



NEIGHBORHOOD BATS

By Margaret Gillespie, Illustration by Cheryl Johnson

There can be fantastic surprises and depressing ones, depending upon one's perspective. Early one summer morning on Appledore Island in the Isles of Shoals off the coast of New Hampshire, my young niece, nephew, and I accompanied a bird-bander on his first early morning round. He was checking virtually transparent mist nets set out to temporarily trap birds flying across narrow, shrub-lined pathways. All along the way, the nets were disappointingly empty. Rounding the last bend, eureka, we were rewarded. We caught sight of an orange-red captive, flapping a wing and obviously busy with escape plans. Our bird-banding friend groaned. We could see why as we approached. The creature was not a bird but a red bat, intent on chewing its way free. We watched in astonishment as the bander worked quickly to untangle the bat. Once the bat was in his hands, free from the net, we marveled at its brilliant orange coat highlighted in the early morning light. Leathery wings and large ears rounded out the features of this nocturnal creature. Despite a gaping hole in the mist net, the bird-bander joined us in our excited chatter as he released the bat. With a few powerful wing strokes the red bat was on its way, banking off through an opening in the shrubbery.

This red bat left an indelible and awe-inspiring memory in our minds. Often bats transect our lives in unseen ways. New Hampshire's eight bat species are all insect-eaters. We herald little brown bats for including mosquitos in their diet. Perhaps more significantly, big brown bats feast on agricultural pests like cucumber beetles and moths of corn-boring caterpillars. Not only do bats attack populations of these pests, they reduce the need for pesticides. Benefits of bats are many, but their numbers are rapidly declining. When I converse with people about bats,

they inevitably talk about the dramatic change. Bats that formerly emerged in swarms from chimneys and unseen openings in barn walls to circle and swoop in the evening sky have dwindled to a bare few. What has happened to our neighborhood bats?

White nose syndrome (WNS) is the mysterious culprit that recently crept into the lives of numerous North American bats. In the winter of 2006-07, scientists first discovered large numbers of dead and dying bats in New York state cave hibernacula. Noses and wings of many of the hibernating bats were white but with an unclear cause. After intense investigation, they unearthed the agent as a cool-loving fungus new to science. They named it *Pseudogymnoascus destructans*. The fungus grows into the bats' wings, damaging tissues and thus irritating the bats, rousing them frequently from hibernation in midwinter.

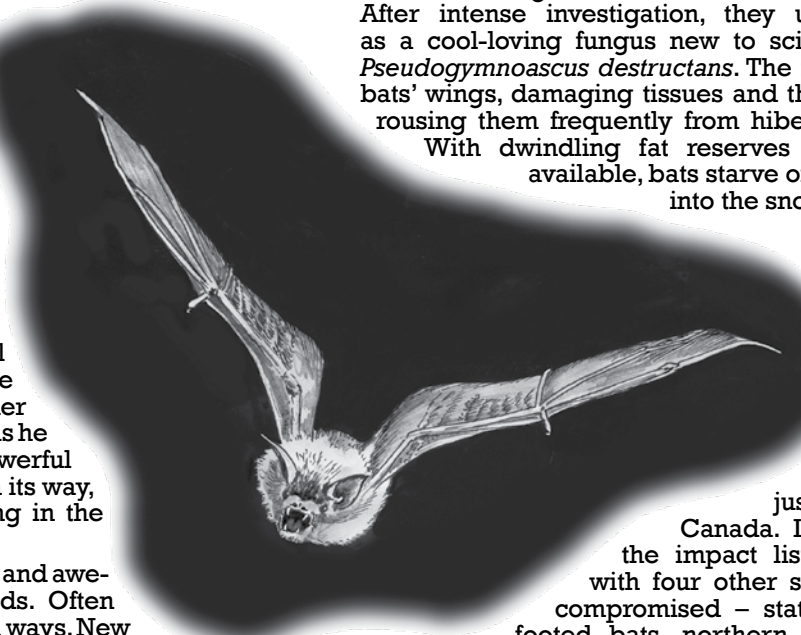
With dwindling fat reserves and no insect prey available, bats starve or make ill-fated flights into the snowy landscape.

This fungus certainly has lived up to its destructive name.

In no time, WNS spread to other states, arriving in New Hampshire in 2009. By 2012, bat deaths reached 5.7 million just in the northeast and

Canada. Little brown bats top the impact list in New Hampshire with four other species also seriously compromised – state-endangered small-footed bats, northern long-eared bats, tricolored bats (pipestrelles), and big brown bats. According to New Hampshire Fish and Game, the total population decline of little brown bats and long-eared bats in New Hampshire is 99%! In contrast, the red bat and other New Hampshire bats that don't use cave hibernacula have escaped the disease. WNS is now in 25 states and five Canadian provinces and continues to extend its march.

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Coyote Day

Saturday, June 28

Meet the Science Center's resident coyotes up close. See one at the new Coyote Exhibit on the live animal trail where volunteer docents will answer your questions. Meet another younger coyote during "Up Close to Animals" talks. Hear the latest about coyotes in New Hampshire from Chris Schadler, wild canid ecologist with Project Coyote. Join in games, crafts and a scavenger hunt. *Cost: included with trail admission*



FORGING TRAILS

AIN'T TECHNOLOGY GRAND?



