live animal exhibit trail.
  -  **Up Close to Animals** - Join a Science Center Naturalist to meet one of our animal ambassadors. Saturdays and Sundays at 11:00 a.m. and 2:00 p.m. at the Amphitheater, through October 29. Presentations are cancelled if it is raining.
- Visit the Calendar of Events at [nhnature.org](http://nhnature.org) for a daily schedule, details, and program information.**

## HANDS-ON LEARNING FOR HOMESCHOOLERS

First Thursday of each month, November through April

10:00 to 11:30 a.m.

For ages 4 to 6, and Ages 7 to 10

Join us at this monthly series for homeschooled students to learn about the natural world through hands-on activities and investigations. We will wrap up each program with a visit with one of our live animal ambassadors. Provided take-home activities continue the learning after each session.

Advance registration required. Register for one program or attend the whole series. Activities take place both indoors and outdoors. Dress to be outdoors with insulated boots, hats, gloves, jackets, and warm layers.

*Cost per session: \$12/member child; \$15/non-member child*

*An adult must participate with children at no additional cost. Each additional adult pays child fee.*

### Ages 4-6 Topics

November 2: Plant Survival Needs  
December 7: Animal Survival Needs  
January 4: Habitat – Where Animals Live & Why  
February 1: Weather – How Organisms Respond to Seasons  
March 7: Weather – Measuring Sunlight  
April 4: How Organisms Change the Environment

### Ages 7-10 Topics

November 2: Be A Scientist – Biology  
December 7: Be A Scientist – Dendrology  
January 4: Be A Scientist – Ecology  
February 1: Be A Scientist – Ornithology  
March 7: Be A Scientist – Mammalogy  
April 4: Be A Scientist – Entomology

## SQUAM LAKE CRUISES

### Discover Squam Cruise

*Daily at 11:00 a.m. and 1:00 p.m. and 3:00 p.m. (Tuesdays and Thursdays, no 3:00 p.m. cruise) through October 14.*

This unforgettable guided tour has something new to delight you on every trip. Learn about the natural history of Squam Lake, look for majestic Bald Eagles, and listen for the haunting call of Common Loons. Hear about the people who have lived on its rocky shores surrounded by scenic mountains for over 5,000 years.

### Cruise with a Naturalist

*Tuesdays and Thursdays at 3:00 p.m. through October 5.*

Learn about the rich natural history of Squam Lake with an experienced naturalist. See Common Loons and Bald Eagles and view their nesting sites. Watch for other wildlife too - you never know what you might see amid Squam's scenic mountain ranges, charming islands, and quiet spots. The route is chosen to maximize wildlife observations; see something different on every memorable trip.

### Squam Lake Cruise Rates:

**Adult \$30; Senior (65+) \$28; Youth (up to age 15) \$26 - Not recommended for children under age 5.**

**Cruises may be cancelled if minimum attendance (4 passengers) is not met or for severe weather.**

**Members receive a \$4 discount per person.**

**Conveniently purchase cruise tickets online at [nhnature.org](http://nhnature.org)**

### Squam Lake Charters

Plan ahead for 2024! Host your own unique gathering on Squam Lake with a private cruise customized to fit your occasion or transport wedding guests to Church Island. Our four canopied pontoon boats and experienced tour guides are ready to help with your special outing. Contact Erick Amero at 603-968-7194 x110 or [erick.amero@nhnature.org](mailto:erick.amero@nhnature.org) for reservations.

*\$275 per hour per boat*

# KIDS ACTIVITY

## ONE-OF-A-KIND

When you take the time to really look closely at objects in nature, you can start to see subtle differences in seemingly similar items.

1. Decide on a natural item to observe. It should be something that you can find several of (e.g., a leaf on the ground from the same type of tree, a pinecone, an acorn, a rock).
2. Have each person in your group select their own example of this item.
3. Take a few minutes for each person to carefully observe their item. They should get to know every detail that will help it stand out from the other examples. Are there holes in the leaf? Is part of the edge missing? Are there different colors visible? Is it rough or bumpy? Has something eaten part of it?
4. To be sure you have captured all the details, consider making a sketch of your item.
5. Once everyone has completed their close observation, put all the objects in a pile and gently mix them up. To make it more challenging (or if you are doing this activity with 1-2 people), collect more items than people in your group and add them to the pile.
6. Next, everyone has to look through the pile to retrieve their item. Can you find your individual item? Did you look closely enough to find the unique details that will help tell it apart from the others? If not, select again and repeat the activity from the beginning. If you were successful, try the activity again with another type of item.

