



## GREAT HORNED OWLS: DEFYING WINTER

By Margaret Gillespie

Great Horned Owls come with many superlatives – largest owl common in New England; owl with the most extensive range, stretching from Alaska through much of South America; talons that can apply 200 to 500 pounds of pressure per square inch; and certainly an owl that small creatures fear to encounter on moonlit nights. A fact not contemplated by many is that Great Horned Owls not only take on the rigors of winter, they embrace them. Let's investigate how these owls use this challenging season to their advantage.

Young owls, or owlets as they are called, have much to learn. Acquiring skills takes time and practice. Solution? Get a head start on growing up. Yes, Great Horned Owls begin nesting early in the season, in February. Females, who do all the egg incubation, must deal with wet snowfalls or squalls, dousing them and their nests with a covering of white snow. Shrugging it off takes on a completely new perspective in a swirling wind. Fortunately, the males work diligently, fueling their mates with rodents and other small mammals.

How large is prey that Great Horned Owls can handle? Skunks emerge from winter dens in February just in time for their mating season but also in synchrony with the growing appetites of young Great Horned Owls. With the adult owls' hefty talons and powerful grip, skunks are well within the realm of their prey size. Aided by a predatory approach from above and their abysmal sense of smell, these large owls are well equipped to capture skunks.

A helpful hunting adaptation for most owls is asymmetrical ears, with the left ear situated lower than the right ear. Prey may be hidden under the snow, but the owl detects the sound of it moving or squeaking first with the left ear. By turning to face the sound and positioning its head to hear the sound simultaneously with the right ear, the prey is then directly in the owl's line of vision. With a swoop and a snatch, a meal is ready.

We might store extra perishable food in freezers. Great Horned Owls have the cold winter climate along with holes in trees as convenient natural freezers. Now what about defrosting those resources? Using owl ingenuity, they warm food against their bodies, defrosting it in much the same way they keep eggs and chicks warm.

*continued on page 11*

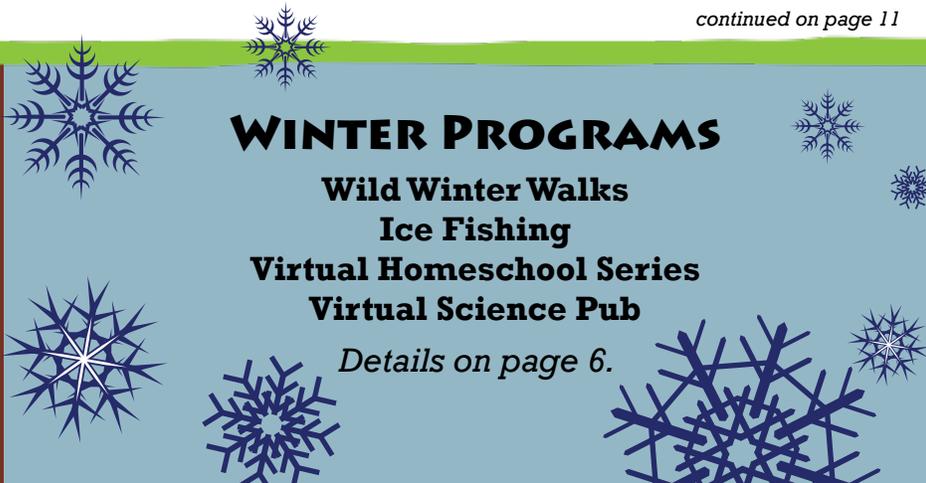
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### WINTER PROGRAMS

- Wild Winter Walks
- Ice Fishing
- Virtual Homeschool Series
- Virtual Science Pub

*Details on page 6.*



# FORGING TRAILS:

## OUR OWN GREEK TRAGEDY - EAGLE STYLE



On October 6, 2020, I received an email with sad news related to a Bald Eagle I have come to know well. The email indicated that an adult Bald Eagle had been found mortally wounded on an island in the middle of Wickwas Lake in Meredith. When a U.S. Fish and Wildlife Service officer investigated, he found the now-deceased eagle was banded. The leg band (WA8) identified this bird as a female that had nested on Squam Lake for 18 years.

In 2003, the human residents of the Squam area were thrilled when a pair of Bald Eagles built a nest

on Little Loon Island right in the middle of Squam Lake. At the time, there were only seven other active eagle nests known in the state and this was the first in the Lakes Region. Some careful observations revealed that both the male and female of the pair were banded (each sporting metal leg bands on their legs). The male had a gold-colored band on his left leg inscribed with W86. He was banded as a chick in a nest at Quabbin Reservoir in Massachusetts on June 4, 1997. The female also had a gold-colored band; it was inscribed with WA8. She was banded as a nestling on May 28, 1999, at Little Quabbin Island, Quabbin Reservoir, Massachusetts.