Recently I have been thinking about my late father. He often pops into my mind as I marvel at the capability of the device that I carry around in my pocket . . . calling it a phone (smart or otherwise) doesn't do it justice. In September it will be 30 years since my dad's way-too-early death, and I'm often struck by the amazing advances in technology that have happened over the last three decades.

My father loved technology and gadgets and particularly photography. He was a BBC broadcaster, so mass media was his life. We were the first household in our neighborhood to have a pre-VHS, pre-BETA video recorder – which weighed about 80 pounds and was the size of a suitcase. What I can do with my phone would seem like science fiction to him. Digital photography would just blow him away. I have fond memories of working together in his darkroom, with trays of chemicals and the anticipation of whether any of the 24 or 36 images taken on the roll of film would come out. The digital era has truly revolutionized amateur photography.

In March I had an opportunity to use technology in a fun and innovative way. As part of our Project OspreyTrack (which of course uses the technology of micro GPS trackers to follow Ospreys on their migrations . . . unheard of back in 1984), I participated in a four-way Skype program with students in Italy, England, and the Basque Country (don't dare call it Spain!). We had hoped to also link with students in Gambia in Africa, but the Skype connection wasn't working that day (sometimes technology isn't perfect).

I was able to use our Smartboard (another marvel) connected to a laptop to interact with the students. The English kids put on a whole play, complete with an Osprey face mask; the Basque kids sang a specially-written song about their Ospreys; and the Italian kids took it in turns to describe how excited they were about Ospreys returning to their country. I used our live Osprey in the presentation and the European students could ask me questions about New Hampshire.

Many of the students thought our Osprey was dancing to the music. She was intrigued by the sound and movement on the large screen and bobbed her head rhythmically. A little twist of my wrist and she flapped her wings, so they thought she was waving to them and all waved back.

Having the technology at our finger tips to interact with students thousands of miles away is truly a marvel, one my father would have only read about in the futuristic writings of Arthur C. Clark. It's an amazing world that we live in.

Iain MacLeod, Executive Director
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Volunteer!

Share the discovery by volunteering at the Science Center. Learn more by contacting Volunteer Coordinator Carol Raymond at 603-968-7194 x 22 or carol.raymond@nhnature.org.

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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. Our 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 all members. Comments are welcomed by newsletter editor Janet Robertson at 603-968-7194 x 12 or janet.robertson@nhnature.org.

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ARTHUR "SANDY" MCGINNES



My wife, Louise, and I live in Wellesley, Massachusetts. Our two grown children, Matt and Christina, each have two children of their own. The Science Center has become a favorite place for ALL of us to visit, no matter what our age!

We moved into our Squam house in 1974 and have enjoyed many aspects of this special

community ever since. Over the last 40 years I have served on numerous Squam-area Boards: Lakes Region Conservation Trust; Squam Lakes Conservation Society; Squam Lakes Association (helping to start the boat rental program and add new campsites); and currently, the Loon Preservation Committee and, of course, the Science Center.

I retired in 2011 after 45 years of marketing and business management. The first 18 were in several advertising agencies in New York and Boston (one major project was successfully introducing A&W Root Beer in bottles and cans); the last 27 were in the document scanning business - managing, building, and then selling my company.

While I have served other non-profit organizations (Chairman of the Dartmouth College Fund from 1990-1996; and Chairman of Thompson Island Outward Bound Education

Center in Boston from 2010-2013), my heart always comes back to Squam. I like to ski, play golf, and hike. Over the years I have climbed the forty-eight 4,000-foot peaks in the White Mountains and the smaller mountains one can see from Squam, many with Squam friends. Bigger climbs have included Grand Teton, the Matterhorn, and Kilimanjaro.

My interest in the outdoors and nature started 60 years ago when I joined a very active, outdoors-oriented Boy Scout troop in Pennsylvania. We first became involved in the Science Center through our children, who enjoyed the camps. Louise and I loved taking them and hearing their enthusiastic stories when they returned. Now our grandchildren love the Science Center, too.

The otters are my favorite exhibit. It started, I think, because of an early morning experience in my canoe 20 years ago. A family of otters, babies and all, swam around and under my canoe for 15 minutes. I was enthralled. Sadly, it has never happened again so I go to the Science Center and enjoy them there.

It is very important for children and adults to develop a strong connection with nature. The Science Center provides this opportunity to over 70,000 visitors each year. For example, today the loons on Squam are having trouble successfully reproducing chicks. We need to understand why. The Science Center's new Water Matters Pavilion (part of the Nature Matters Capital Campaign - www.nhnature.org/naturematters) will address this.

I am proud to be a Trustee of the Science Center and enjoy working with such a talented staff and committed board.

Sandy has served on the Board of Trustees since 2008 and as Co-Chair of the Leadership Division of the Nature Matters Capital Campaign since 2012.

NEWSBRIEFS

- We are pleased to welcome Audrey Eisenhauer back to our staff as Education Director. Audrey was Volunteer Coordinator at the Science Center from 2003 to 2007. Since then she has worked at the Margret and H.A. Rey Center in Waterville Valley as Education Director and then Executive Director. Audrey lives in Thornton with her husband, Brian.
- In March, Aaron Snyder left his position as Animal Care Associate to return with his family to his native Montana where he will study nursing. Aaron was an asset to the Animal Care staff; we wish him the best.
- Keith Hosking joined the staff as Animal Care Associate in March. Keith holds a degree in Environmental Biology from Plymouth State University. He lives in Plymouth with his wife, Samantha, and enjoys hiking and rock climbing.
- Facilities Assistant Tom Blay also joined the staff in March. He most recently managed his own property maintenance enterprise, providing

snow removal, construction, and carpentry services. Tom and his wife Sara live in Danbury.

