



EYES TO THE SKY! RAPTORS HEADING SOUTH

By Margaret Gillespie

Exhilarating and astonishing. At the right place and time, watching raptors migrate south in the fall can be downright inspiring. Broad-winged Hawks, which have been clandestinely nesting and raising young over spring and summer in the seclusion of forests, are now sharing rising air currents with possibly hundreds of their kind. Other raptors...Bald Eagles, falcons, and different species of hawks join the throng. In a relatively short window of time, thousands of birds pass through, using optimal routes on their way to warmer climates and the availability of food. Let's narrow our view to three, exploring where they go and why such a lengthy, dangerous trip is worth the risks.

Broad-winged Hawks are among the best in demonstrating the value of "taking it easy" on this migration trip, which is another way of saying conserving energy. In a category of hawks called "buteos," Broad-winged Hawks have an ideal soaring shape. Their wide wings and fan-shaped tail work together, taking advantage of the thermals of sun-heated air rising up over fields and asphalt. It might sound like riding a natural elevator but there are drawbacks. Time is needed for sun exposure to create these thermals of rising air and ideally there is a light wind coming from the north gently pushing the birds south. The hawks adjust their departure time each day to take advantage of ideal conditions. Choice places to "hawk watch," or observe this phenomenon, are along ridges or on mountain tops where air naturally rises as it collides with a hilly obstacle. A group of raptors rising on a thermal is often called a "kettle"

because it resembles the swirling of warm air rising from a tea kettle. There can be hundreds of Broad-winged Hawks in a kettle, gaining altitude and finally at a height of diminishing returns, streaming from the top, headed south towards the next air elevator. Eventually they arrive at their wintering goal in the Central or South American rainforest where the menu features small mammals and birds.

The Sharp-shinned Hawk, about the size of a Blue Jay, is in the accipiter group of hawks which has a lengthy, rudder shaped tail and short wings. The "sharp-shinned" part of their name comes from a distinct ridge running down the front of their long narrow legs. These hawks are ideally suited to hunt in forests where their ability to turn swiftly and maneuver among trees helps them catch smaller birds.

On the migration trip, Sharp-shinned Hawks have

continued on page 11



Broad-winged Hawk

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And much more!



Program and event tickets available at nhnature.org.

FORGING TRAILS: SQUAM LAKE CRUISES



Squam Lake is a beautiful place. To really appreciate its glory, you need to be on it. Our Lake Cruises provide that opportunity for thousands of visitors every year. Since we acquired our first pontoon boat in 1984, the lake has been an open-air classroom for us where we can educate people of all ages about what makes Squam such a special lake.

We have a fleet of four large pontoon boats that allow us to offer a variety of aquatic-based services.

In addition to our daily Discover Squam cruises, we

offer specialized tours about Loons, Bald Eagles, and general natural history cruises with our naturalists. We offer private charters (particularly popular in the last couple years), group tours for buses of people visiting the region, and water taxi services to and from Church Island for weddings and summer Sunday services.

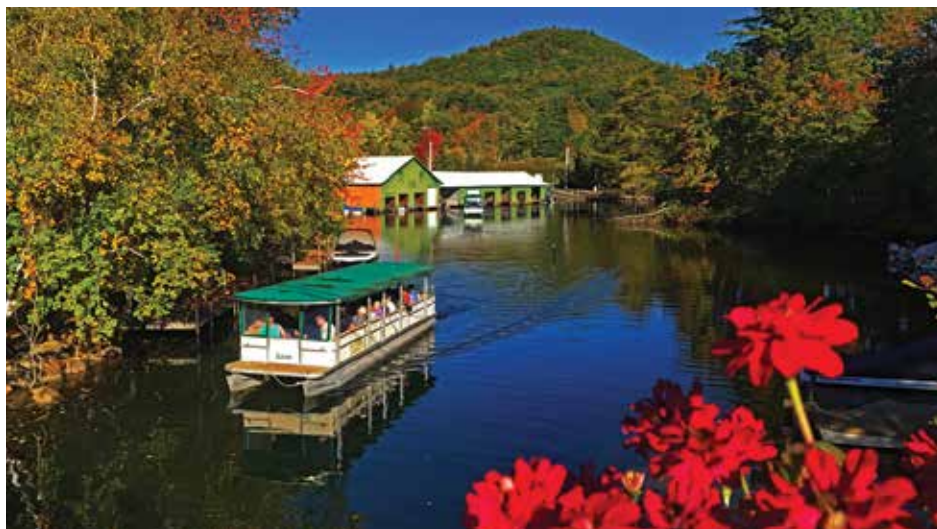
Dedicated and knowledgeable lake cruise captains provide a broad overview of Squam Lake which covers geology and history (how the glaciers carved out the basins that form the lake bottom), geography (the watershed), natural history, land protection, water quality, social history (camps and resorts), the importance of lake partnerships (Squam Lakes Association, Squam Lakes Conservation Society, Loon Preservation Committee, etc.), and so much more. . . all while interpreting the teachable wildlife moments they encounter on every trip.

