



TURKEY VULTURES: HIDDEN TALENTS

By Margaret Gillespie

Could turkey vultures ever be beauty contest candidates? Probably only in the eyes of the beholder. Their bald red heads resemble those of wild turkeys, which explains the common name. How about models of supreme engineering? Class act! Scavengers often get relegated to the bottom of the popularity list but let's turn the tables on that concept. Tips from a turkey vulture (*Cathartes aura*) could help us save energy or even keep the environment cleaner. Let's soar with a turkey vulture and learn some tricks of its trade.



Solar energy starts a turkey vulture's day. Overnight, they conserve energy by lowering their body temperature by about eleven degrees F, rendering them mildly hypothermic. Since they typically roost in groups, at sunrise all the vultures open their wings with backs to the sun, and take in rays. When the birds reach launching temperature, they are off for a day of gliding as they search for just the right meal. You can recognize them as they soar, often in groups, in a characteristic dihedral or "V" shape.

How does this endless soaring work? With a wingspan of five to six feet, surface area is abundant and they use it to their advantage. Finding thermals, or rising columns of air produced by the sun's heating of the Earth, turkey vultures accept a free ride. As long as the lift from rising air is stronger than the pull of gravity, they get something for nothing. To sweeten the situation, turkey vultures are

relatively light for their size, weighing about two to four pounds. In contrast, bald eagles weigh from about six and a half to 14 pounds. In flight, the feathers at the wing tips of turkey vultures resemble spread fingers. The aerodynamic benefit is more stability in the air and the ability to glide at slower speeds. Turkey vultures have a characteristic "rock and roll" as they dip to turn or to keep within their thermal.

Winging low above the Earth, turkey vultures can certainly spot carrion visually. However one of the crowning adaptations of turkey vultures gives them an advantage over other vultures. That's their acute sense of smell. The large nostrils create a visible opening, crossing through bone on the beak. In most birds, brain space is predominantly for eye function. In turkey vultures, exceptionally large olfactory lobes rule, giving them extraordinary smelling abilities. In research, including scientists from the Smithsonian Institute, scientists discovered an unusual abundance of mitral cells within the olfactory lobes of these birds. Mitral cells are key connectors, transferring scent evidence to the brain. For turkey vultures, finding a dead animal hidden below the forest canopy is all about smell, in this case, detecting gases wafting skyward from the deceased creature. In fact they can sense the gases from a number of miles.

For these birds, however, their mantra is not "stinky is better." Turkey vultures prefer meals recently dead but soft enough to open with their relatively weak beaks and talons. Powerful digestive enzymes and an exceptional immune system protect these vultures from disease.



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2018 Summer Splash

Enjoy dinner by The Common Man and an open bar (wine and beer). Dance to the Annie and the Orphans. Bid on unique items at the live and silent auctions. Watch for your invitation in the mail or reserve your tickets or table online at www.nhnature.org/gala.php.
Cost: \$50/person



Saturday, July 21

FORGING TRAILS: A NEW BLUE HERON IS TAKING FLIGHT



*"The child is both a hope and a promise for mankind."
Maria Montessori*

Eight years ago we started a "pilot project" we called the Blue Heron School. When it opened it was the first and only nature-based, Montessori early childhood learning center in the state. That pilot has grown into one of our signature programs loved by the students, their parents, and the community; a program that exemplifies our mission.

In the words of one parent: "[My child's] work with the naturalists...has inspired in her a natural sense of compassion and conservation that I am consistently surprised by and grateful for... wherever her education takes her... her success and ability will easily be traced... to her first steps along the wooded paths at Blue Heron School."

After eight years of cramped operations in the repurposed classrooms in the lower floor of the Trailhead Gallery and several years of turning away families because we are at our maximum capacity, we are planning a new custom-built Blue Heron School.

We have done exhaustive research into various site options and are zeroing in a location along the north edge of our campus. Architects Rob Turpin and Sonya Misiaszek are designing the building and working closely with Blue Heron School Director Laura Mammarelli. In the coming months, a construction team will be selected and groundbreaking will take place, with a goal of occupying the building in 2019.

New committees are being formed and the Board will officially vote on undertaking a new capital campaign at their May meeting. A significant lead gift has launched our efforts. We will request gifts to match it in the coming months. Please let us know if you would like to learn more. We will be happy to come talk with you in person.



The new Blue Heron School will double its capacity and allow us to provide an unmatched early childhood learning experience for many more children for years to come. A new scholarship fund will also enable more families to participate who otherwise might not be able to afford this option for their children.

The Blue Heron School has become such a wonderful part of the Science Center. I am excited to see it truly take flight.

Iain MacLeod, Executive Director
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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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NEWSBRIEFS

- After eight years, Facilities Supervisor Dean Smith resigned at the end of April to join Ames Associates in Meredith. Dean's strong education, skills, and experience, especially in multimedia, post-production, and drafting, made him a valuable employee. Dean will be missed for his willingness to help, his kindness, and strength. Keith Hosking moved from Animal Care to become Facilities Assistant. Keith's understanding of the workings of the Science Center behind the scenes will allow a smooth transition.
- *The People's Forest: A Centennial Celebration of the White Mountain National Forest* will be on view at Plymouth State University's Museum of the White Mountains from May 16 to September 12. The Mead Discovery Place will host a traveling exhibit of *The People's Forest*, which shares elements of the full exhibit from May 16 until late June. It tells stories of the past, present,

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TRUSTEE PROFILE

DAVID MARTIN



My wife, Joan, and I have been coming to the Lakes Region since we honeymooned in the area in 1969. After renting for one or two weeks on a variety of lakes, we purchased a cottage on Squam in 1984. Our first exposure to the Science Center likely occurred in the summer of 1984, when we thought we should find out about the family of snakes in the rocks around our dock. Joan took pictures and went to the Science Center where we were assured these water snakes would not harm us as long as we didn't back them into a corner.