- After seven years, Operations Manager Tom Klein resigned to pursue other goals. On the frontline answering phones, greeting visitors, and supporting administrative and technical needs of all other staff members, as well as helping with lake cruises and group tours, Tom made it his mission to provide the best possible service to everyone. We will miss his energy and enthusiasm.
- Sharon Warga took over as Operations Manager in May. Sharon was most recently Director of the Minot-Sleeper Library in Bristol and previously worked at the Sterling Library of Yale University and the University of New Hampshire Law Library in Concord. Sharon lives in Plymouth.
- Three interns join the education staff this summer. Alexa Cushman is a senior at the University of Wisconsin - Stevens Point majoring in Wildlife

Ecology Information and Education with minors in Captive Wildlife Management and Biology. Sarah Kelley is a New Hampshire native from Pembroke. She studied at the University of Rhode Island before transferring to the University of New Hampshire where she majors in Animal Science in the pre-veterinary track. Marianne O'Loughlin has volunteered here for two summers, completing docent training and assisting with otter enrichment and live animal programs. From Nashua, Marianne is currently a senior at the University of Maine at Farmington majoring in Environmental Interpretation.

- A new internship was created this year. Liz Jackson, an Elementary Education graduate student at Plymouth State University, will be the first Guided Discoveries intern. She will assist Associate Teacher Jordan McDaniel with the summer children's programs.

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KIRKWOOD GARDENS PLANT SPOTLIGHT



By Brenda Erler

Sea Holly *Eryngium planum*

Culture: Enjoys dry, well-drained, sandy loam in full sun.

Bloom: June – September

Height: 2-3 feet

This long-blooming perennial is a native of central and southeastern Europe. If you have dry, sandy, sun-baked areas in your garden, this is the plant for you! The blue flower heads are abundant throughout summer and are great cut flowers. The plant has long taproots and does not like being moved, so choose its location carefully.



Bee-Balm *Monarda didyma*

Culture: Prefers full sun to part shade in rich, moist soils. Not drought-tolerant. Spreads easily by rhizomes. Plant in a contained area, or divide every three years to keep it in check. Deadhead to prolong bloom.

Bloom: July – August

Height: 2-3 feet

There are many cultivars of this eastern North America native herb. The name results from its attraction to bees, but butterflies and hummingbirds love it as well. Great for the perennial border, wild garden, meadow or along streams and ponds.



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

NEWSBRIEFS *continued from page 3*

- Marketing Intern Madeline Warren studies Communications and International Affairs at the University of New Hampshire with a minor in French. She grew up in Yarmouth Port, Massachusetts. Madeline is President and Advocacy Coordinator of the UNH chapter of STAND, the National Student Led Movement to End Mass Atrocities.

- In August, Science Center members may visit The Fells Historic Estate and Gardens in Newbury, New Hampshire, once at no charge, and The Fells members may enjoy a free visit here. Be sure to take your membership card with you when you go. Check their website (www.thefells.org) for information about hours and directions.

- Science Center members get a 10% discount at Walter's Basin Restaurant in Holderness on Tuesdays from May 1 through November 1 – just show your membership card.

- In June, the League of New Hampshire Craftsmen Meredith

Gallery will donate a portion of the sales to the Science Center from each piece of jewelry sold from the Moth and Butterfly Collection by Lucy Golden to help promote environmental awareness.

- Despite lingering snow piles and muddy trails, the annual Clean Up Day took place on Saturday, April 19. About 150 volunteers and staff members worked together to prepare for the new season. Tasks included washing windows, scrubbing, vacuuming, clearing walkways, staining and moving picnic tables, and more. Several groups participated: Girl Scout Daisy Troop, Inter-Lakes High School and New Hampton School students, Plymouth Regional High School National Honor Society, Plymouth State University Tau Omega Sorority, Plymouth State University Volunteer Club, and Student Conservation Association Manchester Conservation Leadership Corps Program. There was also a group for

Mackenzie Caulfield's birthday party! Hypertherm employees cleaned exhibits and Stonyfield Farms employees raked exhibits. Thank you to volunteers who baked cookies and area businesses for contributions for lunch for the workers: Bob's Shurfine Market, Ashland; Hannaford Supermarkets, Plymouth; E.M. Heath Supermarket, Center Harbor and Holderness; Lakes Region Coca-Cola Bottling Company, Belmont; Shaw's Supermarket, Gilford; and Stonyfield Farm, Londonderry.

- New Hampshire Day on May 3 was generously sponsored by Dead River Company, with additional support from the New Hampshire Electric Co-op Foundation. Representatives from Dead River Company shared energy efficient ideas. WSCY 106.9 hosted a live radio broadcast. More than 1,300 visitors turned out on a sunny day. New Hampshire Electric Cooperative provided free admission to Co-op Members.

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NATURALIST'S CORNER

SUMMERTIME BLUES

By Eric D'Aleo



Kuplink! Kuplank!
Kuplunk!