Our boats are floating classrooms for Lake Ecology programs for school groups. Students take hands-on measurements of pH, dissolved oxygen, water hardness, clarity, temperature, and other parameters, and then assess the lake's health. Students examine lake sediment and collect plankton to observe with a high definition projection microscope.

What makes our lake programs so special is the staff: our lake cruise coordinators and captains Mike Bartlett, Dave Katz, Ashley Keenan, Bev Lapham, Dale Lary, Rick Loader, Dave Martin, Tony Sabutis, and Tom Thomas; and our naturalist captains Eric D'Aleo, Margaret Gillespie, and Jeremy Phillips.

For details about all our Lake Cruises go to: nhnature.org/programs/lake_cruises.php

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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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VOLUNTEER PROFILE

DOM AND IRENE MAROCCO

Dom and Irene Marocco both have a lifelong love of nature. They are also outdoor enthusiasts and take advantage of activities available to them from hiking to snowshoeing, or just a walk in the woods. They are very aware of their impact on the natural world and how they can make their spaces welcoming to and in harmony with nature. They see the mystery in nature and have an endless curiosity about how it works and interacts.

Dom and Irene first learned about the Science Center when they brought their children to visit in the 1980s. It wasn't until a visit in the mid-2000s that they learned about the docent program. They attended training and became docents in 2011 and have volunteered regularly on the trail ever since.

You'll always see Dom and Irene volunteering as a pair (except when Irene visits her family in Germany) and the teamwork provides a broader experience for the visitors; one person can show off a raptor or the snake while the other can share props. They love to share knowledge with visitors but also learn a lot in return. Visitors often come with stories of their own or want help identifying what they saw. Dom and Irene ask lots of questions and listen. This is also advice they give to new docents and First Guides whom they mentor.

Irene especially loves educating children who visit. They have pure curiosity, are hungry for knowledge, and open to new ideas and experiences. Dom and Irene recalled the story of a grandmother visiting with her grandchildren. The Marocco's were showing the large red-tailed boa constrictor and the children all touched the snake but the grandmother didn't want to. The children urged her on and finally she was able to touch it. It was not what she expected and she overcame her fear and expectations.

Dom and Irene love sharing their knowledge to defy expectations and to educate visitors about the importance of our natural world.

The Marocco's said their perspective on the natural world has changed since becoming docents. They appreciate the natural world more than ever and Irene even called the Science Center a "jewel of New Hampshire."

So, the next time you are on the trail maybe you'll see Dom and Irene with some of their favorite animals and can learn something about these amazing creatures.



Photo by Sarah Drake

Dom and Irene Marocco with the red-tailed boa constrictor.

NEWSBRIEFS

- Long time Blue Heron School Director Laura Mammarelli retired in August. Laura helped create the school in 2010 and served as Director until her retirement. We wish her lots of quality time with her young grandson.
- Lead Animal Care Associate Kevin Van Gorden left in July to pursue a career in teaching. He is greatly missed but his new students will have a fantastic teacher.
- Jordan Fitzgerald and Jordy Gianforte were promoted to Blue Heron School Co-Directors. Both will serve as Lead Teachers in their respective classrooms while also managing the responsibilities as Co-Directors.
- Carolyn Wawrzynowski joined our staff as Animal Care Associate. She has worked with a variety of animals in both animal care and education positions.
- Sharon Warga has re-joined our staff as Compliance Officer to oversee risk management, safety, OSHA, and USDA policies.
- Our annual summer fundraiser had a different look and feel this year as the 2022 Family Picnic. This fun event for all ages was enjoyed by more than 250 attendees. There were food trucks, ice cream, edible insects, signature drinks, animal

entertainment, live music, games, and more. This is an event we hope becomes a new annual tradition. See more about the 2022 Family Picnic on page 10.

- Visitors have until September 30 to immerse themselves in a world of invertebrates with the Giant Insects exhibit. The five larger-than-life animatronic insects are part of the live animal trail experience. Listen to the sound of insects and watch for the spray from the bombardier beetle! Don't forget to climb aboard the spicebush swallowtail caterpillar for a photo. Learn about the important role insects play in preserving the balance of nature. The Giant Insects exhibit is included in your regular trail admission. We are very thankful to our Giant Insect Sponsors Eversource, Holderness School, and Meredith Village Savings Bank.
- New Hampshire Life television show on NESN visited the Science Center in August for an upcoming episode. The show will air at 8:30 a.m. September 18 on NESN. It will also be posted to the New Hampshire Life YouTube channel.