Our visits to Squam over the next 24 years were relatively short as our home base is in the Philadelphia suburbs. As our boys grew, it became more difficult to find time to get away. Once the boys left the roost, my job took us to Pittsburgh and then Minneapolis. We kept track of what was going on at the Science Center but didn't have a chance to become active participants. I remember reading *Tracks & Trails* over the years and being impressed with the mission and the organization.

When I retired in 2008, I asked Iain if we could meet to discuss how I might get involved. In short order, I had lunch with Iain and Peter Wood, then Board Chair, and soon I was involved with some board committees. Also, during the summer of 2008, we met Tom Klein while he was checking on some tour boats as they headed out. I commented to him that I'd be interested in volunteering for that type of duty.

The past ten years of involvement with the Science Center have been rewarding. I have met and worked with people from many walks of life and experienced many situations new to me. During my time on the board we raised funds through a capital campaign to develop the Water Matters Pavilion and Wood Energy plant, as well as several other enhancements. I had never been involved in fundraising or in the behind-the-scenes effort it takes to bring a conceptual idea to finished exhibit. The Science Center has given me those opportunities.

This year will be my tenth season as a tour boat captain. Who would have thought I'd have the chance to share the natural beauty of the lake with so many people?

While the Science Center's stated mission is to bring people nearer to nature there is another significant by-product as well. The Science Center provides the opportunity to meet people one would not otherwise meet and to contribute time and skills in a meaningful way.

By the way, the water snakes continue to thrive on our property after 34 years and have not once physically harmed anyone – they do surprise people from time to time, which gives us the opening to explain our first encounter with the Science Center.

Dave and his wife Joan are from Malvern, Pennsylvania. He graduated from Lehigh University with a BS in Accounting and retired from KPMG in 2008 after 39 years. Dave was elected to the Science Center's board in 2010 and was Board Chairman from 2013 to 2016. He was also chair of the Governance Committee and currently serves as Board Secretary and on the Finance and Buildings and Grounds Committees. In 2009, Dave joined the Squam Lake Cruises staff.

NEWSBRIEFS *continued from page 2*

and future of the Forest and how stewardship lies at the heart of the Forest's creation.

- Education staff members Audrey Eisenhauer, Margaret Gillespie, Jeremy Phillips, and Carol Raymond attended the New Hampshire Environmental Educators annual meeting held in March at Antioch University in Keene. This daylong training was on the North American Association for Environmental Education's new Community Engagement Guidelines, which focus on community wellness.
- Naturalist Eric D'Aleo attended the Saving Special Places Conference in Alton in April and took part in workshops on using mobile technology, integrating arts and science, and creating stories. Eric will use the information he learned for the Trail Camera STEM Education project he is spearheading (see page 4).
- Education Director Audrey Eisenhauer joined the newly formed Climate Change Education Collaborative organized by Shelburne Farms in

Vermont. The Collaborative's goals are to come together as a community of practice to elevate its work, engage in professional development, and increase its members' collective impact in the region.

- Three program interns arrive in May to help with education programs, animal care, and children's programs as they learn about working at an environmental education center. Ashley Bray is a junior studying Wildlife Biology at the University of Vermont. She has also worked as a Laboratory and Research Assistant. Ashley has trained Siberian sled dogs. She grew up in Alexandria. Lydia Chaster is from the "Show Me State" where she is a junior at the University of Missouri. She is pursuing a degree in Animal Science with minors in Captive Wild Animal Management and Business Administration. She previously worked as a Montessori teaching aide, as an animal hospital assistant, and taking care of dogs. Lydia hopes to practice Veterinary Medicine. Junior Maggy

Pollicino is studying Sustainability Studies at Hofstra University. Maggy has trained service dogs for 10 years, but hopes to work with big cats. She also has experience in musical theater and has worked with disabled children and adults on personal projects and theatrical performances.

- Marketing Intern Michelle Neal is a sophomore at Unity College in Maine majoring in Wildlife Biology and Environmental Writing and Media Studies. She is the editor in chief of the student publication, *Unity Commons*. She is passionate about the environment, writing, and photography and wants to help close the gap between science and the public.
- Guided Discoveries Intern Eva Orsini is a junior at Eckerd College in Saint Petersburg, Florida majoring in Environmental Studies. Eva has volunteered with Edible Peace Patch whose mission is to promote healthy eating in children by cultivating an interest in gardening. She will be assisting Corrie Kinder, Blue Heron

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NATURALIST'S CORNER

STORIES TO TELL

By Eric D'Aleo



Wild black bear seen in an image from a trail camera on Science Center property.

Many of you may have heard about the trail cameras here. I placed cameras on our property two years ago and since then have reported findings on our blog. What began with a long-term loan of six cameras in 2016 to learn what animals were on the property, has grown into a comprehensive study of the entire property. Initially, the cameras were placed on the Ecotone Trail and the fields and forests directly adjacent to it. As images of animals were captured, an idea formed: to study what animal species were on the property, the natural communities they used, and the use of each community by animals as the seasons changed.

Last year, nine cameras were placed in seven ten-acre plots spread throughout the property in various natural communities, including fields, forests, streams, and vernal pools. Thirty-two different animal species were caught on camera, ranging in size from moose to mouse. There was variation in animal activity at each location, which changed with the seasons. Some locations were used by a species at different times of the year, while other locations were used all year long. Some animals were seen at each camera location, while other species were seen at fewer locations.