Enjoy looking closely at things in the natural world around you. You may be surprised at what you find!

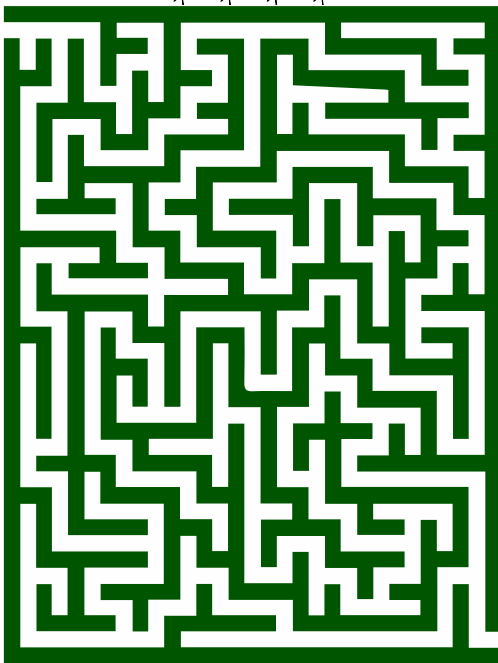


Aspen leaf by Eric D'Aleo

Find a path for leaves to fall to the ground...



Start



Finish

## FROM THE ARCHIVES:

A look back at the Science Center's history in photographs.

*Executive Director Rick Ashely, on stern, during a lake education program in the mid-1980s.*



## WISH LIST

- **For Exhibits:** Genuine black bear rug
- **For Kirkwood Gardens:** Six to eight foot orchard ladder; garden spades and forks
- **For Lake Cruises:** Pedestal fan for Lake Cruise Headquarters
- **For Animal Care:** Local hardware and grocery store gift cards; baby blankets; dog/cat beds; cologne/perfume; PVC fittings/caps
- **For Operations:** Forks and spoons for office kitchen; paring knives
- **For Staff:** Airline miles to attend professional development experiences



# MEMBERSHIP UPDATES

## A REMINDER ABOUT MEMBERSHIP PRIVILEGES

- Bring your card with you when you visit. You will be asked to show a photo ID.
- Memberships are not valid for group admissions.
- Memberships are not transferable.
- Named members must be at least 18 years old.
- Children under 16 years old must be accompanied by an adult.
- Please inform us if your contact information changes.
- Fees and benefits are subject to change.
- Membership fees are tax deductible to the extent allowed by law. Please consult a tax advisor with questions.
- Squam Lakes Natural Science Center is a 501(c)(3) non-profit organization. Our tax ID number is 02-0271824. For financial reports please visit [nhnature.org/support](http://nhnature.org/support).
- The majority of the live animal exhibit trail is packed gravel. Contact us to reserve a four-wheeled motorized scooter or non-motorized wheelchair.
- The Science Center is Certified Sensory Inclusive by KultureCity.
- See [nhnature.org/membership](http://nhnature.org/membership) for more information.

## BONUS MEMBER BENEFITS



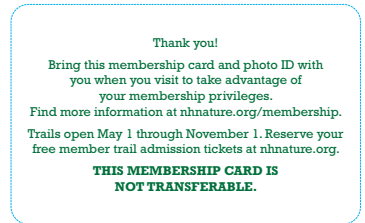
Reciprocal admission is generally good for up to two adults and two youth per visit. Be sure to take your membership card with you when you go. Check with specific organizations for hours, directions, and any additional policies.



Remember as a Science Center member, you also receive discounted admission all year at participating ANCA organizations. Visit [nhnature.org/membership](http://nhnature.org/membership) for details.

## MEMBERSHIP CARDS

Your Membership cards are designed to be used for years to come. Please keep them in a safe place and remember to bring them with you when you visit the Science Center. Each year that you renew your membership we will mail a sticker with your new expiration date to place on your cards. For more information, please contact the Membership Office at 603-968-7194 x146 or visit [nhnature.org/membership](http://nhnature.org/membership) for details. Thank you for your continued support of the Science Center. Your membership makes a difference!



## 2023 ANNUAL MEETING FOR MEMBERS

The 2023 Annual Meeting for Members was held on Thursday, August 10 in beautiful Kirkwood Gardens.

Business conducted during the meeting included Board Chair Sarah Brown thanking outgoing trustee Carl Lehner for his Board service. Sarah introduced trustees nominated to serve another three-year term including Lisa Aulet, Lisa Bennett, and Geoff Stewart. All were unanimously approved. She also introduced new trustees including Tory Amorello, Brent Anderson, and Ann Ehrhart. The new trustees were all approved. Sarah introduced the slate of trustee officers including Sarah Brown, Chair; Justin Van Etten, Vice Chair; Anne R. Lovett, Treasurer; and Lisa Doner, Secretary. The officers were approved.