NATURALIST'S CORNER

GETTING TO KNOW YOUR NATURAL NEIGHBORS

By Audrey Eisenhauer

You certainly don't need to know the names of the types of plants and animals around you to enjoy exploring the natural world. But when you can name the species you are observing, there is another level of enjoyment that is created by the familiarity it provides, and by the opportunity you then have to discuss and share your observations with others. Knowing where to start in this journey of getting to know your natural neighbors can be daunting. Field guides are an invaluable tool and should certainly be in your arsenal, but sometimes we don't know enough to even know where to start when looking through a field guide. Like many things, technology can make this process easier. There are several different apps that can help you identify everything from insects to flowers to bird songs, are easy to use, and are readily available on any smartphone or tablet. Below are suggestions of a few apps that I have enjoyed experimenting with this summer.

Identifying Birds and Bird Calls

The **Merlin Bird ID** app by the Cornell Lab of Ornithology is a great tool for learning to identify birds and their calls. The app will walk you through identifying the bird you are seeing, or you can upload a photo and it will suggest an identification. But my favorite feature is the bird Sound ID. Hit record in the app and Merlin will listen to the bird sounds around you to identify them as you are listening. It also displays the sonogram of the bird songs it is hearing to help you match the sound with the correct bird. I tested it out at dawn several times this summer when the chorus of bird songs was at its peak, and the app did a great job of picking up even those bird calls that seemed faint and far away. This app is free and available on both the App Store and Google Play.

Identifying Plants

PictureThis is a plant identification app. Snap a picture of your unknown plant in the app and get instant suggestions on its identification. The app keeps your snap history in the "My Plants" section so you can go back later and review the new plants you have learned. This app is available in both free and paid premium versions on the App Store and Google Play. (To use the free version, tap the nearly invisible "close" in the top corner when the subscription screen appears.)

On iPhone, **Photos** will identify your plant pictures for you. Take a picture of a flower or plant and when viewing your picture in the Photos app, select the info icon with the little stars next to it at the bottom of the screen. Then select "Look Up - Plant>" for suggested identifications. (Android users can try the **Google Lens** app for identifying plant pictures.)

Identifying Insects

PictureInsect is a great place to start for identifying insects. Snap a picture in the app and instantly get a few suggestions on the identification of your insect. As with any of these apps, it is good to verify the identification with other sources such as field guides or trusted websites. But with one million species of known insects, a tool like this will surely help narrow your search. This app is available in both free and paid premium versions on the App Store and Google Play. (To use the free version, tap the nearly invisible "close" in the top corner when the subscription screen appears.)

Identifying and Inventorying Plants and Animals

iNaturalist by the California Academy of Sciences and the National Geographic Society is a social network of naturalists, citizen scientists, and biologists designed to map and share observations of biodiversity. The goal of the app is to help connect people to nature, but also to generate scientifically valuable biodiversity data. Upload photos of the organisms you see along with your location, and get instant suggestions on its identification, which will later be verified by one of the app's many dedicated contributors. I used the app this summer to help identify shells that I found at the beach in CT that I hadn't seen before. Kids and Teachers can try **Seek**, also by iNaturalist, which is a kid-safe version that does not require registration or store your location information, but still provides a great tool for identifying observations. You can use either app to create an inventory of all the organisms in your yard or your town or your favorite park! Both of these apps are free and available on the App Store and Google Play.

Have fun getting to know your natural neighbors. If you have other favorite apps you use, we'd love to hear about them. Send us a note at info@nhnature.org.

WISH LIST

For Lake Cruises: 20" Ring Buoy; waterproof flashlights (4)

For Animal Care: Little Tykes or Playskool jungle gym; gift cards to local hardware and grocery stores; bath towels