That's the sound of blueberries dropping into Sal's bucket in the children's book *Blueberries for Sal*. Like the young girl in the story, I look forward to hearing those sounds every summer when I

wildlife, including bear, fox, skunk, raccoon, crows, songbirds, and other animals. Some of my dogs have also developed a taste for fresh blueberries right off the bush. Deer and rabbit also feed on blueberry bushes but will browse on the twigs and leaves instead of the fruit.

Blueberries were important to Native Americans, who harvested the fruit to eat as well as to dry and store for winter use. The leaves were smoked or used to make a tea to reduce blood sugar levels. The berries were also used to make a dye. The fruit is considered a health food because it is one of the richest sources of antioxidants, which help eliminate toxins and prevent cell damage and certain cancers. They also help to lower blood pressure and blood glucose levels, improve memory, and slow down the development of cognitive disabilities due to aging. Wild blueberries are considerably smaller than their cultivated cousins but have a sweeter, fuller taste and a greater concentration of these beneficial compounds. But regardless of wild or cultivated, I can't wait until later this summer. Kuplink! Kuplank! Kuplunk!

think about picking blueberries.

Blueberries grow on bushes that are native to New England and other cool northern areas around the world. There are many varieties of blueberries. The two main types found in New Hampshire are high bush and low bush. Both types require full exposure to sunlight, and acidic soil with a low pH of 4.5-5. High bush blueberry, *Vaccinium corymbosum*, is a tall shrub reaching a height of six to twelve feet. It is native to wet areas around swamps, marshes, or lakes but will also grow well in sandy soils. Low bush blueberry, *Vaccinium angustifolium*, is shorter, reaching a height of under two feet. This species is less tolerant than its taller relative and prefers dry, poor soils. Low bush blueberry is often found as a pioneer plant in the wild after a disturbance to the land from a forest fire or logging.

Blueberries bloom in May with white to whitish-pink flowers. Blooms are urn-shaped in appearance and hang upside down. The flowers are pollinated by over 59 species of native bees, including bumble bees, digger bees, leaf cutting bees, mason bees, and some species of sweat bees. These wild bees are up to four times more effective at pollination than the European honey bee. However, their limited numbers make the honey bee an important pollinator of blueberry bushes in commercial settings. The fruit ripens in mid to late summer and is an important food source for

Kirkwood Gardens Lecture

Eat Your Yard

Wednesday, August 13 at 7:00 p.m.

Learn how to turn your landscaped yard into an edible garden. Gardener, educator, and community planner Steve Whitman will lead a conversation about how he and his family are gradually turning their Plymouth suburban lot into a mini-farm. He will share some easy steps anyone can take to get started down the path to sustainability. Steve is a certified permaculture teacher and an adjunct faculty member at Plymouth State University and Colby Sawyer College. Program will be held in the Red Barn by Kirkwood Gardens.

Cost: Free/member; \$5/non-members

FROM THE HERON'S NEST

By Laura Mammarelli



The long winter this year provided extended opportunities for the Blue Heron School children to play and slide in the snow. But it didn't prevent them from going out to listen for birds in early spring. On this walk with Naturalist Jeremy Phillips, the children heard crows, chickadees, a tufted titmouse, and blue jays.

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.



NATURAL ADVENTURES

Pre-registration is required for all events unless otherwise noted. Please call 603-968-7194 x 7.

How You Can Help Wildlife Adapt to Climate Change

Tuesday, June 3, 7:00 to 8:00 p.m.

For adults and children ages 16 and up
Science Center Trustee and New Hampshire Fish and Game Wildlife Biologist Emily Preston will talk about climate change and how it's affecting wildlife. Learn about the Ecosystems and Wildlife Climate Change Adaptation Plan and how you can help wildlife adapt and help maintain healthy habitats.

No charge but reservations are requested.

Annual Breeding Bird Census

Saturday, June 7

Session 1 - 5:30 to 8:00 a.m.

Session 2 - 8:00 to 9:30 a.m.

For adults and older children

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 at no extra charge, or bring your own.

No charge but reservations are required

Where Am I?

Wednesday, July 2, 10:00 to 11:30 a.m.

For families with children ages 10 and up
Camouflage is a key to survival for many animals. Learn how animals remain hidden and why. Try your hand at camouflage as you attempt to hide in the field or forest. End your adventure by meeting a live guest to learn how it remains unseen.

Cost: \$7/member; \$9/non-member

Fooling in Nature

Wednesday, July 9, 10:00 to 11:30 a.m.

Friday, August 15, 10:00 to 11:30 a.m.

For families with children ages 6 to 12

Mimicry and camouflage are just two tricks nature plays. Sometimes your five senses just don't send you the right information. Now and then you think you know something that just isn't true. See if nature can fool you! Be ready to test yourself with some fun activities. Meet an animal that depends upon fooling to survive.

Cost: \$7/member; \$9/non-member

Looking for the perfect gift? A gift membership brings your gift recipient Nearer to Nature all year long!

Egg-citement!

Friday, July 18, 10:00 to 11:30 a.m.

Monday, July 28, 10:00 to 11:30 a.m.

For families with children ages 7 and up
Unless it's scrambled, hardboiled, or fried, eggs are often overlooked. Find out how eggs-traordinary these marvels really are. Learn what animals lay eggs and feel textures of different types of eggs. Match animals to eggs of different shapes, sizes, and colors. See how eggs are amazing packages that protect growing young. Find out how fragile an egg is by testing your strength against one.