This pair nested together for eleven years, 10 of those on their Little Loon Island nest (in 2007 they used an alternative nest on Long Island). In those years, they raised 18 chicks together. In 2013, their nesting attempt failed in a horrendous multi-day April ice storm and the following year, not only did they build a new nest on Long Island, but a new unbanded male had taken over the territory. We don't know what happened to W86; he was never seen again and was likely ousted/killed by a younger, stronger male. The old female now had a new partner and the pair raised three chicks in 2014.

Each year I have tried to get close enough views to confirm if our old lady is still present. It's hard to get clear views of the now heavily tarnished leg band, but WA8 made this task a little easier by having a unique pattern of white feathers on her otherwise brown "pantaloons" – the feathering down the upper portion of her right leg. I last confirmed that she was still around back in February 2020, when I saw her perched along the Squam River in Ashland. She was eyeing a feral goose for breakfast. Through my scope, I could see the gold band on her left leg but couldn't read the inscription, but I could see the distinctive feathering on her leg, confirming that she was still alive at the ripe old age of 21.

This spring, our eagle pair raised two more chicks on a new nest on Big Loon Island and in May, I confirmed the female was banded. I assume it was our old girl. So, it was sad to hear that she had been found dead in October. Her injuries were consistent with having been in a fight with another eagle. A couple days later I headed out on the lake to see what was happening around the Squam nest and found a pair of eagles (presumably the male who has been with us since 2014 and the victorious new female eagle who ousted/killed WA8) sitting calmly together on the favorite perch tree on Long Island. A picture of domestic bliss. All's fair in love and war in the world of Bald Eagles.

I know this sounds like a story from a Greek tragedy but this is normal behavior in the Bald Eagle world. The most common known cause of mortality in our eagle population is injuries from fights with other eagles. The population of eagles continues to grow exponentially. Our Squam Lake territory has produced 26 chicks now and this once lone Lakes Region nest is now surrounded by more than two dozen nests in a 30-mile radius. There is lots of competition for territories and an eagle needs to be in tip-top condition to defend its place within a prime location like Squam Lake.

So WA8 did her part for the success of her species by raising 26 chicks in her reign over the islands of Squam Lake. Now a new female has claimed her throne and a new chapter in this saga begins.

  
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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 editors Janet Robertson and Amanda Gillen.

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# STAFF PROFILE

## TOM KLEIN



I was born and raised in the western suburbs of Philadelphia but spent all of my summers on Squam Lake since the age of four. My family chose Squam as our summer vacation spot after visiting my aunt and uncle in the early sixties, and of course, fell in love with the area. We rented a couple of different homes on the lake, the last one being on the north end for over 35 consecutive years, which made it feel like home. My passion for being out on the water began at an early age; boating of any kind and just being outside quickly became favorite hobbies. A regular place to visit every summer was the Science Center; I remember coming here to see my biggest fascination, which was the working saw mill, part of the “Man and the Environment” exhibit in the early days. Later, I chose to go to college in New Hampshire, all based on my summer experiences and my love for this state, which eventually led me to move here permanently in 2005.

I started to volunteer in 2006, helping with the lake ecology school programs, which led to a part time job as Cruise

Coordinator in 2007. From there I continued working with the lake cruises and was offered a full time position in 2008, first as the Operations Manager, and now the Facilities Director. Working at the Science Center is like being part of a family where everybody cares for one another and the common goal is the good of the family, which in this case is the Science Center. It never really feels like work, but more like an extension of my personal life that allows me to do what I love by being outside in the Squam region and making a difference. Whenever I tell someone I meet where I work, the response is always, “Oh, I love that place!” They immediately launch into a story of how they came here as a kid and now they bring their children. I get such a feeling of pride every time I hear those stories.

I have watched the Science Center grow, starting from when I was a child to present day, which is about the same amount of time it has been in existence. We have a certain way we present our lesson, through the animals themselves, coupled with many thoughtful interactive exhibits. We will always be challenged trying to blend the simplistic with the ever-changing world of technology, but I think we will always choose to keep it simpler. People come here to unplug and slow down long enough to learn about our natural world around us, to have a “time out” from our fast paced world. In this year of Covid-19, I have never seen such an appreciation for the Science Center from our visitors, just for it to be open and to provide to a place to be outside where it is safer and briefly forget how much our lives have changed. The staff and volunteer dedication and commitment to this organization are second to none, and it shows everywhere you look.