This year, we were able to purchase additional cameras to monitor the entire property through funding from the Davis Conservation Foundation and the Dorr Foundation. These grants also allow us to create a pilot STEM-based education program for school groups. Students will ask their own scientific questions and answer them using data provided by the trail cameras. Students will analyze their data, construct graphs, and use Arc GIS maps, along with photo and video images from the cameras, to draw conclusions.

A new interactive exhibit is underway that will explain to visitors the goals of the Trail Camera Project and its results. It will highlight four species: white-tailed deer, black bear, coyote, and red fox. The exhibit will be updated annually to keep it current. An interactive story map will make it possible to share project information online with a broader audience. It will also be linked to the Science Center's blog where updated camera sightings are posted.

This progress would not have been possible without the help and support from the Davis Conservation Foundation, the Dorr Foundation, John Egolf, Amy Reardon of Greentek Mapping Services, and Reconyx Trail Cameras. With their help, along with assistance from a corps of volunteers, I look forward to sharing additional Stories to Tell, bringing our visitors and members Nearer to Nature.

FROM THE HERON'S NEST

By Laura Mammarelli



Blue Heron School children and teachers enjoyed having music teacher Rosie Enright visit once a week over the winter. She teaches a program called Music Together, with songs, instruments, materials, and activities that go with the music. Music Together is a research-based, developmentally-appropriate curriculum that is fun and engaging for the children. All families also received a cd and book of the

music so they can share the songs at home and in their cars. Children are developing their musical abilities and having great fun.

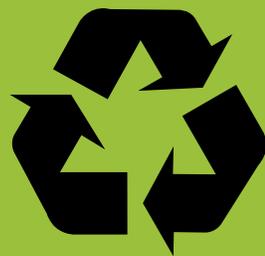
Blue Heron School, a nature-based Montessori school for children ages three to six, operates Monday through Friday, 8:30 a.m. to 1:00 p.m., or 8:30 a.m. to 3:30 p.m., September to June. For more information please visit www.nhnature.org/programs/blue_heron_school.php or contact Laura Mammarelli, Blue Heron School Director, at 603-968-7194 x 40 or blueheron@nhnature.org.



GREEN TIP: REDUCING AND REUSING

The most effective way to reduce waste is to not create it in the first place. Making a new product requires a lot of materials and energy. When we use less and reuse things, it saves natural resources, protects the environment, and saves money.

You've probably heard about some places prohibiting plastic bags. It's a good idea because plastic truly is a problem. The Howling Coyote Gift Shop has sold reusable shopping bags for years (we also offer paper bags). Many of us make the choice to take our own bags to our local farmer's market or grocery stores. But we may still use plastic bags for produce purchases. This year, the Howling Coyote Gift Shop is pleased to offer reusable produce bags for sale. These bags are washable, long lasting, and allow your produce to "breathe." Food can be stored in them too, which increases produce life and reduces food waste.



KIRKWOOD GARDENS PLANT SPOTLIGHT

By Brenda Erler

Gentian Sage

Salvia patens 'Patio Deep Blue'

Culture: Grow as an annual in average, evenly moist, well-drained soil in full sun or part shade. Deadhead to encourage continuous bloom.

Bloom: June to frost. The bright blue, tubular, two-lipped flowers are very attractive to bees.

Height: 10 to 12 inches.

This *Salvia* originates in central Mexico and is drought and heat tolerant. Its long bloom time, beautiful color, and compact nature makes it a great addition to beds, borders, rock gardens, and containers. Better yet, it is very attractive to butterflies and hummingbirds.

Kirkwood location: Lower garden on Route 3 side.



Rhododendron maximum

Rosebay Rhododendron

Culture: Prefers acidic, organically rich, moist, well-drained soil in part shade to shade.

Bloom: rose-pink to white flowers appear in late spring to early summer.

Height: 10 to 15 feet tall, 10 to 15 feet wide.

This native understory shrub has large, glossy, strap-like evergreen leaves and a lovely loose and upright form. The Genus name comes from the Greek *rhodo* for rose and *dendron* for tree. Very useful in native and woodland gardens or in shrub borders.

Kirkwood location: upper garden on driveway side and at back of the Inn.



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

VOLUNTEER OPPORTUNITIES

Teen First Guides Training - June 28, 29, 30 - 10:00 a.m. to 4:00 p.m.

Adult Docent Training - June 19, 20, 21, 22 - 3:00 to 8:00 p.m.

For more information or to register for training, contact Volunteer Manager Carol Raymond at carol.raymond@nhnature.org or 603-968-7194 x 22.

Learn about becoming a volunteer at nhnature.org

NATURE TOURS

**Scottish North Highlands
June 14 to 27, 2019**

A new itinerary exploring the northern Highlands of Scotland.
Visit nhnature.org/programs.



NEWSBRIEFS *continued from page 3*

School Assistant Teacher/ Guided Discoveries Instructor. She looks forward to sharing her passion for the outdoors with Science Center campers this summer.

• Due to cold weather and snow, Clean Up Day was postponed for a week to April 28. Many thanks to a wonderful volunteer team! Plymouth High School Honor Society helped to clean up Kirkwood Gardens. Stonyfield Farms and Jill volunteers assisted with big tasks, such as raking the deer pen, spreading kiddie cushion, and digging a trench in the bear exhibit. Other clean up tasks were performed by volunteers from Hypertherm. Thank you to these generous businesses that gave in

kind donations to feed the volunteers: Bob's Shurfine Market, Ashland; Coca Cola Bottling Company of Northern New England, Belmont Hannaford Supermarkets, Plymouth and Meredith; E.M. Heath Supermarket, Center Harbor and Holderness.