Cost: \$7/member; \$9/non-member

Below the Surface

Wednesday, July 23

Friday, August 1

1:00 to 2:30 p.m.

For families with children ages 7 and up
Investigate forest and pond to discover the variety of creatures that live below the surface of the forest floor or below the pond surface. You'll do some log looking and pond sampling during your explorations. Wrap up by meeting a live animal that spends time below the surface.

Cost: \$7/member; \$9/non-member

Squam Fishing Excursion

for 7 to 12 Year Olds

Friday, July 25

9:00 a.m. to 12:30 p.m.

For children ages 7 to 12

Learn about the fish that live in Squam Lake. You will fish from the "Heron," a 28-foot pontoon boat, and witness firsthand how fish fit into Squam's food web.

Cost: \$18/member; \$22/non-member



Speed or Stealth

Wednesday, August 6

10:00 to 11:30 a.m.

For families with children ages 6 and up
Spend time inside and outside as we dive into adaptations that allow falcons to fly fast and owls to use stealth. Learn about the advantage for each type of raptor in catching its prey through outdoor activities. Enjoy a visit with each of these birds.

Cost: \$7/member; \$9/non-member

New Hampshire Young Birders Club Summer Events

Birds of the Open Ocean

Monday, June 23

8:00 a.m. to 2:00 p.m.

Programs are free with New Hampshire Young Birders Club membership (\$25/year). See all programs or learn more at www.nhyoungbirders.org.

StoryWalk™

July 3 through July 31

Daily 9:30 a.m. to 4:30 p.m.

Bring your family to enjoy a new StoryWalk™ featuring *Little Beaver and the Echo*, presented in collaboration with the Holderness Library and Holderness Recreation Department. StoryWalk™ opens with family activities and refreshments on July 3 from 10:00 to 11:30 a.m. Find StoryWalk™ behind the NH Fish and Game parking lot. Please park in town or at the Science Center, not in the lot reserved for boat trailers. StoryWalk™ is sponsored by Meredith Village Savings Bank.

No charge and no reservations required.

Natural Adventure Series

Color Coded Messages

Wednesdays: June 4, July 2, August 6, September 3 • 9:30 to 10:30 a.m.

For adults and children ages 3 and under

Nature talks with color - some colors help to hide, some to say danger, and still others mean welcome. Explore the natural world of color with your child. Adult must accompany children at no charge.

Cost: \$5/member child per session; \$7/non-member child per session

Yoga Wild

Wednesdays: June 18, July 16, August 20 • 9:30 to 11:00 a.m.

For children ages 4 to 7

Explore animal movement through fun yoga poses. Children will learn spatial concepts, stimulate their senses, and develop motor skills as they use their imaginations to mimic animals. Each session will include a visit with a live animal.

Cost: \$5/member child per session; \$7/non-member child per session

UPCOMING EVENTS

OUR DYNAMIC EARTH: ANIMAL POPULATIONS IN PERIL

- ADULT LECTURE SERIES -

The world around us is constantly changing. This lecture series for adults will explore research about New Hampshire wildlife. No charge to attend lectures, but reservations are required.

Moose on the Edge

Tuesday, July 8 at 7:00 p.m.

The status of New Hampshire's moose population is getting a great deal of attention lately. Public awareness is growing regarding the impact of winter tick and other challenges facing moose across the country. Research is underway to gather more information on what is happening regarding moose. New Hampshire Fish and Game Biologist Kristine Rines will share the current status, management, and research on moose and discuss how a changing climate may already be influencing them. Kristine is certified by The Wildlife Society as a wildlife biologist.

The Elusive Lynx

Tuesday, July 15 at 7:00 p.m.

The lynx once roamed New Hampshire forests from the White Mountains to the Canadian border. By the 1960s these secretive animals had seemingly disappeared from the state. After years of recent large-scale habitat conservation efforts in the North Country, several lynx sightings, including four kittens, occurred in 2011. New Hampshire Fish and Game Biologist Will Staats, who first spotted the cats after decades of absence, will share the biology, status, and current research about this elusive animal.

Bats in Decline

Tuesday, July 22 at 7:00 p.m.

If you've noticed very few bats flying around your neighborhood, you're not alone. Senior Naturalist Dave Erler will discuss the causes for the decline in our bat populations and share what the future holds for New Hampshire's eight species of bats.

Restoring a Rare Rabbit

Tuesday, August 5 at 7:00 p.m.

Despite the rabbit's reputation for prolific breeding, the New England cottontail is being considered for federal protection under the Endangered Species Act and is currently listed as an endangered species in New Hampshire. As recently as the 1960s, these rabbits were found throughout southern and central New Hampshire. Today only a few remnant populations occupying less than 25% of their historic range remain in the Seacoast and Merrimack Valley regions. Haley Andreozzi will speak about the biology of New England cottontail and the conservation efforts underway to help restore this rare rabbit. Haley is the Wildlife Outreach Program Coordinator for University of New Hampshire Cooperative Extension and works with the *New Hampshire Coverts* and *Speaking for Wildlife* programs.

SAVE THE DATE

Festival of Flight
Saturday, September 13



SAVE THE DATE

Halloween Hoot 'N Howl
Saturday, October 18



On the Trail

River Otter Feeding

May through October

Mondays, Wednesdays, and Fridays at 11:30 a.m.