*Facilities Director Tom Klein earned a B.A. in Business from New England College in Henniker. He lives in Sandwich with his husband, Doug and their three dogs. They also co-own and operate Sandwich Property Management, established in 2006.*

## NEWSBRIEFS

- We said farewell to Operations Manager Sharon Warga in October. During Sharon’s seven years on staff, she brought her IT knowledge, cheerful attitude, and plenty of patience to all situations. She will be missed and we wish her luck in her new nursing career. Liz Rowe will temporarily fill in as Interim Human Resources Director, in addition to her Finance Assistant role.
- Kate Banyas, who rejoined Blue Heron School staff this fall as Assistant Teacher, has also left to pursue other opportunities. Kady Hoffman was hired in November as the new Assistant Teacher. She graduated from Plymouth State University in November with a B.S. in Place Based Education and brings experience teaching at nature camps and Montessori schools.
- Development Officer Kim Beardwood Smith recently joined the board of the NH and VT Charitable Gift Council, which provides professional development and training for nonprofit professionals.
- Education Director Audrey Eisenhauer, Naturalist Jeremy Phillips, Naturalist Margaret Gillespie, and Volunteer Manager Carol Raymond attended the 49th Annual Conference (virtual) of the North American Association for Environmental Education (NAAEE) in October.
- Audrey Eisenhauer was invited to join the NAAEE Affiliate Network 2.0 Working Group. This is a group of leaders from state EE organizations around the country working together to envision the future goals and operating structure of this national network of state and regional EE organizations.
- Naturalist Eric D’Aleo and Audrey Eisenhauer attended the National Association for Interpretation virtual conference in November.
- When the usual spring New Hampshire Day was canceled, sponsors Dead River Company and NH Electric Coop Foundation, agreed to sponsor two separate New Hampshire Days this fall. The first was on Sunday, September 20, and was sold out. The second was on Saturday, October 17. It was less well attended because of cold and wet weather. Altogether, a total of 804 people attended.
- Halloween Hoot ‘N Howl was replaced by Naturally Wild Halloween on October 31. The day featured “Creatures of the Night” Pop Up Animal Encounters along the trail. Welcome Center staff dressed in costumes to greet costumed visitors. Special thanks to Tootsie Roll Industries for supplying candy.
- A staff group formed a new “Nature for All” committee to focus on goals for Equity, Inclusion, and Diversity in our workplace, programs, exhibits, facilities, and communications.

# NATURALIST'S CORNER

## FUR COAT AND WARM LODGE: HOW THE BEAVER SURVIVES WINTER

By Jeremy Phillips



Drip, drip, drip. Crisscrossing branches rise from the water and arch overhead inside a beaver lodge. Popping up through an underwater entrance with a soggy sprig, a beaver, *Castor Canadensis*, climbs up on dry branches to gnaw at the cambium (the inner, growing layer of tree bark). Remembering a new hole in the ice, the beaver slides back into the water, through the dark entrance, and makes its way under the snow-covered ice to where the sun shines through the dark water. The beaver climbs onto the ice, which is thin in this location due to the running water and the recent warmer days. The beaver makes its way to a nearby tree, which it felled in late fall. Some of the tree branches are frozen in the ice but the tree, readying for spring, still has buds. Craving anything but soggy cambium, the beaver works at those buds. Nose in the air, the beaver smells something and a fuzzy movement near the shoreline prompts its hasty retreat back into the dark water.

Near freezing water, darkness, lack of food variety, predators at every entrance - how do beavers survive winter? These amazing animals are masters of preparation. You might suspect, correctly, that beavers are well suited to survive the harsh times of winter. Whether it is due to preparation or other adaptations, beavers can stay active all winter long, even when forced to stay out of sight.

First, a food cache is essential. Beavers work all fall to store food for winter. This consists of piles of branches from a variety of trees stored underwater near the lodge. They will eat this food cache all winter; often it is the only food

they have access to when the pond is completely frozen over. Beavers can close their throat and their front teeth are especially far forward, keeping them from breathing while underwater. They can use their mouth and front paws to grab a branch and take it into the lodge easily even if it is frozen in the ice or stuck in the mud. Beavers also store fat in their body and tail, which is useful when food runs low.

Warmth is another important factor for winter. Beavers have a warm, thick fur coat. A gland secretes a waterproof oil and they use their comb-like nails to help to brush this oil into their fur to repel water and keep them dry.

Their shelter is thick enough to prevent most predators from ripping it open, although I have seen where a bear tore a hole in an unused lodge to use it as a place to hibernate. The thick, mud-coated shelter helps beavers stay protected and warm. Never mind the snow cover on top of that, and two to eight family members inside the lodge. Beavers construct the lodge with a vent for air. In winter, if you climb on top of an accessible lodge, you can look for melted snow near the top and be able to tell if it is in use.

I remember taking a group of volunteers up the east side of Rattlesnake Mountain several winters back, in search of a beaver pond there. Approaching the pond, we saw a pretty fresh chew. Observing it, some thought it must have been done in the last couple weeks, others were skeptical it was that recent. I noticed no woodchips on the top of the snow, which ruled out any chance it had been done since the last snow. We dug down around the tree until we found chips all the way on the ground. This answered our question, it was a chew from earlier in the fall. The chew on the tree was also close to the snowline. Beavers will sit back on their tail, which allows them to reach higher on the tree.