• Dead River Company and New Hampshire Electric Co-op Foundation generously supported New Hampshire Day again this year on May 5. Dead River Company representatives shared energy efficient ideas with visitors. New Hampshire Electric Cooperative provided free admission to Co-op Members and employees. 2,054 people came out for the beautiful sunny day.

• Education Staff recently revised school program offerings to align with Next Generation Science Standards and NH Career and College-Ready Science Standards, the recently adopted science standards for formal education in New Hampshire. The revisions and resulting new programs will better meet the needs of teachers and students as they work to meet the new standards. Curriculum consultant Sarah Benton Feitlinger (shareitscience.com) helped revise follow up lessons and created new ones for teachers to use in the classroom.

CALENDAR OF PROGRAMS & EVENTS

Advance registration is required by noon the day before the program. If minimum enrollment is not met, programs may be cancelled. Walk-ins may be accommodated if space is available.

JUNE

<p>JUNE 2 SATURDAY 9:00 a.m. to 12:00 p.m. For all ages</p>	<p>Kirkwood Gardens Day Gain inspiration from Kirkwood Gardens and find beautiful plants for your own garden. Purchase fine perennials from a prestigious New England nursery and knowledgeable local gardeners. Peruse the silent auction of desirable plants and garden items and browse craft vendors. Enjoy beverages and baked goods for sale. All proceeds benefit Kirkwood Gardens, established 1995. Sponsored by: </p>
<p>JUNE 5 TUESDAY 7:00 p.m. For adults</p>	<p>Be a Bat Citizen Scientist Learn all about bats with Cynthia Nichols, conservation biologist and NH Bat Project volunteer. She will talk about New Hampshire's many species of bats, how bats help our forests and farms, the current status of bats, and most importantly, how you can be part of the NH Bat Project, a project of New Hampshire Fish and Game. The NH Bat Project brings citizen scientists together to help count summer bat colonies and conduct acoustic surveys. <i>Cost: No charge but reservations are required.</i></p>
<p>JUNE 9 SATURDAY For adults and families with children ages 12 and up</p>	<p>Annual Breeding Bird Census Session 1 - 5:30 to 8:00 a.m. Session 2 - 8:00 to 9:30 a.m. For over three decades Senior Naturalist Dave Erler has conducted a census in early June of bird species that nest on the Science Center campus. The census is done primarily by ear, listening for territorial songs of male birds, indicating probable nesting. This is a great opportunity to hone your bird song identification skills. The early session (5:30 a.m.) involves canvassing two forested zones, including Mt. Fayal. The later session (8:00 a.m.) covers fields, exhibit areas, and Kirkwood Gardens. Binoculars are available or bring your own. <i>Cost: No charge but reservations are required.</i></p>
<p>JUNE 11 MONDAY 9:30 to 11:00 a.m. For adults</p>	<p>Invasive Species Removal Work Day Learn how to identify and remove invasive plant species. We will begin each session with a brief introduction to an invasive species and then go out onto Science Center grounds to learn and practice techniques for removing that species from an area. Learn skills you can apply to removing invasive species from your own property. Refreshments will be provided to wrap up our work sessions. <i>Cost: No charge but reservations are required.</i></p>
<p>JUNE 13 WEDNESDAY 11:00 a.m. to 12:00 p.m. For ages 2 and 3</p>	<p>Nature Play Time Join us to explore the natural world with your little one! Using our five senses, we will investigate our surroundings in fields, forests, ponds, and streams. Please dress for the weather with clothes that can get wet and muddy! Adults get to play too. An adult must participate with children at no additional cost. <i>Cost: \$5/member child; \$7/non-member child</i></p>
<p>JUNE 29 FRIDAY 10:00 to 11:30 a.m. For all ages</p>	<p>StoryWalk™ Opening Celebration StoryWalk™ features Little Loon by Fran Hodgkins. Follow along as a baby loon grows and discovers the world around her. Learn about the adaptations making loons so perfectly suited for their life on the water and the threats facing these magnificent birds. Enjoy this fun outside family activity, rain or shine. Meet illustrator Karel Hayes and enjoy family activities and refreshments at the Opening Celebration. StoryWalk™ surrounds the Holderness Town Gazebo behind the Holderness Post Office at Curry Place. Presented in partnership with Holderness Library and Holderness Recreation Department. Open daily from June 29 through September 3. Sponsored by:  <i>Cost: No charge and no reservations required.</i></p>

JULY

<p>JULY 3, 10, 17, 24, 31 TUESDAYS 7:30 to 8:45 a.m. For adults</p>	<p>Yoga on the Deck Rise and shine with Vinyasa Yoga on the deck at Water Matters Pavilion. Stretch and renew while surrounded by the sights and sounds of nature. Led by local certified yoga instructors, this gentle flow yoga is appropriate for all levels. Bring a yoga mat, water, and bug spray. <i>Cost: \$13/member; \$15/non-member</i></p>
<p>JULY 3 TUESDAY 7:00 p.m. For adults</p>	<p>Wildlife Rehabilitation with the Center for Wildlife For more than 30 years, the Center for Wildlife in Cape Neddick, Maine has been caring for sick, injured, and orphaned wildlife until they can be released back to the wild. Learn about the ins and outs of wildlife rehabilitation, including what you can do if you find a sick, injured, or orphaned wild animal. <i>Cost: No charge but reservations are required.</i></p>
<p>JULY 9 MONDAY</p>	<p>Invasive Species Removal Work Day 9:30 to 11:00 a.m. For adults See description for June 11.</p>