See our two playful river otters have an early lunch. Our expert volunteers will tell you all about otter biology and ecology, while also serving up a tasty treat or two.

Turtle Talks

July and August - Tuesdays at 10:30 a.m.

Volunteer-led talks are hands-on using a live turtle to teach about turtles. This fun session involves interactive discussions and questions.

Up Close to Animals

Daily during July and August

Meet live animals up close and learn from an experienced naturalist. These engaging talks feature a variety of animals, including birds, mammals, and reptiles (Mountain Lions every Thursday at 12:00 p.m.; Coyote every Wednesday at 1:00 p.m.)

All above programs are included with trail admission

Docent Guided Tours

July and August - Thursdays at 10:30 a.m.

Get an in-depth look at the animal exhibit trail on a Docent Guided Tour. Learn more about the animals, exhibits, and landscape of the Science Center.

Cost: \$2 per person with trail admission

Summer Guided Discoveries

<u>Week</u>	<u>Program</u>	<u>Start Time</u>	<u>Age</u>
June 23-27	Mad Science	p.m.	6-8
	Wild Art	a.m.	7-10
	Wild Wonders	a.m.	4-5
June 30-July 4	Camouflage Capers	p.m.	7-10
	GeoCamp	a.m.	9-12
	Summer Sensations	a.m.	4-6
July 7-11	Night and Day	a.m.	4-5
	Reptiles/Amphibians	p.m.	6-8
	Wild Art for Preteens	a.m.	11-13
July 14-18	Be A Survivor I	a.m.	10-14
	Be A Survivor II	p.m.	12-14
	Mad Science	p.m.	6-8
	Wild Wonders	a.m.	4-5
July 21-25	Nature Notes	a.m.	8-11
	Sky Hunters	p.m.	6-7
	Summer Sensations	a.m.	4-6
July 28-Aug 1	Night and Day	p.m.	7-8
	Plant Power	a.m.	8-12
	Wild Tales	a.m.	4-6
August 4-8	Creature Features	p.m.	7-9
	EcoAgents	a.m.	8-12
	Summer Sensations	a.m.	4-6
August 11-15	Up, Down, Around	p.m.	7-9
	Wild Art	a.m.	7-10
	Wild Wonders	a.m.	4-5

For program and registration information please visit www.nhnature.org/programs/guided_discoveries.php

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. If you are looking for a memorable experience, choose from one of these fabulous 90-minute guided tours on beautiful Squam Lake.

Explore Squam

May 17 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 13

Tuesday, Wednesday, Thursday at 11:00 a.m., 1:00 p.m.

Friday through Monday 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. View locations where the movie *On Golden Pond* was filmed over 30 years ago. Watch Common Loons and Bald Eagles, regularly seen, but best viewed while nesting from May through August.

Nature of the Lakes

July 1 to August 28

Tuesday, Wednesday, Thursday at 4:00 p.m.

September 2 to October 9

Tuesday, Wednesday, Thursday 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 – A Family Cruise

July 8 to August 12

Tuesdays at 10:00 a.m.

Ages 5+

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.

Cost: \$15/member; \$17/non-member

Squam Lake Charters

Treat your visiting family or friends to a truly memorable experience in the Lakes Region. Host your own cocktail party or other unique gathering on Squam Lake. Transport wedding guests to Church Island. Any of these are possible 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. Our Operations Manager will personally arrange your charter for any occasion.

Contact Operations Manager at 603-968-7194 x 10 or info@nhnature.org

Bald Eagle Adventure

May 20 to June 24 • Tuesday at 3:00 p.m.

Join Executive Director Iain MacLeod (May 20, May 27, June 3) or Senior Naturalist Dave Erler (June 10, 17, 24) 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 pair of Bald Eagles that has nested on a Squam island since 2003 and fledged 18 chicks.

Loon Cruise

June 9 to August 29 • Every Monday and Friday 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.

Explore Squam • Nature of the Lakes Bald Eagle Adventure • Loon Cruise

Cost: \$21/adult member; \$25/adult non-member
\$19/senior member; \$23/senior non-member (age 65+)
\$17/youth member; \$21/youth non-member (to age 15)

Not recommended for children under age 3

Ask about our combo passes.

Dinner and Sunset Cruise

July 10 to August 7 • Thursdays

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: \$50.00 per person;
not recommended for children

All Squam Lake Cruises depart from the dock on Route 3 at the bridge, next to Walter's Basin Restaurant in downtown Holderness. Squam Lake Cruises are 90 minutes in length and aboard canopied pontoon boats. Binoculars are available for wildlife viewing at no additional cost.

Space is limited on Squam Lake Cruises.

Call 603-968-7194 x 7 for information and reservations.

www.nhnature.org/programs/lake_cruises.php

Dock sponsorship generously provided by Walter's Basin Restaurant in Holderness.

SCIENCE CENTER NATURE TOURS

**Hebrides and Highlands
June 2015**



Join Executive Director Iain MacLeod for a two-week tour of his homeland in search of birds, beasties, history, and culture. This very personal tour of Iain's favorite Scottish haunts will give you a flavor of Caledonian heritage and natural history. Iain chooses hotels with exceptional Highland hospitality, charm and comfort, outstanding cuisine, and spectacular settings. Contact Iain at iain.macleod@nhnature.org or 603-968-7194 x 23 for more information or to reserve your place.