Treasurer, Anne R. Lovett, gave a financial report for 2022. Audited Financial Statement and the 990 Tax Return are available at [nhnature.org/support](http://nhnature.org/support).

Executive Director Iain MacLeod reviewed significant events at the Science Center in 2022. He then recognized staff milestones including Lauren Moulis, Animal Care Director for 15 years of service. Iain also presented the Horizon Award to naturalist Eric D'Aleo for his service to the Science Center.

The Board of Trustees of the Squam Lakes Natural Science Center established the Horizon Award in 1995 as a means to honor exceptional and extended service to the center. Since then volunteers, staff, and trustees have been recognized for their leadership, vision, passion, and commitment to the Science Center and its mission.



Naturalist Eric D'Aleo with fellow staff members.

Eric D'Aleo has been a Naturalist at the Science Center since January 1994. Over those 29 years, he has enthusiastically shared his knowledge with countless thousands of students and adults. He is an accomplished photographer and artist. He has designed dozens of interpretive exhibits on the trail, written articles, blogs and podcasts, and written and starred in many hysterical skits on the Halloween Hoot n' Howl. In 2017 he launched the Hidden Stories project which uses over thirty trail cameras to record the wildlife on our campus. That led to an interactive exhibit, online story maps, and thousands of images and videos. Eric is truly a natural educator who has had a profound impact on the Science Center and multiple generations of visitors and program participants.

Chair Sarah Brown concluded the meeting allowing everyone to take in and explore the beauty of Kirkwood Gardens.

# SQUAM LAKES NATURAL SCIENCE CENTER CELEBRATES POLLINATORS AND ENVIRONMENTAL EDUCATION

Each year, the Science Center hosts a fundraising event to celebrate environmental education and highlight a special aspect of nature. This year, we hosted two events, the Family Picnic and the Garden Party, and highlighted the importance of pollinators in our natural world.

On a warm and sunny evening, generations of families gathered at the Science Center to celebrate pollinators and environmental education at the 2023 Family Picnic on Saturday, July 22. More than 300 people joined in the festivities of live animal programs, pollinator crafts, lawn games, and live music by the Audrey Drake Trio. They dined on delicious food from food trucks: Cheese Louise, Good Eatz 603, and Koz's Haute Box, and desserts from Joye-ful Cookiery and SubZero Nitrogen Ice Cream. Refreshments of butterfly nectar (lemonade) for children, a signature cocktail - Bee's Knees, assorted wines, and a variety of microbrews, generously donated from New Hampshire breweries, were enjoyed by all.

The first annual Garden Party was held on a warm Thursday evening, August 10, in Kirkwood Gardens. The Garden Party, which followed the Annual Meeting, was a lovely affair showcasing the beautiful and lovingly maintained Kirkwood Gardens and the pollinators who forge their life's work in the gardens. More than 100 guests mingled with friends, enjoyed live music performed by Bob McCarthy, and perused the many offerings of experiences in nature available at the silent auction. Hors d'oeuvres from the Common Man were passed among the guests and assorted wines, various microbrews, and the signature cocktail - Tropical Bellini, were enjoyed by all. It was a lovely evening where friends reconnected with each other and the nature that surrounds us all.

We wish to thank our many individual sponsors and donors including: Anonymous, Lisa and Bill Aulet, Carol and Marc Bard, Kevin and Nancy Barrett, Sarah and Win Brown, Claire and Adam Carey, Cathy and Rob Denious, Peter and Sue Francesco, Diane Garfield and Peter Gross, Barbara Nan Grossman, Michelle and Chris Janosa, Dave and Barbara Katz, Vicky and Art Leknes, Adriane Musgrave and Brian Rogan, Mary and Brian Norton, Carol and Robert Stewart, William Sullivan, and Pam and Larry Tarica.

And the many community businesses that supported the events including: Belknap Landscape Company, Bridgewater Power Company, The Edmund and Betsy Cabot Charitable Foundation, Common Man Restaurants, Crow's Nest Farm, Dunkin' Plymouth, Ashland, Campton, and Lincoln, East Coast Foundation Company, Holderness Harbor, The Inn on Golden Pond, K-Mac Home Builders, Lakes Region Tent & Event, Lithermans Limited Brewery, Mad Russian Apothecary, Meredith Village Savings Bank, Moat Mountain Brewing Company, New England Commercial Solar Services, PEBBLE's Sugarhouse, Samyn-D'Elia Architects, Squam Lakes Financial Advisors, Twin Barns Brewing Company, and the Woodshed Restaurant.