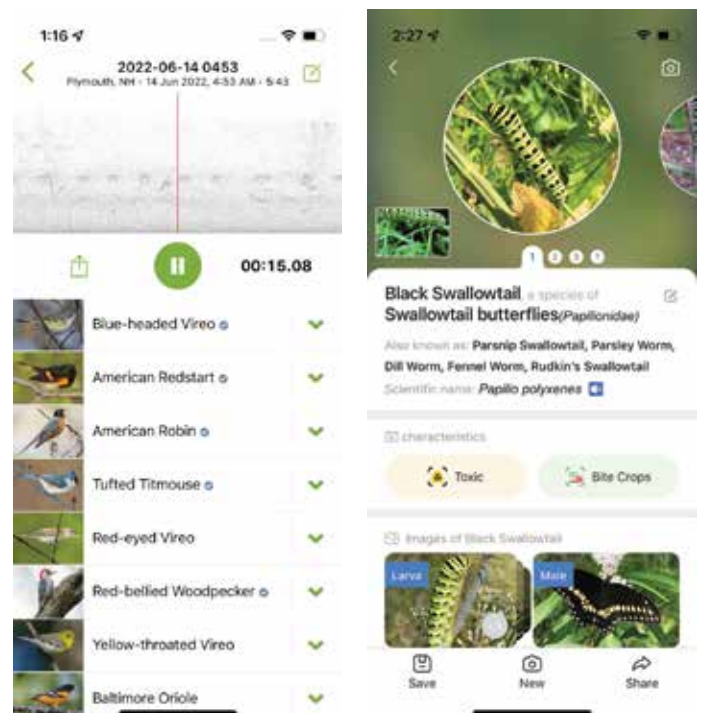
For Facilities: chain saw vise

For Kirkwood Gardens: 1 qt, 2qt, and gallon pots; orchard ladder

For Operations: four pairs of bookends; small folding or card table; push wheelchair; utensils (forks and spoons); 3M stethoscope; blood pressure monitor cuff; pulse oximeter

For Intern Cottage: Toaster oven

For Education: Underwater rover



Screenshots from Merlin Bird ID (left) and Picture This (right).

KIRKWOOD GARDENS PLANT SPOTLIGHT

By Emma Erler

Sugar Maple *Acer saccharum*

Culture: Easily grown in full sun to part shade in average, well-drained, medium-moisture soil. Intolerant of road salt and soil compaction. Leaf scorch can be a problem in drought conditions.

Height: Over 40 feet tall with a similar spread

Sugar maple, the tree behind maple syrup, is native to New Hampshire and an excellent shade tree for large lawns or parks. In summer the leaves are medium green, shifting to bright yellow-orange in the fall. Sugar maples are fairly slow growing when compared with other deciduous trees but they are very long-lived, potentially growing for a few hundred years. The downside is that they are susceptible to several fungal diseases and insect issues, especially when stressed. However, when planted in the right location in a large landscape, sugar maples are unrivaled in terms of beauty.

Kirkwood Location: Multiple trees on the upper lawn



Great blue lobelia *Lobelia siphilitica*

Culture: Prefers full sun to part shade and medium to wet soils, high in organic matter

Bloom: August - September

Height: 12 to 18 inches

Great blue lobelia is a clump-forming perennial which thrives in damp soils and will often self-seed in good growing conditions. Though uncommon in New Hampshire, it is native to New England and would typically be found growing in wet areas such as the edges of ponds or wetlands. It is a good choice for informal gardens, native plant gardens, woodland gardens, naturalized areas, or near ponds or streams. Great blue lobelia is characterized by light to dark blue flowers with two lips. Its Latin name refers to its historical use as a treatment for venereal disease. Not bothered by deer or wet soil.

Kirkwood Location: Driveway side of the lower garden



Plant Spotlight and Kirkwood Gardens are sponsored by Belknap Landscape Company, Inc.
belknaplandscape.com

DEER RESISTANT EVERGREEN TREES AND SHRUBS

If you are planting evergreens for privacy, the last thing you want to worry about is deer damage. Gardeners in New Hampshire, regardless of where they live, will undoubtedly come into conflict with deer at some point in time. Many evergreen plants serve as favorite winter food sources, including arborvitae, rhododendron, holly, and yew. In many cases, proximity to a house is not enough to deter hungry deer in the latter half of winter. Fortunately, there are some evergreen trees and shrubs that are mostly avoided by deer. If you're thinking of planting this fall, consider the following species.

Japanese pieris (*Pieris japonica*), sometimes known as Andromeda, is a broadleaf evergreen shrub that can grow up to 10 feet tall, depending on variety. Pieris has glossy dark green leaves year-round and drooping white flower clusters in early spring that attract bumblebees and other pollinators. Best for zone 5 and warmer.

Mountain laurel (*Kalmia latifolia*), grows in the wild in various locations throughout New Hampshire. It is often used in landscapes due to its abundant, unusual flowers in late spring. The species sports white to pale pink flower clusters that can measure as much as six inches across.

Eastern red cedar (*Juniperus virginiana*), is likely the closest alternative to arborvitae that can be grown in New Hampshire. Eastern red cedar is a native needled evergreen that has overlapping scale-like leaves. It is highly drought-tolerant and is a good choice for gardens with full sun and dry soil.

Chinese juniper (*Juniperus chinensis*), is another needled evergreen that is similar to Eastern red cedar in many regards. While plants can grow into large trees, a great number of smaller shrubby varieties can be found at garden centers.

Inkberry (*Ilex glabra*), is a native evergreen holly species that is popular as a screen in garden settings because it is adaptable to both well-drained and wet soils. It has small, glossy, dark green leaves that are spineless, and produces small black fruit that are enjoyed by various songbird species.



Mountain laurel

CALENDAR OF PROGRAMS & EVENTS

Programs have limited capacities. Tickets must be reserved and paid for in advance at nhnature.org.