Kirkwood Cafe

Managed by Golden Pond Country Store
Snacks • Sandwiches • Ice Cream • Drinks
Open Daily June 28 through September 1
11:00 a.m. to 3:00 p.m.

NEWSBRIEFS *continued from page 4*

- Education staff members Eric D'Aleo, Audrey Eisenhauer, Dave Erler, Margaret Gillespie, and Jeremy Phillips attended the New Hampshire Environmental Educators Annual Conference held at the AMC Highland Center in April. The conference, "Outdoors to the Core," focused on ways to integrate Environmental Education with the language arts and math curriculum of the Common Core State Standards.
- The National Science Foundation's Experimental Program to Stimulate Competitive Research (EPSCoR) funded New Hampshire EPSCoR's Ecosystems and Society Project. Through this initiative, the Science Center joined the newly formed New Hampshire Informal Science Educators Network of ten informal science education organizations. The Network's goal is to connect ecosystems-based research with the education efforts of informal science centers.
- Executive Director Iain MacLeod presented papers on the Osprey Tracking Project this spring at the Conference of the Hawk Migration Association of North America in Rochester, New York and the joint meeting of the Association of Field Ornithologists and the Wilson Ornithological Society, in Newport, Rhode Island.

Squam Lakes Artisans Gallery
Locally crafted New Hampshire gifts
Open daily from May 21, 10:00 a.m. to 5:00 p.m.

SAVE THE DATE

**2014 Annual Meeting and
Summer Celebration**
Saturday, August 9

Featuring Keynote Speaker Dr. Alan Rabinowitz, "The Indiana Jones of Wildlife Conservation" and CEO of Panthera



**"Connecting the Dots:
Saving the World's Big Cats"**

Cocktails | Appetizers | Auction

For more information visit
www.nhnature.org/programs/gala.php

BAT QUIZ



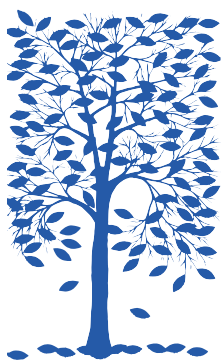
1. New Hampshire bats eat:
 A. Insects B. Nectar
 C. Fruit D. A and B
2. Big brown bats are helpful to humans by eating agricultural _____.
3. White-nose syndrome is caused by a:
 A. Virus B. Fungus C. Bacteria
4. True or False? White-nose syndrome has devastated bats hibernating in caves.
5. What should we consider when supporting bat populations with bat boxes?
 A. Size and shape of box
 B. Sunny location
 C. Height above the ground
 D. All of the above

Answers

1. A; 2. Pests; 3. B; 4. True; 5. D

OPENING A WINDOW TO THE NATURAL WORLD

With Gratitude for Our Naturalist's Legacy Society Members



When you visit this summer take a moment to see a new display in the Trailhead Gallery. We are pleased to have created a 'legacy tree' that publicly recognizes our Naturalist's Legacy Society members. Legacy Society members are people who have informed the Science Center of their intentions to make estate gifts in the future or who have made estate gifts in the past.

An *ad hoc* planned giving committee of the Board of Trustees planned the display and will host a special reception for the Naturalist's Legacy Society members and their families in July.

If you have included the Science Center as a beneficiary of your will, trust, life insurance, or retirement account, please tell us so we can express our appreciation for your commitment now and add your name to the legacy tree. You'll be in good company!

Questions about how you can support the Science Center?
Contact Janet Robertson, Development and Communications
Director, at 603-968-7194 x 12 or janet.robertson@nhnature.org



nature matters

YESTERDAY / TODAY / TOMORROW

The Campaign for Squam Lakes Natural Science Center

You can make sure the Science Center stays strong, fresh, and resilient, ready to engage and educate upcoming generations by making a donation to the Nature Matters Capital Campaign.

To make your gift to the Nature Matters Capital Campaign, visit <http://www.nhnature.org/naturematters>.

For more information about the campaign, please contact Executive Director Iain MacLeod at iain.macleod@nhnature.org or 603-968-7194 x 23.

These generous donors made tribute gifts, which were received between January 1 and March 31, 2014:

In memory of Mary Smith Denison
Elizabeth Dewey

In memory of Marybelle 'Teedee' Klein

Eva Atkinson
Eve and John Bogle
Christine Brickley
Margaret and Thomas Doyle
Susan and Howard Gross
H. James and Esther Marshall
Susan McCown
Esther and Paul Pappas
Janet and Gary Robertson
Liz and Dan Rowe
Jay Sands
Mary Anne and Raymond Scott
Susan and Tom Stepp
Cindy Ziesing and Chris Schoenberg
Diane and Todd Ziesing
Jo and Peter Ziesing
Sinclair Ziesing

In memory of Ruth Millar
Anonymous

In memory of Hester O'Neil-Hoell
Kittery Police Benevolent Association

In memory of Barbara Ridgely
Gertrude Barr

In memory of Shirley Smith
Judith and Edward Fleming

In memory of Virginia and Ernest R. Taylor
Ruth E. Taylor

In honor of F. Lee Woodward
Susan and William Breed

Help Support the Science Center by using Goodsearch.com

This Yahoo!-powered search engine donates about a penny per search to a charity you designate. Simply go to Goodsearch.com and specify your charity as Squam Lakes Natural Science Center. Use it as your would any search engine and help support the Science Center.