Do you have a local beaver pond? What can you discover based on the activity you find there?



# KIRKWOOD GARDENS PLANT SPOTLIGHT

By Brenda Erler

## Lenten Rose

### *Helleborus x ericsmithii* 'Candy Love'

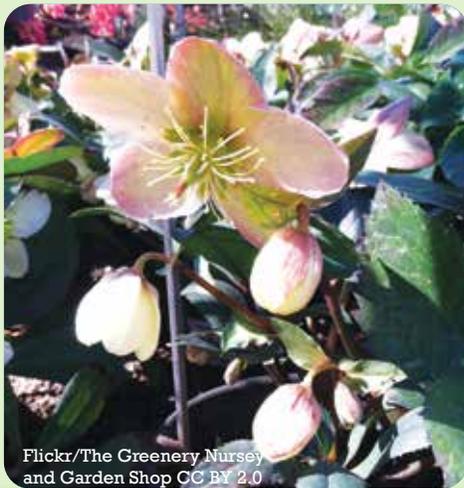
**Culture:** Prefers rich, moist, humusy, alkaline, well-drained soils in partial to full shade, but will tolerate dry shade.

**Bloom:** March to May. The large, upright flowers are shades of pink, white, and purple with tinges of green.

**Height:** 15 to 18 inches

Hellebores are clumping perennials with handsome leathery, evergreen foliage and large cup-shaped flowers with five petals (technically sepals) that appear in very early spring. Great in shady borders and woodland gardens, or plant in mass to form an attractive shade ground cover. Deer-resistant.

**Kirkwood location:** lower garden on Route 3 side under the Redbud Crabapple.



Flickr/The Greenery Nursey and Garden Shop CC BY 2.0

## Witch Hazel

### *Hamamelis x intermedia* 'Jelena'

**Culture:** Prefers organically rich, acidic, well-drained soil in full sun to part shade. Prune in spring after flowering to control shape and size. May spread by suckers.

**Bloom:** February to March

**Height:** 10 to 15 feet tall and wide, vase-shaped.

This hybrid witch hazel has beautiful fragrant, spidery, reddish-orange flowers tipped in yellow, which appear before the spring foliage, providing a welcome sight for eager gardeners. Use this shrub in borders, woodland gardens, or as a specimen. Tolerates deer. Lovely orange-red fall foliage.

**Kirkwood location:** lower garden on bank to the left of the pergola.



Flickr/ Prilfish CC BY 2.0



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



## FROM THE HERON'S NEST

By Laura Mammarelli

The exceptionally beautiful autumn weather was perfect for outdoor learning at Blue Heron School. School moved outside, with children eating, working and playing out in the pine grove. Picnic tables, tents, the slack line, the mud kitchen, easels, and other additions to the pine grove provided so many opportunities for learning and fun!



Blue Heron School is a nature-based Montessori school for children ages three to six. For more information please visit [www.nhnature.org/programs](http://www.nhnature.org/programs) or contact Laura Mammarelli, Blue Heron School Director, at 603-968-7036 or [blueheron@nhnature.org](mailto:blueheron@nhnature.org).

# CALENDAR OF PROGRAMS & EVENTS

**Virtual Homeschool Series:  
Observe, Discover, and Explore**  
1<sup>st</sup> and 2<sup>nd</sup> Thursdays, monthly through April  
10:00 to 10:45 a.m.  
For ages 4 to 10



Observe, discover, and explore phenomenon in the natural world as a scientist does, through this monthly virtual series for homeschool students. The first Thursday of each month, we introduce our seasonal topic and the outdoor investigation for students to complete at home. The second Thursday of each month, students share their observations and discoveries, and meet a live animal that connects to our topic. Investigations, differentiated by age, utilize materials readily available at home. View recorded programs for a limited time following each program. Complete monthly journal pages and explore additional resources. Adults participate with child(ren). Virtual sessions are held via Zoom; links are provided upon registration.

Advance registration is required by purchasing tickets at [www.nhnature.org](http://www.nhnature.org).

Cost: \$9/member child, \$11/non-member child per month; or \$18/member family, \$22/non-member family per month

**Intro to Ice Fishing**  
7:00 to 10:30 a.m.  
For ages 9 and up



Beneath the snow and ice is a wondrous world of peril: oxygen starts to deplete, food is scarce, and water temperature is barely above 37°F. Join us in search of fish that remain active under these conditions. Try to entice fish to the end of your line using lures and jigging techniques that mimic their natural food. Learn about fish adaptations by observing fish colors, fins, and mouthparts. Whether you fish for food, as a social gathering, or to be out in the elements, ice fishing is a great activity to foster your love for nature.