SEPTEMBER

SEPTEMBER 17 SATURDAY 10:00 a.m. to 4:30 p.m. For all ages	Raptor Migration Celebration 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 throughout the day. Learn about where our raptor species go each winter, how long it takes them to get there, and why they bother to return. <i>Cost: Included with trail admission</i>
SEPTEMBER 18 SUNDAY 9:00 to 10:30 a.m. For ages 5 and up	Insects Alive Guided Tour Go on a guided tour of the visiting Giant Insects exhibit with retired New Hampshire Fish and Game Biologist, Emily Preston. With a stop at each of the five giant, animatronic insect models, learn about where our native insects live, their fascinating adaptations, and what you can do to help them survive. Participate in an insect search in the field or pond to discover the diversity of insects around us. <i>Cost: \$9/member; \$11/non-member</i>
SEPTEMBER 20 TUESDAY 5:00 to 7:00 p.m. For adults	Science Pub Outdoors: Climate Change and People <i>5:00 to 6:00 p.m. food and socializing; 6:00 to 7:00 p.m. lecture</i> Join us at our outdoor classroom pavilion to hear from local scientists about climate change impacts we can see right here in New Hampshire. Come early to purchase food from a local food truck. Bring your own beverage of choice. Visit nhnature.org for speaker details. Bring warm layers and blankets. The Science Pub series is a collaboration between Squam Lakes Association, Squam Lakes Conservation Society, and Squam Lakes Natural Science Center. <i>Cost: No charge to attend but reservations are required. Reserve online at nhnature.org or call 603-968-7194 x 7.</i>
SEPTEMBER 27 TUESDAY	Science Pub Outdoors: Climate Change and People 5:00 to 6:00 p.m. food and socializing; 6:00 to 7:00 p.m. lecture For adults <i>Cost: No charge to attend but reservations are required. Reserve online at nhnature.org or call 603-968-7194 x 7. See description for September 20.</i>

OCTOBER

OCTOBER 4 TUESDAY	Science Pub Outdoors: Climate Change and People 5:00 to 6:00 p.m. food and beer; 6:00 to 7:00 p.m. lecture For adults <i>Cost: No charge to attend but reservations are required. Reserve online at nhnature.org or call 603-968-7194 x 7. See description for September 20.</i>
OCTOBER 11 TUESDAY	Science Pub Outdoors: Climate Change and People 5:00 to 6:00 p.m. food and socializing; 6:00 to 7:00 p.m. lecture For adults <i>Cost: No charge to attend but reservations are required. Reserve online at nhnature.org or call 603-968-7194 x 7. See description for September 20.</i>
OCTOBER 29 SATURDAY 9:30 a.m. to 4:00 p.m. For all ages	Naturally Wild Halloween Join us to celebrate Halloween with Creatures of the Night animal presentations throughout the day at the Amphitheater. See the animals along the trail enjoy 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>Included with trail admission. Last trail admission is 3:30 p.m.</i>



ON THE TRAIL

Up Close to Animals
- Saturdays and
Sundays at 11:00 a.m.
and 2:00 p.m. at the
Amphitheater through
November 1.

HOMESCHOOL SERIES: EARTH CYCLES NOVEMBER THROUGH APRIL

This educational series is specifically for homeschooled students. Programs focus on the cycles you can observe in the natural world. Topics include rock cycle, water cycle, life cycles, and more!

The program includes a series of monthly one-hour, in-person programs held outdoors, with a 30-minute virtual wrap-up the following week featuring a live animal.

In-person Outdoor Program: First Thursday of the month, 10:00 to 11:00 a.m.

Two sessions offered: Ages 4 to 6 or ages 7 to 10

November 3, December 1, January 5, February 2, March 2, April 6

Virtual Wrap-up with a live animal: Second Thursday of the month, 10:00 to 10:30 a.m.

For all ages

November 10, December 8, January 12, February 9, March 9, April 13

Cost per session: \$9/member child; \$11/non-member child

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

SQUAM LAKE CRUISES

Discover Squam

Through October 14: Daily at 11:00 a.m. and 1:00 p.m. | Wednesdays and Sundays also at 3:00 p.m.
Enjoy Squam Lake and learn about the natural history, wildlife, culture, and people of the lake.

Cruise with a Naturalist

Through October 6: Tuesdays and Thursdays at 3:00 p.m.

See wildlife on every memorable trip with a Science Center naturalist. Cruise route changes to maximize wildlife observations.



Squam Lake Cruise Rates:

Adult: \$27; Senior (65+): \$25; Youth (up to age 15): \$23

Members receive a \$4 discount per person.

Not recommended for children under age 3.

Cruises may be cancelled if minimum attendance (4 passengers) is not met.