CD player for Blue Heron School
Flat screen computer monitors
Dehumidifiers

Milk crates

Green fleece blankets for cruises
Ten tablecloths for 8-foot tables or
fabric to make them

TRAIL'S END

RELATIONSHIPS



In the spring *Tracks & Trails* I provided some background on our exciting capital campaign, Nature Matters. During the past few months the staff has made significant progress on several fronts related to our expansion funded by the campaign.

First and foremost, our Wood Energy Exhibit was completed and the GARN boilers fired up. The heating system has worked extremely well and provided heat for five major buildings during the second half of the winter. Officials from the Air Resources Division of the New Hampshire Department of Environmental Services recently toured the facility and were very impressed with our set-up. They think our system is the model for others to follow. You can learn how efficient our heating plant is by visiting this exhibit where you'll find out how we have dramatically reduced our carbon footprint.

During February and March our staff met with various boards in the Town of Holderness to seek approval for our new Water Matters Pavilion. Architect renderings of the new facility were presented at these meetings and were enthusiastically accepted by the planning and zoning boards. Once those approvals were obtained, ground breaking took place. Tons upon tons of earth were excavated and relocated on

campus. Over the summer the new building will be constructed and winterized so that work on the exhibits can commence. It will take over a year to fabricate and install all the new exhibits in and around the new structure.

The earth excavated for the Water Matters Pavilion was relocated to a plot adjacent to the Gordon Children's Center. When you walk the trails this year, you will see new landscaping there using the relocated earth. The newly created hill will form the base for the Gordon Interactive Climbing Playscape that will be constructed next winter. Plans are currently in the development and approval stage for this addition.

All of the above activities are monitored by the board's building and grounds committee and require much interaction by the staff with regulators, architects, contractors, and suppliers. We continue to be very pleased with the progress on all of the new exhibits and facilities.

These significant changes were made possible by the extremely generous response to our capital campaign requests by hundreds of people. We are very fortunate to have such a large group of generous contributors.

The community phase of fundraising for our capital campaign was launched in April. If you have already made a gift to Nature Matters, we thank you very much. If you have yet to make a donation, please consider making a contribution now to help us reach our goal of \$4 million. Every donation "Matters" and helps us fulfill the mission of the Science Center.

Please walk the trails this year so you can see these terrific developments for yourself. The board and staff are very excited by these enhancements to the Science Center. We hope you will join us in our excitement!

Trail's End is written by David Martin, Chair of Squam Lakes Natural Science Center's Board of Trustees.
You may contact David at dave.martin@nhnature.org.

NEIGHBORHOOD BATS *continued from page 1*

Researchers struggle for solutions. Bats transmit WNS to other bats because of close roosting proximity. They also know people pick up the fungus on footwear, clothing, and gear in caves and infect other caves they visit. Now access to caves where bats hibernate is restricted. Keep updated on WNS with Bat Conservation International's (BCI) website: www.batcon.org and for local information and state recovery efforts, New Hampshire Fish and Game Department's website, www.wildnh.com. Another threat to track is high bat mortality in the wind turbines we see cropping up on our forested ridges. This renewable energy source needs some adjustments to be bat friendly.

How can you help neighborhood bats? Be sure to welcome them to your barn or buildings – it's an easy matter of co-existing. You can raise a tarp to form a ceiling over gear in your barn. It will catch bat droppings, which provide rich fertilizer. Avoid handling bats, dead or alive, but in an emergency, wear thick gloves. Bats can carry rabies although the disease does not make them aggressive. As alternative living quarters, are bat boxes helpful? Yes, if constructed and placed with bat preferences in mind. Just

because stores sell bat boxes doesn't mean bats will buy them. Check BCI's website for ideal dimensions and siting. Here are some quick tips: larger is better (wide and tall with narrow chambers inside). Paint them black in cooler climates like the northeast to help with heat absorption. Place boxes about 15 feet high – preferably on a sunny south side of a building for heat retention. Save nature's bat roosts too – large trees and dead snags.

Don't panic about a bat in your house. Isolate it in one room. At night, turn on the lights and open windows. If after a few hours or overnight, it is still "hanging out," here is an alternative to take while wearing leather gloves but not touching the bat. Place a container or box over the roosting bat and slip thin cardboard between the box and the wall to enclose the bat in the box. Release the bat outdoors on the ground near a tree where it can climb and launch itself.

The future of our bats is challenging and undoubtedly full of future surprises. Our neighborhood bats have a distinct advantage. After all, good comes in communities where neighbors take care of neighbors.

Bats in Decline, Tuesday, July 22, see page 7.

Respect. Integrity.
Teamwork. Excellence.
Stewardship.

Values for success.



www.mvsb.com/values

"I wanted to thank you for a fantastic program. All of the students, no matter what the age, were enthralled by all the animals and learned so much. I can safely say that all of us came away with a renewed respect for the wildlife that coexist with us in this state, and an appreciation of our impact on their environment and what we may be able to do to help.

- Science Center Outreach Program Attendee

THE HOWLING COYOTE GIFT SHOP

Product Spotlight: Custom Youth and Toddler T-shirts printed with Science Center animals and activities like, "I visited... and howled with a coyote."

Retail: \$14.00

Member Price: \$12.60

The Howling Coyote Gift Shop is open daily May 1 through November 1. Members always receive a 10% discount on non-sale items.



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