JULY CONTINUED

<p>JULY 11 WEDNESDAY 9:30 a.m. to 5:00 p.m. For all ages Sponsored by:</p> 	<p>Pollinator Party Buzz over to the Pollinator Party, a celebration of the life and work of bees and butterflies, and caterpillars too! Bees and other pollinators play a major role in American agriculture by pollinating fruits, vegetables, nuts, and seeds. Pollinator Party brings together bees, caterpillars, beekeepers, flowers and more. Visit with local beekeepers and learn how to raise your own bees. See the bee houses in Kirkwood Gardens, learn about plants that attract pollinators, and find out about native bees. Make a wildflower seed bomb to start your own pollinator garden at home. Visit with The Caterpillar Lab to meet a variety of live native caterpillars. See the full schedule at nhnature.org.</p> <p>The Caterpillar Lab, 10:00 a.m. to 2:00 p.m. Get up close and personal with live caterpillars! Join The Caterpillar Lab as they share their knowledge and love of these fascinating insects through displays of native New England caterpillar species on branches of their native New England food plants. <i>Cost: \$5/member or \$18/member family; \$7/non-member or \$25/non-member family</i></p> <p>Attracting Pollinators Plant Walk in Kirkwood Gardens with Brenda Erler, 1:00 to 2:00 p.m. Join Gardens and Exhibits Assistant Brenda Erler for a stroll through Kirkwood Gardens to learn about the variety of plants you can grow in your own garden to attract pollinators. Learn what grows best in shade or sun and the variety of butterflies commonly attracted to the plants in Kirkwood Gardens. <i>Cost: included with trail admission</i></p>
<p>JULY 11 WEDNESDAY</p>	<p>Nature Play Time 11:00 a.m. to 12:00 p.m. For ages 2 and 3 <i>See description for June 13.</i></p>
<p>JULY 14 SATURDAY 7:00 p.m. For adults</p>	<p>Belle's Journey Osprey expert, Rob Bierregaard will describe the science of his satellite tracking studies of Osprey migration and what's been learned about how naive Ospreys find their way to South America and back - without a map! Rob and Executive Director Iain MacLeod have worked together for several years, satellite tagging Ospreys in New Hampshire. They also teach a class called <i>Raptor Rapture</i> on National Audubon's Hog Island off the coast of Maine. Rob will also chronicle his own journey from the day someone suggested he write a kids' book about Belle, one of his Ospreys, to having the book in his hands. <i>Cost: No charge but reservations are required and space is limited.</i></p>
<p>JULY 20 FRIDAY 9:30 to 11:00 a.m.</p>	<p>All About Coyotes For families with children ages 5 and up Coyotes are fascinating creatures. Learn about the adaptations that make these clever canines successful in the wild. Experience life as a wild coyote through outdoor activities and games. End by visiting with a live coyote and participating in the enrichment and training provided for our captive animal ambassadors. <i>Cost: \$8/member; \$10/non-member</i></p>
<p>JULY 21 SATURDAY 5:30 p.m.</p>	<p>Summer Splash Help us celebrate Blue Heron School! <i>See page 1 for more information.</i></p> 
<p>JULY 24 TUESDAY 9:00 to 11:00 a.m. For ages 15 to adult</p>	<p>Nearer to Nature Walk: Wetland Communities of Belknap Woods Explore Squam Lakes Association's Belknap Woods with Naturalist Margaret Gillespie, author of the Science Center's book, <i>Nearer to Nature</i>, and Lakes Region Conservation Corps member Ben Grunwald. This 90-acre forest, located at the mouth of Dog Cove in Center Harbor, features wetlands teeming with wildlife, including beavers and amphibians. Margaret will help you discover wildlife sights and sounds, along with unusual flora. Ben will introduce Citizen Science programs to help scientists monitor amphibian populations. <i>Cost: No charge but reservations are required.</i></p>
<p>JULY 25 WEDNESDAY 9:30 a.m. to 5:00 p.m. For all ages</p>	<p>Christmas in July for the Critters Learn how animal care staff provide a rich and stimulating environment for our animal ambassadors through daily enrichment activities. Throughout the day, Up Close to Animals presentations will focus on enrichment techniques and special interactive demonstrations. Visit the Giving Tree to make the animals' wishes come true! Select an ornament featuring an enrichment toy and make a donation to allow the Science Center to purchase it. Docents will be on hand with touchable objects and to answer questions. Sponsored by: Plymouth Animal Hospital. <i>Cost: included with trail admission</i></p>
<p>JULY 26 THURSDAY</p>	<p>Invasive Species Removal Work Day 9:30 to 11:00 a.m. For adults <i>See description for June 11.</i></p>
<p>JULY 28 & 29 SATURDAY AND SUNDAY 8:30 a.m. to 4:00 p.m. For adults</p>	<p>Teaching and Learning with Monarch Butterflies Join the Monarch Teacher Network for this two-day workshop combining classroom and field experiences. Pre-K through 12th grade educators will learn essential skills in literacy, math, science, geography, technology, Spanish, the arts, and social studies through the captivating story of monarchs. Participants completing the workshop will have all materials needed to bring this exciting and dynamic subject into their homes, classrooms, or non-formal education settings. <i>Cost: \$105/person</i></p>