Conveniently purchase cruise tickets online at nhnature.org

GREEN TIP: SUSTAINABLE SHOPPING

By Marketing Intern Niamh King-Sanders

How can you shop sustainably to decrease your carbon footprint, reduce waste, and support the local community? Some tips:

Reusable Bags: Always take your reusable bags with you to any store. Many stores encourage this practice and some states require it. Reduce plastic waste and show off your funky bag design!

Shop Locally: Support the local community and the environment. When you purchase locally grown produce, transportation costs are minimized and the local community is supported.

Buy Seasonally: In New Hampshire, fall is a great time to stock up on apples, beets, and winter squash. Learn about what produce is available in different seasons. Check out the NH Department of Agriculture's Peak Harvest Guide.

Buy Pre-Loved Items: Many items from clothing to furniture and decor can be found at thrift stores or used good stores. Many of these stores also support local charities with the proceeds. Check one out in your area and avoid buying new every time.

Consume Less: One very simple solution that doesn't require anything is to simply consume and buy less.



Giant animatronic insects immerse you in a world of invertebrates to learn about the important roles they play in preserving the balance of nature.

Included with trail admission. Open daily through September 30.

Generously sponsored by:



EVERSOURCE

SCHOOL PROGRAMS - MAKE LEARNING COME ALIVE FOR ALL AGES!

Plan now for your fall (and even spring 2023) field trips at the Science Center! In-person outdoor programs at the Science Center or at your school are available for preschool through high school.

Learn more at nhnature.org/teachers



SQUAM LAKES NATURAL SCIENCE CENTER CELEBRATES INSECTS AND ENVIRONMENTAL EDUCATION



On a hot and steamy night in July, Science Center insects and animals came out for a picnic...the 2022 Family Picnic! More than 250 people joined the festivities on July 23. Attendees enjoyed food from The Common Man and food trucks Cheese Louise and Gyro Spot; dessert from Sub Zero Nitrogen Ice Cream and the Joye-ful Cookery; and refreshments including bug juice and craft beers compliment of several New Hampshire breweries.

Generations of families were entertained by live animal programs, lawn games, and a variety of folk music songs from Green Heron. Insect tattoos and digging for insects were popular among the children, but the real thrill of the evening was the insect tasting. Roasted crickets flavored with honey mustard, spicy sriracha, and BBQ seasoning were available for sampling and many stopped by to take, and some even sampled, the culinary treat.



The Family Picnic is a new spin on the Science Center's annual fundraising event designed to bring nature lovers together to celebrate the Science Center and support its animals and environmental education programs.

We are grateful to the many businesses and individuals that provided generous support.

Individual sponsors and donors include: Kevin and Nancy Barrett; Lisa and Phil Bennett; Sarah and Win Brown; Cathy and Rob Denious; Diane Garfield and Peter Gross; Barbara Nan Grossman; Joan and David Martin; Deb McNeish; Tashia and John Morgridge; Richard Starbuck and Deanne Hall; Robert and Carol Stewart; Bill Sullivan; and Pam and Larry Tarica.

Business sponsors and donors include: The Common Man; Dunkin' Plymouth, Ashland, Campton, and Lincoln; Holderness Harbor; Irwin Automotive Group; Lakes Region Tent & Events; and Squam Lakes Financial Advisors.



Several New Hampshire Breweries sponsored the beer including: Lithermans Limited Brewery, Moat Mountain Brewing Company, Tuckerman Brewing Company, Twin Barns Brewing Company, and White Mountain Brewing Company.

This event would not have been possible without a tremendous amount of help from volunteers, staff, and especially Picnic Committee members: Lisa Bennett, Cathy Crane, Cathy Denious, Liz Hager, Pam Stearns, Kathy Weymouth, and Marcia Zahr.



FROM THE HERON'S NEST

Construction week was a favorite at Blue Heron School during the summer. Children created shelters out of a variety of materials, including rolls of duck tape, then went out on the trail to see the shelters animals make, like the beaver lodge on the deck of the Water Matters building.



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

FROM THE ARCHIVES:

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

An aerial view of the Science Center in 1984. Webster Education building on the left.



2022 ANNUAL MEETING FOR MEMBERS

Members and their guests enjoyed complimentary coffee, juice, bagels, and fruit outside on the Gala Lawn Saturday, August 13 prior to the business meeting.

Chair Justin Van Etten asked the quorum of members present to approve the 2021 virtual Annual Meeting minutes, which were accepted unanimously. Treasurer Anne R. Lovett presented the 2021 Finance Report.

Chair Justin Van Etten thanked outgoing trustees Laurie Beeson, Laurie Burke, Ken Evans, Emily Preston, and Dick Starbuck for their Board service.