*All fishing instruction and equipment provided at no extra cost. Ages 16 and up must have a current fishing license. Adults must accompany children as a registered program participant. Wear insulated snow boots with non-cotton socks. Wear many, many layers of clothing, including non-cotton insulating base layers, a windproof outer layer, sunscreen, sunglasses, hat, and gloves. Bring an extra pair of gloves, snacks, a thermos with a hot beverage, hand and toe warmers, and a camp chair. Purchase fishing licenses through New Hampshire Fish & Game, which helps conservation efforts in our state.*

Advance registration is required by purchasing tickets at [www.nhnature.org](http://www.nhnature.org). Maximum of 10 participants per session.

Cost: \$20/member; \$25/non-member

**Wild Winter Walks**  
10:00 to 11:30 a.m.  
For ages 6 and up



Have you ever wondered what happens to the animals at the Science Center during the winter? Most of them stay in the same place, just as they would in the wild. Join a staff naturalist for a guided walk on the live animal exhibit trail to see our animal ambassadors dressed in their winter coats and discuss how these native animals are well adapted for winter in New Hampshire. If needed, snowshoes are available at no extra cost or bring your own. An adult must accompany children. This program is all outdoors; dress in warm layers with insulated snow boots, hats, and gloves.

Advance registration is required by purchasing tickets at [www.nhnature.org](http://www.nhnature.org). Maximum of 10 participants per session.

Cost: \$8/member; \$10/non-member

**Virtual Science Pub: The Secret World of Squam**  
Second Tuesday, January through April  
6:00 p.m.  
For adults



Do you know what a *Daphnia* is? Have you closely examined our native orchids? Have you paused to ponder the diversity of lichens growing on rocks and trees? Join us for this Virtual Science Pub series as we dive into the rare and largely unknown inhabitants of the Squam Watershed. Presentations will be held via Zoom.

*Offered in partnership with Squam Lakes Association and Squam Lakes Conservation Society.*

Cost: No charge to attend but advance registration for each session is required.

See the calendar at [www.nhnature.org](http://www.nhnature.org) for Zoom registration links.



# JANUARY

SUN	MON	TUES	WED	THURS	FRI	SAT
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31 						

# FEBRUARY

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# MARCH

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# APRIL

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 **Virtual Homeschool Series**

 **Intro to Ice Fishing**

 **Wild Winter Walk**

 **Virtual Science Pub**



## BUSINESSES INVEST IN EDUCATION

The Science Center is fortunate to be part of a supportive community. Many local businesses provide support through sponsorships, volunteer groups, and in-kind contributions of goods and services each year. During these uncertain times, we are especially grateful for these community partnerships that support educational programs through their contributions in 2020. Learn more at [nhnature.org/support/corporate\\_gifts.php](http://nhnature.org/support/corporate_gifts.php).

To thank our community partners, we hosted a virtual live animal program in November for them. Executive Director Iain MacLeod thanked the businesses and introduced the "Animals in Winter" program. Participants viewed three live animals and learned about the adaptations that help them to survive winter.

Please support these businesses that have invested in Squam Lakes Natural Science Center this year:

### 2020 Business Sponsors:

Belknap Landscape Company, Dead River Company, Lake and Island Properties, Meredith Village Savings Bank, MLK & Company, New Hampshire Electric Coop, New Hampshire Electric Coop Foundation, Rockywold-Deephaven Camps, Stewart's Ambulance Service, Transformative Healthcare, Christopher P. Williams Architects

### 2020 Summer Splash UnGala Sponsors:

Common Man, Cormack Construction, Irwin Automotive Group, Meredith Village Savings Bank, Squam Boat Livery

### 2020 Business In-Kind Donors:

Alene Candles, Alexandria Fire Department, Belknap Landscape Company, Randy Brown Excavation, Burgeon Outdoor, Donovan Tree Experts, GreenTek Mapping Services, Holderness Fire Department, Laconia Fire Department, Mauchly Electric, Megaprint, Meredith Rotary, Mill Falls at the Lake, NW Marine Industries, Plymouth Animal Hospital, Precision Lumber, Squam Boat Livery, Squam Bridge Landing, Tootsie Roll Industries, Transformative Healthcare, Wayside Farm, Webster Lake Association

### 2020 Business Volunteer Groups:

Bayer Pharmaceuticals, Manchester Mission of the Church of Latter Day Saints

*We gratefully acknowledge all business supporters. Please notify Development Officer Kim Beardwood Smith if any listings are inaccurate or missing. Contact Kim to learn about 2021 sponsorships. Contact Volunteer Manager Carol Raymond for information about volunteering.*

## VIRTUALLY WILD SCHOOL PROGRAMS

School is in session and whether your students are in the classroom or learning remotely Science Center Naturalists can bring live animal programs to your classroom virtually.