AUGUST

AUGUST 1 WEDNESDAY 10:00 a.m. to 12:00 p.m.	Taking Care of Squam: Lake Cruise with Squam Lakes Association For ages 12 to adult Take a cruise and discover how the Squam Lakes Association is monitoring Squam Lake and combating some of the lake's challenges. See Millie, the milfoil control boat, featuring the Diver Assisted Suction Harvester, in action. Try your hand at water quality monitoring. <i>Cost: \$23/member; \$27/non-member</i>
AUGUST 7, 14, 21, 28 TUESDAYS	Yoga on the Deck 7:30 to 8:45 a.m. For adults <i>See description for July 3.</i>
AUGUST 8 WEDNESDAY	Invasive Species Removal Work Day 9:30 to 11:00 a.m. For adults <i>See description for June 11.</i>
AUGUST 8 WEDNESDAY	Nature Play Time 11:00 a.m. to 12:00 p.m. For ages 2 and 3 <i>See description for June 13.</i>
AUGUST 10 FRIDAY 10:00 to 11:30 a.m.	Aquatic Exploration Equipment Make and Take Workshop For families with children ages 6 and up Summer is a great time to explore our ponds, lakes and streams. Investigate a pond in search of minnows, crawfish, tadpoles, and more. Then build your own aquatic viewer and funnel trap from recycled materials to find out what lives in an aquatic community near your home. <i>Cost: \$8/member; \$10/non-member</i>
AUGUST 11 SATURDAY 8:30 to 10:00 a.m. For members	Annual Meeting for Members Enjoy a complimentary continental breakfast before the business meeting, starting at 9:00 a.m. Business includes electing officers and trustees; honoring retiring trustees; recognizing employee service; and presenting the Horizon Award. Election slate and biographies of nominees will be posted after July 1 to nhnature.org <i>Cost: No charge but reservations are requested.</i>
AUGUST 13 MONDAY	All About Coyotes 9:30 to 11:00 a.m. For families with children ages 5 and up <i>See description for July 20.</i>
AUGUST 15 WEDNESDAY	Invasive Species Removal Work Day 9:30 to 11:00 a.m. For adults <i>See description for June 11.</i>
AUGUST 16 THURSDAY 9:00 to 11:30 a.m. For ages 15 to adult	Nearer to Nature Walk: Squam Lakes Geology from Rattlesnake Mountain Uncover the geologic story of Squam Lakes from atop Rattlesnake Mountain with Naturalist Eric D'Aleo and Lakes Region Conservation Corps member Connor Piechota. Eric will discuss the geologic forces that carved and shaped the Squam Lakes and how the past influences the current day ecology. Examine the natural and human forces, which impact this heavily used trail managed by Squam Lakes Association. Connor will lead you in a project to help combat trail erosion. <i>Cost: No charge but reservations are required.</i>
AUGUST 20 MONDAY	Aquatic Exploration Equipment Make and Take Workshop 10:00 to 11:30 a.m. For families with children ages 6 and up <i>See description for August 10.</i>
AUGUST 21 WEDNESDAY	Taking Care of Squam: Lake Cruise with Squam Lakes Association 10:00 a.m. to 12:00 p.m. For ages 12 to adult <i>See description for August 1.</i>

ON THE TRAIL

- 👉 **River Otter Feeding** - Every Monday, Wednesday, and Friday at 11:30 a.m. at the River Otter Exhibit (May - October)
 Sponsored by: 
- 👉 **Turtle Talks** - Every Tuesday in July and August at 10:30 a.m. on the Bluestone Terrace of the Webster Education Building
- 👉 **Mink Feeding** - Every Friday in July and August at 12:30 p.m. at the Water Matters Pavilion
- 👉 **Up Close to Animals**
 Daily in July and August at 11:00 a.m., 12:00 p.m., 1:00 p.m., 2:00 p.m., 3:00 p.m. at the Amphitheater and on weekends through Columbus Day. Held in Webster Building Classroom 3 during inclement weather.
 - 👉 **Fish Feeding** - every Tuesday at 1:00 p.m. at the Water Matters Pavilion
 - 👉 **Coyote** - every Wednesday at 1:00 p.m. in Webster Building Classroom 3
 - 👉 **Mountain Lion Training** - every Thursday at 12:00 p.m. at the Mountain Lion Exhibit
- 👉 **StoryWalk™** - Daily June 29 through September 3 at the Holderness Town Gazebo
- 👉 **Owl's Roost Cafe** - Open daily mid-June to mid-August 11:00 a.m. to 3:00 p.m. in the Trailhead Gallery.

Visit the Calendar at nhnature.org for a daily schedule, details, and program information.

SQUAM LAKE CRUISES

New Hampshire is famous for its picturesque lakes and mountains and Squam Lake is a gem among many. See its amazingly clear water, rocky shores, celebrated islands, historic homes, scenic mountain views, and remarkable wildlife.

Purchase cruise tickets online at nhnature.org!



Discover Squam

May 19 to June 30 - Daily at 1:00 p.m. | July 1 to August 31 - Daily at 11:00 a.m., 1:00 p.m., 3:00 p.m.

September 1 to October 8 - Tuesdays, Wednesdays, Thursdays at 11:00 a.m., 1:00 p.m.

Fridays through Mondays at 11:00 a.m., 1:00 p.m., 3:00 p.m.

This unforgettable guided tour has something to delight everyone. Learn about the natural history of the lake, the wildlife that makes Squam so special, and the people who have enjoyed these lakes for over 5,000 years. See the beautiful lake where *On Golden Pond* was filmed over 30 years ago. Watch for and observe Common Loons and Bald Eagles.

Bald Eagle Adventure

May 15 to June 19 - Tuesdays at 3:00 p.m.