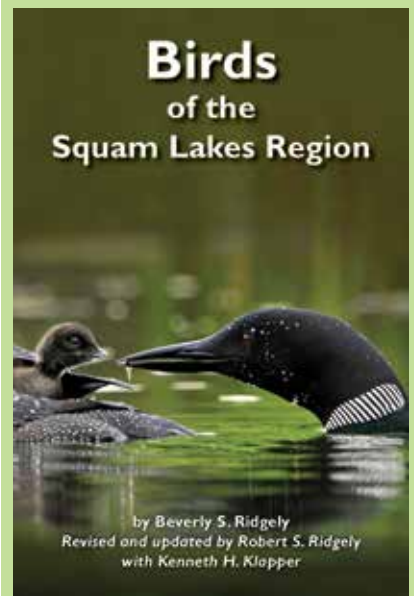
Justin then introduced trustees nominated to serve another three-year term including Kevin Barrett, Sarah Brown, and Anne Lovett. All were unanimously approved. He also introduced new trustees including Lisa Doner, Cris Salomon, and Frank Stevens. The new trustees were all approved. Justin also introduced the slate of trustee officers including Sarah Brown, Chair; Justin Van Etten, Vice Chair; Anne R. Lovett, Treasurer; and Susan Lynch, Secretary. The officers were approved.

Justin turned the meeting over to Sarah Brown who introduced Executive Director Iain MacLeod to recognize staff milestones. Iain recognized Kim Beardwood Smith, Development Officer, and Sarah Wall, Visitor Services Manager, both for five years of service. He also thanked Carol Raymond, Volunteer Manager, for 15 years of service.

Iain also presented the Horizon Award to Ken Evans for his contributions to the Science Center. The Board of Trustees of the Science Center established the Horizon Award in 1995 as a means to honor exceptional and extended service to the center. During his time on the Board Ken served as Board Chair and also chaired the Strategic Planning Committee and the Education Matters Capital Campaign. Ken's steady hand helped guide the Science Center through acquisition of the property for Lake Cruise Headquarters and the sale of the Holderness Inn. His dedication to the Science Center is an inspiration to many.

Iain concluded by reviewing the major events of 2021. Sarah Brown took over to talk about the Science Center's future Strategic Plan and thanked people for attending.

Audited Financial Statement and the 990 Tax Return are available at nhnature.org/support.



Available at
nhnature.org/books
All proceeds benefit the
Science Center.

OPENING A WINDOW TO THE NATURAL WORLD

Annual Fund



In the coming weeks, you can expect a letter from us asking for your support for the 2022 Annual Fund. The annual fund is an important component to the overall financial health of the Science Center and our mission to advance understanding of ecology by exploring New Hampshire's natural world.

We reach out to you because we know you share the same values and want to continue to support the Center's ongoing work of educating the public about the natural world. We do this in a number of ways: welcoming hundreds of thousands of trail visitors to learn about New Hampshire's animals over our 50-plus years; providing floating classrooms for Lake Ecology programs through our lake cruises; enriching field trips for school children; creating the first nature-based Montessori early learning program in New Hampshire; guided nature walks through Kirkwood gardens; and community outreach education. Your donation will enable us to continue our robust education to the public and support our live animal exhibits.

Here are some of the ways your donation has an impact:

Your donation of \$10 buys plants for our amphibian terrariums.

Your donation of \$100 fills up a pontoon boat to take students on a lake education program.

Your donation of \$250 buys specialized heat lamps for our reptiles and amphibians.

Your donation of \$500 helps low-income families and veterans receive deeply discounted trail admission throughout the season.

Your donation of \$1,000 supports a traveling educational exhibit like Giant Insects.

You can give early by going to nhnature.org/support/annual_fund.php. You can also view Audited Financial Statement and 990 Tax Returns at nhnature.org/support. On behalf of the board, staff, volunteers, and animals thank you in advance for your consideration.

Opening a Window to the Natural World is written by Development and Communications Director Amanda Gillen. You may contact Amanda at 603-968-7194 x 134 or amanda.gillen@nhnature.org.

BONUS MEMBER BENEFITS

	
SEPTEMBER	OCTOBER

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. Visit nhnature.org/membership for full details and website links where you may check organization hours and directions as well as any additional reservation or safety policies/protocols.

Remember as a Science Center member, you also receive discounted admission all year at participating ANCA organizations. Visit the Membership section of nhnature.org for details.