Programs will:

- Connect to students via Zoom\*
- Correlate to the Next Generation Science Standards
- Engage students for 45 minutes
- Feature two live animals
- Include interactivity between students and naturalist
- Include a post-visit activity that students can do at home

*\*This is a private program for your students using a unique, nonpublic link, utilizing all recommended Zoom security and privacy features. If your school is not able to use Zoom for security reasons we can make special accommodations for Google Meet.*

**Cost:** \$150 per program (Limit one classroom per program to facilitate interactivity.)

\$25 discount per program for two or more programs for the same school.

Visit [nhnature.org/teachers](http://nhnature.org/teachers) to make your request and to learn more about the variety of school programs we offer.



## DO SOMETHING WILD... SPONSOR A SPECIES!



You can help to provide food, health care, and housing for the animals - for your favorite feathered or furry species - through Sponsor A Species. It's a unique way to learn about a particular species and help us to care for our live animals.

See sponsorship levels and make your sponsorship gift online at [www.nhnature.org/support/sponsor\\_species.php](http://www.nhnature.org/support/sponsor_species.php).

## HOWLING COYOTE GIFT SHOP

**Online store  
coming soon at  
[nhnature.org](http://nhnature.org)!**



## GREEN TIP: GET NEARER TO NATURE

Today, more than ever, people are reaching for a connection to nature to help relieve the extra anxiety and stress caused by the pandemic.

If you have access to an outdoor space, consider making a nature play space. You don't need any fancy equipment, just an outdoor area where children and families can engage in unstructured activities such as balancing on a log, building a fort, or stacking rocks. Studies show that nature play can positively impact children's development and build resilience and creativity. And adults can benefit from time away from screens to help revitalize the mind and body.

Here are a few ideas for activities you can try with your family:

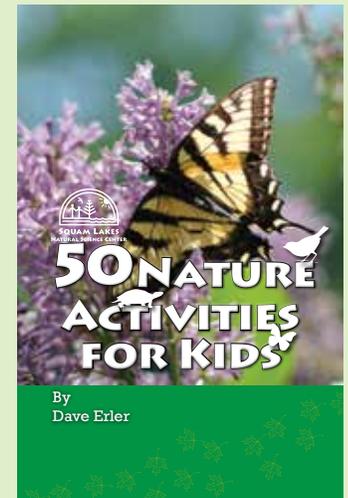
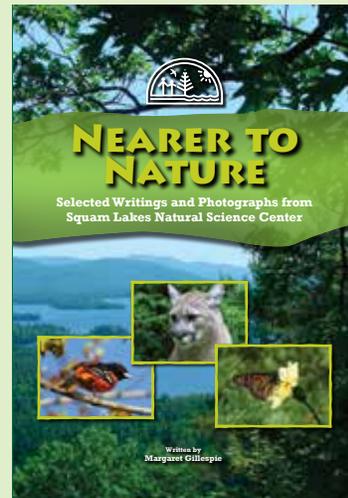
- Decorate a rock and hide it for others to find.
- Build a fairy house with sticks, rocks, flowers, feathers, or other things you find outside.
- Make a snowman and decorate it with fruit and birdseed. Watch to see what wild animals may come for a visit.
- Find a sit spot – a place you visit for a few minutes every day. Sit quietly and take note of the things you see and hear. Observe changes throughout the year.
- Use food coloring to make colored water and fill spray bottles. Use them to create snow paintings.
- Take a paintbrush and some water outside when it

is below freezing. Paint rocks, trees, and fences with water and watch it transform into ice.

- Find animal tracks in the snow. Follow them to see where they came from or where they go. Pretend you are that animal as you follow along.

What is your favorite way to play outside?

Get inspired with ideas from *Nearer to Nature* and *50 Nature Activities for Kids*. Order online at [nhnature.org/books](http://nhnature.org/books).



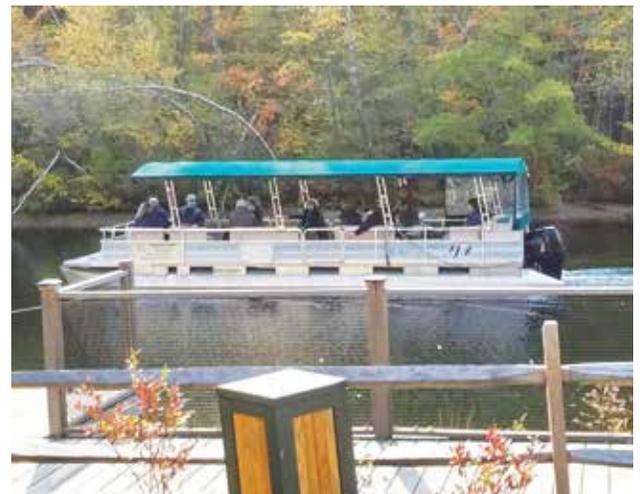
## VOLUNTEER UPDATE: THANK YOU VOLUNTEERS!