Join a naturalist for a special Bald Eagle Adventure to view these magnificent birds in their natural habitat. The cruise focuses on the recovery of Bald Eagles as a nesting species in the state, with particular discussion about the Bald Eagles that have nested on Squam since 2003.

Loon Cruise

June 8, 15, 22 - Fridays at 3:00 p.m. | June 25 to August 31 - Mondays and Fridays at 3:00 p.m.

We are delighted to join forces with our friends and colleagues at the Loon Preservation Committee (LPC). Offered twice a week these cruises focus on Common Loon conservation, biology, and monitoring. A Science Center naturalist joins an LPC biologist who guides the tour and discusses the work LPC does across the state and on Squam to protect these extraordinary birds. This special cruise route is designed to maximize Loon observations.

Cruise with a Naturalist

July 3 to August 30 - Tuesdays, Wednesdays, Thursdays at 3:30 p.m.

September 4 to October 4 - Tuesdays, Wednesdays, Thursdays at 3:00 p.m.

Uncover the rich natural history of Squam Lake with an experienced naturalist educator. Observe Loons and Bald Eagles and their nesting sites along with other wildlife. Learn how animals survive and adapt to their aquatic world. Gain an appreciation and deeper understanding of Squam Lake from mountain ranges, to island stories, to quiet spots, during this memorable lake experience.

Lake Explorers Family Cruise

July 24 - August 14 - Tuesdays at 10:00 a.m. | For ages 5+ | 2 hours

Experience the excitement of Squam Lake as active explorers. This family-style cruise gives children an opportunity to use binoculars, search for Loons, collect microscopic life, watch live fish, participate in a scavenger hunt, and test their navigational abilities. Get on board for a cruise that could spark an interest to last a lifetime.



Squam Lake Cruise Rates:

Adult \$27; Senior (65+) \$25; Youth (up to age 15) \$23; Members receive a \$4 discount per person.

Discounts available for combination trail and cruise tickets. Not recommended for children under age 3

All Squam Lake Cruises depart on Route 113 across from the Science Center parking lots. Park in designated lots and walk to Lake Education Headquarters using pathway. Squam Lake Cruises are 90 minutes in length aboard canopied pontoon boats. Binoculars are available for wildlife viewing at no additional cost.

Space is limited on Squam Lake Cruises. Make your reservation online at nhnature.org or call 603-968-7194 x 7.

Dinner and Sunset Cruise

Thursdays, July 19 and 26

Dinner at 5:00 p.m.

Cruise departs at 6:30 p.m.

Start your evening with a delicious, fixed-price dinner at Walter's Basin Restaurant, followed by a sunset cruise on Squam Lake. This guided tour showcases Squam's beauty as dusk falls. The guide discusses the natural history, wildlife, and people of Squam Lake.

Cost: \$55.00 per person; not recommended for children

Squam Lake Charters

Treat your visiting family or friends to a truly memorable experience in the Lakes Region by chartering a private cruise customized to fit your plans. Five canopied pontoon boats and experienced tour guides are ready to help with your special outing. Operations Manager Sharon Warga will personally arrange your charter for any occasion or celebration.

Contact Sharon at 603-968-7194 x10 or sharon.warga@nhnature.org for reservations.

OPENING A WINDOW TO THE NATURAL WORLD

Don't Have a Will?



Is Squam Lakes Natural Science Center already in your will, trust, or other estate plans? Thank you! Please let us know about your thoughts because it helps the Science Center plan for the future. Your gift may remain anonymous if you like.

Don't have a will? You're not alone! Now is a great time to start planning. Please consider including a bequest to the Science Center in your estate plans.

If you wish to name the Science Center in your will or estate plan, we should be named as: Squam Lakes Natural Science Center, a nonprofit corporation, organized and existing under the laws of the New Hampshire. Our tax identification number is: 02-0271824.

There are simple and complex ways to make estate gifts, large or small. Every gift is welcome. Legacy gifts can be made through a bequest in a will or by signing a beneficiary form. Here are some ways to make an estate gift:

- Cash
- Traditional IRA or Simple IRA and Roth accounts
- 401 (k) or 403 (b)
- Life insurance policies
- Payable-On-Death (POD) accounts at banks or credit unions
- Certificate of Deposits and U.S. Savings Bonds
- Transfer-On-Death Accounts (TOD) accounts at banks or credit unions
- Stocks, bonds, and brokerage accounts can be transferred to a charity upon death of the donor.

Making a gift to the Science Center through your will or revocable living trust is a simple way to support the Science Center's mission. If you have chosen to include the Science Center in your estate plans, please let us know!

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 12 or janet.robertson@nhnature.org.

BONUS MEMBER BENEFITS:



JUNE: Science Center members may visit the two Mount Washington Observatory museums: Extreme Mount Washington atop Mount Washington and the Weather Discovery Center in North Conway, at no charge. Members may also schedule a free weather station tour (advance registration required).



JULY: Science Center members may visit The Fells Historic Estate and Gardens (thefells.org) in Newbury, at no charge.



SEPTEMBER: Science Center members may visit the McAuliffe-Shepard Discovery Center (starhop.com) in Concord at no charge (Planetarium programs priced separately).



OCTOBER: Science Center members may visit the Children's Museum of New Hampshire in Dover (childrens-museum.org) at no charge.



Be sure to take your membership card with you when you go. Check websites for information about hours and directions.