These events would not have been possible without a tremendous amount of help from volunteers, staff, and especially the Events Committee members: Lisa Bennett, Cathy Crane, Cathy Denious, Ann Ehrhart, Pam Stearns, and Kathy Weymouth... thank you all!

*Photos from 2023 Family Picnic*



# TRAIL'S END



As you may recall, my last few columns have been focused on three of the new strategic priorities of the Science Center. In this note, I will focus on the fourth and last, which is really all about you – that is, our loyal friends, members, and donors who make the entire enterprise possible. The simple truth is that the Science Center would not exist in its current form without the support and donations of hundreds of individuals, companies, foundations, members, and more. For example, in 2022, we received gifts from over 620 individuals, 44 companies, and 29 foundations. We also count heavily on the revenue that stems from admissions fees and from our creative and fun Howling Coyote Gift Shop (one of my absolute favorite shops in the area). And it is important to also note that current and former trustees of the Science Center are also amazingly generous.

All non-profit groups think carefully about fundraising and ensuring a strong future for their organization. In the case of the Science Center, we think in particular about reaching out to younger families and friends who, in essence, hold the future of the Science Center in their hands. Many of you attended, or heard about, our wonderful Family Picnic fundraiser held in July. It was

energetic with lots of young families and friends enjoying a glorious summer evening complete with a tea party, food trucks, and a skunk talk to boot (my favorite part). It was such fun, and a strong step to welcoming new, younger families into the fold. Save the date for the 2024 Family Picnic on July 20, 2024.

We also reached our long-time supporters at a lovely evening Garden Party on August 10. It was a magical night of socializing, music, and food with the absolutely beautiful location at Kirkwood Gardens. Save the date for August 22, 2024 for the Annual Meeting followed by the Garden Party.

The bottom line is that all of us (especially those of us who, as my father used to say, are getting long in the tooth) keep expanding the family of Science Center supporters. Walk the trail with them, recall past visits, explain the magic. And please know that in so doing, you are helping the Science Center build its future. Thank you in advance!

*Trail's End* is written by Sarah Brown, Chair of Squam Lakes Natural Science Center's Board of Trustees. You may contact her at [sarahbrown1948@gmail.com](mailto:sarahbrown1948@gmail.com).

## FORESTS *continued from page 1*

Exploring this seasonal transition from a different angle, Sarah Gibbins, in a National Geographic article entitled "How Climate Change Disrupts Fall Foliage," notes that the Northeast is warming faster than the rest of North America. Even the soil is showing signs of warming. Amey Baily, a researcher with the Hubbard Brook Experimental Station in North Woodstock, NH explains they are documenting this trend in soil temperatures but the fresh data still needs to undergo analysis.

On an action-oriented note, in the article, "Will Global Climate Change Affect Fall Colors?" researchers at the Department of Biology at Appalachian State University in North Carolina note fewer brilliant displays of fall foliage. They compare this difference to the "canary in the coal mine," signaling possible threats. Some of the connections these scientists recognize which might affect coloring of fall foliage include rising temperatures, changes in quantity and timing of precipitation, as well as a longer growing season with leaves emerging earlier in spring and dropping later in autumn. These alterations in the natural annual flow for trees let us know this climate issue is literally in our own backyards in New England.

What are some actions a concerned person might take regarding climate challenges? A straight forward direction is being creative about conserving energy. Note some pointers from our wildlife neighbors... find some natural shade from the heat, wear layers appropriate for the season, take advantage of energy from the sun, and get tips from those in the know.

Even in New Hampshire, nicknamed "The Granite State," rocks and minerals take a back seat to fall foliage most any autumn day unless, of course, they are complementing each other!

## FORESTS AND CHANGING CLIMATE QUIZ

1. What is the natural signal for trees in the northeast to shut down for the winter?
2. Which part of North America is warming the fastest?
3. T or F? Soil temperatures are being studied in New Hampshire to determine what effect climate change may be having on the substrate.
4. Which climate change influences may affect fall foliage in the northeast?  
A. Rising temperatures B. Increases in precipitation  
C. A longer growing season. D. All of the above.
5. What is one clothing tip which wildlife can offer us?

Answers:

1. Decreasing day length | 2. Northeast | 3. True | 4. D | 5. Wear layers appropriate for the season



Photos by Eric D'Aleo



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