These generous donors made tribute gifts, which were received between April 1 and June 30, 2022:

In Memory of Rosie Angell
Nancy Conklin
Liz and Dennis Hager

In Memory of Marlene Couture
Susan Lavin

In Honor of Brenda Erler
Sarah and Win Brown
Janet and Rich Cocchiario
Bill and Nancy Dailey
David and Sylvia Detscher
Donna Goldberg

John and Phee Grandbois
Liz and Dennis Hager
Dan and Susan Kemp
Bill and Linda Lee
Missy Mason
Sally Shipton and Jim Nourse

Diane Potter
Sydney Stewart
Robert and Joanna Tuveson
Bill and Bonnie Webb
Tracy Webster-Babcock
Bruce and Betsy Whitmore

In Memory of Patricia Keiver
Robert Keiver and Pamela Rodgers

In Memory of Helen Mathieson
Margaret and David Conner

In Memory of Robert A. Mortoro
J. Smith

In Memory of Lorraine Novinski
Anonymous

In Memory of William O'Grady
Maranda Smith

In Memory of Doris and Bill Phippen
Beth Phippen-Lepine

In Memory of Shirley Stockwell
Anonymous
Mark Stockwell
Joyce Titus
Sue Weeks and Family

In Memory of William Stratton
Masoud and Bonnie Keyan

In Honor of Carol Thompson
Sarah and Win Brown

In Memory of Elizabeth Ford Wood and Rawson Wood
Ellen Barth



SPONSOR A SPECIES!

Your sponsorship helps provide food, health care, enrichment, and housing for the animals. It's a unique way to learn about a particular species and help us care for our live animals.

Visit www.nhnature.org/support

TRAIL'S END



How honored I am to have been elected as Chair of the Science Center's Board at our annual meeting a few weeks ago. Little did I think when my husband and I started walking the Center's trails in the 1980s with our three little girls that I would ever play such a role. Like so many of you, this special place still looms large in our life – in many ways, we value it even more at present given its focus on environmental education, conservation, and caring for this precious region.

I was thinking recently about what has fed my life-long interest in the natural world and its animal populations, and must in part credit my parents because they almost never met an animal that they didn't respect or enjoy – except for the raccoons in the attic who could never be coaxed out. For example, I recall that as a young child, our family somehow inherited six baby ducks one Easter and our greatest delight was letting them swim in a nearby stream and, of course, naming them. My mother led the charge with the following: Deduct, Detail, Defeat, Delight, Demand, and Detour. I was imprinted for life...

And then there were the years when the children were beginning school in Washington, DC. I noticed immediately that most classrooms had no animals in them at all and that a number of children - and even a few teachers! - had never touched an animal at all, ever. This simple observation led me to create a volunteer program at the school to place an animal in each classroom, which in turn led to more teaching about how to care for, respect, and enjoy our fellow creatures. (At some other point, I will also tell you about who often ended up caring for these critters during school breaks...) Many happy weekdays began for me with dropping my children off in their classrooms and then changing cages, clipping toe nails, and scrubbing turtle and fish tanks before heading off to a proper office job downtown with not a feathered or four-legged creature in sight.

It seems things have not changed much! My days are now often peppered with meetings, calls, and a few deadlines – but how lucky I am to also be a Science Center docent and occasionally take an owl, turtle, or other lovely animal out on the trail to meet our many visitors.

In future columns, I look forward to addressing weightier matters like our new five-year vision for the Science Center and emerging plans for our animal care facilities. In the meantime, my thanks again for the trust you have all placed in me.

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.

RAPTORS *continued from page 1*

to work a little harder than their buteo counterparts because, proportionally, they lack the surface area in their wings and tail to rise as efficiently on thermals. Sharp-shinned Hawks have a “flap-flap-soar” pattern and rise in smaller circles. They are headed for southern parts of the United States as well as Central America, where their prey is also winging its way.

Moving into the realm of falcons, the American Kestrel is the smallest falcon in the northeast, after the Merlin and Peregrine Falcon. Falcons, in general, are built for speed, diving swiftly to catch prey. In the case of kestrels, prey ranges from mice and insects to small birds. Kestrels often hunt from an elevated location like a tree perch or telephone line. If they are searching over a field, these birds have the added advantage of being able to hover, utilizing special feathers at their mid-wing joint to stabilize themselves. From their vantage point in the sky, kestrels survey grassy areas, spotting prey otherwise hidden. When a mouse or insect is detected, the kestrel dives down like a feathery bullet, grasping its prey in strong talons. Clearly snow cover changes this whole scenario.



American Kestrel

However, with the advent of climate change bringing milder winters, kestrels have adopted a shorter migration. Now many have the ability to spend winter months in the southern United States rather than journeying into Central America.

Watching for raptors can be as simple as keeping your eyes to the sky in the fall, especially after a weather system passes through. Circulating air then flows from north to south, giving raptors a boost while the sunny weather feeds thermals of rising air. Let the raptors surprise and engage you with their numbers and variety. What will you see?

RAPTOR QUIZ

1. What wind direction and sky conditions are ideal for raptors migrating south?
2. What is the name given to raptors rising together on thermals of warm air during migration.
3. How did the Sharp-shinned Hawk get its name?
4. What is New Hampshire's smallest falcon?
5. How has climate change affected how far kestrels migrate south?

Answers:

1. Light wind from the north and sunny skies
2. Kettle
3. It is named for the ridge running down the front of its leg.
4. American Kestrel
5. With warmer winters, they are not migrating as far south.



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