This year, being very different from typical years, meant there were a number of changes in the volunteer world. One major change was the cancellation of the annual complimentary Parsons Volunteer Recognition Dinner, when we honor and celebrate our incredible team of volunteers. During the dinner, statistics would be announced for volunteers who achieved various benchmarks, such as cumulative hours of service.

At the event, we would have announced that a total of 303 volunteers donated their time and skills in 2019 to help the Science Center achieve its mission. Our regular volunteer team donated 7,518 hours of service, and one-time volunteers donated 425 hours, for a total of 7,943 hours. Thank you volunteers!

In lieu of the Parsons Volunteer Recognition Dinner this year, we offered complimentary Naturalist Tours in September and October. Forty volunteers registered, filling four boats over four days with one cruise per day. Before each cruise, volunteers were treated to muffins and coffee at the Lake Cruise Pavilion. We were happy that all four days had beautiful weather. Meredith Village Savings Bank generously sponsored the volunteer recognition cruises.

Thank you to all the volunteers who took time out of their busy lives to give service to the Science Center in 2019 and in 2020. We are indeed fortunate that we have such a strong and supportive volunteer team!



# OPENING A WINDOW TO THE NATURAL WORLD

## Please Give to our 2020 Annual Fund Appeal



The experiences the Science Center provides by getting people Nearer to Nature have never been more important for everyone's mental and physical wellbeing. Please give to our Annual Fund to support this unique place where people of all ages can connect with nature. Help us to keep providing meaningful and memorable educational programs about the natural world for you and your family and for others.

There are many ways you can give:

- Respond to the letter you recently received and mail a gift.
- Call the office at 603-968-7194.
- Donate online at [www.nhnature.org/support/annual\\_fund.php](http://www.nhnature.org/support/annual_fund.php).
- Send a grant from your donor advised fund.
- Request a disbursement from your IRA.

- Double your donation with a matching gift through your employer.
- Celebrate a special occasion or honor a friend or family member with an honorary gift.

Whether you are a member, a volunteer, a donor, a business sponsor, a trail visitor, or a program participant, thank you for your contributions. Please consider supporting natural science education with an Annual Fund donation by December 31. Your help is vital to support our mission to advance understanding of ecology by exploring New Hampshire's natural world. Thank you.

*Opening a Window to the Natural World is written by Development and Communications Director Janet Robertson. You may contact Janet at 603-968-7194 x 112 or [janet.robertson@nhnature.org](mailto:janet.robertson@nhnature.org).*

### These generous donors made tribute gifts, which were received between July 1 and September 30, 2020:

*In memory of Dorothy "Dottie" Chekas*

Lisa Davis

Christen Lanosa

Michael and Luisa O'Brien

*In honor of Brenda Erler for Kirkwood Gardens*

Anonymous

*In memory of Helen Mathieson*

Andy and Mal Eaton

*In honor of Joan Mayerson's 90th birthday*

Douglas and Jacquelynn Froom

*In memory of Joseph Ousteky*

Steve and Joyce Hackett

Liz Rowe

*In memory of Greg Smith*

Ronald and Barbara Geigle

Gail Smith and Frances Chalmers

Teresa Smith

Daniel and Elizabeth Wright

*In memory of Barbara T. Ridgely*

Virginia Ridgely Howe

*In honor of Janet Robertson for Kirkwood Gardens*

Anonymous

*In memory of Mr. and Mrs. Ernest R Taylor*

Estate of Ruth E. Taylor

*In honor of Reverend Richard Weymouth*

Janet and Michael Evans

## MEMBERSHIP - A GIFT FOR EVERYONE!

- Membership dues provide support for educational programs for schools, families and children; care and feeding of the animals; upkeep and maintenance of trails, exhibits, and buildings; Kirkwood Gardens; lake education cruises; and general operating expenses.

- You also receive fantastic member benefits throughout the year.

**Renew your membership today or give a Gift Membership.**

Visit [nhnature.org/membership](http://nhnature.org/membership)



## What Will Your Legacy Be?

Your legacy gift will help Squam Lakes Natural Science Center to continue to achieve its mission to teach about the natural world for generations to come.

**Become a member of the Naturalist's Legacy Society.**  
Visit [nhnature.org/support](http://nhnature.org/support)



## WISH LIST

**For Offices** - small folding or card table

**For Animal Care** - gently used refrigerator/freezer, newspapers, Little Tykes or Playskool jungle gym, PVC pipe, heavy-duty storage tubs, limb cutters, gift cards to local hardware and grocery stores

**For Education** - large (size 11) waders

**For Facilities** - chain saw vice, loppers and pruners for invasive species removal

**For Blue Heron School** - bird feeders, milk crates, 10x10-foot tarp

**For Kirkwood Gardens** - garden wagons or carts, garden items for treasures sale such as decorative pots, garden art, tools

Support the Science Center while you shop at AmazonSmile. <http://smile.amazon.com>



# TRAIL'S END STAFF



All things considered, the Science Center has managed to navigate this difficult year pretty darn well. When our books close for 2020, I think we will see a Science Center that is in remarkably good shape. Our members, our volunteers, our donors, our visitors, and even our State have all been very supportive - and we are incredibly appreciative of that support!