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

These generous donors made tribute gifts, which were received between January 1 and March 31, 2018:

*In honor of Susan Beeson
Lisa Turney*

*In memory of Gilbert W. Klein
Elizabeth Rowe*

*In memory of Alan T. English
Jessica and Will Davis*

*In memory of Thomas McElrone
Elizabeth Rowe*

*In honor of Brenda Erler
Nancy and Bill Dailey*

*In memory of Paul F. Miller, Jr.
Sandra Moose*

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Donald and Janice Lutz
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Bill and Claire Smith*

*In honor of George Noyes
Mark Fabian*

*In memory of Louise Hennessy
Daniel and Patricia Kelly*

*In memory of Russ Orton
Mary Orton*

*In memory of Lois Stratton
Will Stratton*

BUSINESS SUPPORT

There are many ways for businesses to help the Science Center: become a business member, rent a meeting space, sponsor a special event, charter a lake cruise, or volunteer.



Dead River Company is a proud supporter of the Science Center.

Contact Development Officer Kim Beardwood Smith at kim.bsmith@nhnature.org or 603-968-7194 x 31 for more information.

TRAIL'S END

SUMMERTIME



Today is April 16, 2018. And once again, I sit inside by the fire listening to pellets of ice bounce off my deck and the wind howling through the trees. Having already published my spring *Trail's End* column at a time when we still await the arrival of spring, my mind wanders to distant memories of what summer actually means to me and to the Science Center. Henry James said, "Summer afternoon – summer afternoon; to me those have always been the two most beautiful words in the English language." I am also feeling very directly the words of William Shakespeare, "Summer's lease hath all too short a date."

With only 14 days until our trail opening, with snow and ice covering the campus, with ice still thick on the lake, and with our boats still resting comfortably on their trailers, it is a testament to our staff and volunteers that we will be ready to go on May 1. Their superb efforts put in context all of our feelings about summer. We agree with Charles Bowden when he said, "Summertime is always the best of what might be," and we will be the best when it finally arrives.

Much of our advertising for the summer has already been placed. Last week our Visitor Services Associates were busy ordering new products for our retail shelves in the Howling Coyote Gift Shop. Final repairs and designs of our exhibits are happening. Summer Splash has been organized and only awaits the arrival of summer. Your Board will be looking to finalize our next capital campaign at the May meeting. Our Scotland and New Mexico tours are sold out and Iain is spending time with the BBC to prepare for a very special broadcast this fall (more on that soon). A film crew was here last week filming the area and documenting the last days of our maple syrup season.

For those of us who experience the Science Center only at the best of summer times, please know that our winter and spring efforts, while significant, demonstrate the passion for our mission to deliver natural science education to our members and visitors. We believe, as Kellie Elmore did when she said, "I love how summer just wraps its arms around you like a warm blanket." So, come this summer early and often and share our joy to be, finally, in summer. Lisa Shroeder said, "Come with me, Mom says. To the library. Books and summertime go together." As I have been known to do, let me change her quote slightly to suit the purpose of my message. "Come with me, Mom says. To the Science Center. The Science Center and summertime go together."

Trail's End is written by Ken Evans, Chair of Squam Lakes Natural Science Center's Board of Trustees.
You may contact Ken at evanmead139@gmail.com.

WISH LIST

- GoPro camera
- string lawn trimmer
- microwave
- umbrellas
- umbrella strollers
- dog crates
- golf cart
- underwater Rover
- lawn mowers
- leaf blower
- winch
- power broom
- drone with HD camera

Naturalist's Legacy Society

Your planned estate gift will help the Science Center continue to achieve its mission to teach about the natural world for generations to come.

Visit the Support Us section at nhnature.org.



TURKEY VULTURES *continued from page 1*

Turkey vultures' scientific name, "*cathartes*," originally comes from the Greek, meaning "purifier." Their free cleanup services are due a nod of appreciation.

Speaking of eating carrion, what is the optimal technique? Having a featherless head certainly helps. Turkey vultures thrust their whole heads into a carcass. Inevitably bits of carrion adhere to their heads. Heat from the sun's rays kills any disease organisms. As the debris dries, it flakes off. But how does a darkly colored bird stay cool in sizzling sun? This is a bird that uses available, if unorthodox, methods to keep itself comfortable. If too hot, turkey vultures will defecate on their legs, cooling their body temperature significantly. Added benefit? The acidic excrement kills germs from their recent meal.

The word "vulture" originates from the Latin, meaning "tearer." Although turkey vulture beaks are not as powerful as the beaks of hawks and eagles, they are well-suited for the job at hand. Turkey vultures are adept at using their beaks to get into the nooks and crannies of a carcass and snatching scraps. As a scavenger, turkey vultures may need to make a quick change of plan if a more aggressive freeloader, like a coyote, arrives on scene. In a surprising twist, they regurgitate their meal, lightening themselves for flight and leaving a tantalizing prize behind.

Do turkey vultures need our support? All vultures do! Their essential role in the environment is easily overlooked. Consider celebrating International Vulture Awareness Day in early September. Crack a smile of appreciation as our scavenger patrol wings its way overhead.

TURKEY VULTURE QUIZ

1. Which sense do turkey vultures use to find hidden carrion?
2. True or False? Turkey vultures hold their wings in a dihedral or "V" shape in flight.
3. True or False? Turkey vultures prefer carrion that is significantly decayed.
4. What is one unusual way that turkey vultures stay cool?
5. How do turkey vultures raise their body temperature for flight in the morning?

Answers:

1. Smell | 2. True | 3. False | 4. Defecate on their legs | 5. Open their wings with backs to the sun.



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Featuring reusable shopping and produce bags to help
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*Members receive a 10% discount
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All proceeds from sales at the Howling
Coyote Gift Shop benefit the mission of
Squam Lakes Natural Science Center:
*to advance understanding of ecology by
exploring New Hampshire's natural world.*



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