But one of our constituencies - namely our staff - has proven to be so dedicated and so creative that they deserve much of the credit for how this year has turned out.

COVID or not, our animals needed to be fed, enriched, and their living areas needed to be maintained. It was never a question of if we would fulfil those responsibilities but only how our animal care staff would safely fulfill them. Being an environmental education center, it's pretty much a given that our educators are world class at teaching outdoors. Which made it all the more impressive that they so quickly pivoted into being online educators. I watched a number of these online learning sessions

and was amazed at how well our folks managed to bring the natural world to an online audience.

Even our preschool teachers were able to make online miracles happen. I struggled to keep my kids engaged in their Zoom sessions with grandparents. Somehow, our preschool teachers kept their young charges engaged every day this spring! And when the preschool reopened in person this fall, our teachers managed the challenges with remarkable patience and skill. It has always been wonderful being an outdoor preschool but now it is an especially blessed thing!

Our financial and development staff have done wonders applying for and complying with the grants and state/federal funding opportunities available. I remember well a 1:00 a.m. email from Brian and Iain as they pulled an all-nighter to make sure we had the PPP funds needed to keep paying our employees.

When it became apparent that safety protocols required a one-way trail, our facilities staff successfully rerouted our trail. Everyone pitched in to keep our trail and our facilities as clean and safe as possible. Our admissions and retail staff learned a whole new system to check visitors in and retail staff created a great little pop-up outdoor boutique. Our operations and administrative staff implemented online ticketing, updated the website and materials to keep everyone informed, and spent untold numbers of hours in a tent in the parking lot checking on the health of our visitors.

And on top of all of this, our staff began building and preparing our new Raptor Exhibit! They've created enclosures that will be wonderful for the health and wellbeing of our birds and exhibits that sound like they will be every bit as much fun as they are educational. In the midst of all the chaos of 2020, they have been working hard to make sure that 2021 will be an awesome time to visit the Science Center.

When things looked dark back in April, the Science Center, like so many businesses and non-profits, briefly looked at layoffs. We are so incredibly fortunate that we kept every one of our staff members employed because those employees turned around and delivered a wonderful and safe experience to our visitors, which allowed us to be in the strong position we find ourselves in now. It's a truism for a reason - an organization is only as good as the people that work there - and the Science Center is incredibly fortunate to have such a dedicated and capable staff.

*Trail's End* is written by Justin Van Etten, Chair of Squam Lakes Natural Science Center's Board of Trustees.  
You may contact him at [justin.vanetten@gmail.com](mailto:justin.vanetten@gmail.com).

## **GREAT HORNED OWL** *continued from page 1*

Where would you expect to encounter a Great Horned Owl? In the northeast, it is an upland forest owl, finding its habitat needs in mixed deciduous and coniferous forests. If those criteria sound like Red-tailed Hawk territory, you are right. Patrolling the same areas at different times of day, these two species generally remain compatible on a day/night shift basis. A bonus for the owls, with their early nesting schedule, is settling into last year's stick nest of a Red-tailed Hawk before the hawks get serious about raising young. Barring a free hawk's nest, tree cavities remain a staple for owl nesting.

Great Horned Owls are the ultimate "hoot owls." Resonating five hoot calls have the second and third hoots compressed: "hoo, hoo-hoo, hoo, hoo." Often the pair will hoot together particularly in preparation for nesting season and it is possible to differentiate them by hooting pitch. As with all raptors, males are smaller than females, so it may come as a surprise that male owls have the deeper calls. The larger syrinx, or voice box, of the male results in a lower tone. Hoots assist in establishing an adequate nesting territory essential for raising healthy owlets.

The young owlets grow rapidly, and by five weeks they graduate from the nest to surrounding tree limbs where they expect their meals to be delivered. Finally, at around ten weeks, they embark on the adventure of their first flight. From then into the autumn, the young fine-tune their hunting skills until they launch into an independent lifestyle. Maybe some of these "tigers of the night" live in a forest near you. Keep your ears listening and eyes peeled for their impressive presence.

## **GREAT HORNED OWL QUIZ**

1. What would be prey for Great Horned Owls?  
A. skunks, B. mice, C. squirrels, D. All of the above
2. True or False? Great Horned Owls have asymmetrical ears.
3. In what month do Great Horned Owls in the northeast often start nesting?
4. Do male or female Great Horned Owls have a lower tone to their calls?
5. True or False? Great Horned Owls have an ingenious way to unfreeze stored food that has frozen.

### Answers:

1. D | 2. True | 3. February | 4. Males  
have a lower tone. | 5. True



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