



SWEET GOLD

By Margaret Gillespie, Illustration by Cheryl Johnson

I was there to celebrate one of the milestones. The previous week at the beginning of June 2015, a local beekeeper had helped set up a new hive on our Canterbury farm. The bees' home consisted of one bright yellow brood box with its landing platform, entrance, and indented handles. All held their breath as the beekeeper transferred 40,000 bees into the new home. Then nine frames were slotted in, complete with commercial wax honeycomb cells that would give the bees a head start. The queen received special treatment so she could be safely introduced to her subjects. She was tucked away at the top of the hive in a small box with its exit hole sealed by candy. Now a week later, the bees were settled into their fresh routine. It was time to discover if the queen had safely exited her box. If so, was she accepted by her new family? We removed the roof of the hive. The queen's box was empty! We were excited to catch a glimpse of the queen with her characteristic elongated abdomen. She was well and working but would become more adept at hiding as she became experienced. The life of this new hive was officially launched.

Our most common domesticated honey bee, *Apis mellifera*, thrives in a complicated society. You may have heard the saying, "It takes a village to raise a child." It certainly takes the whole hive, along with collaboration from its human caretakers, to bring the bee community through its yearly cycle with honey to spare. Most jobs are performed by sterile female worker bees and their jobs change as they age.

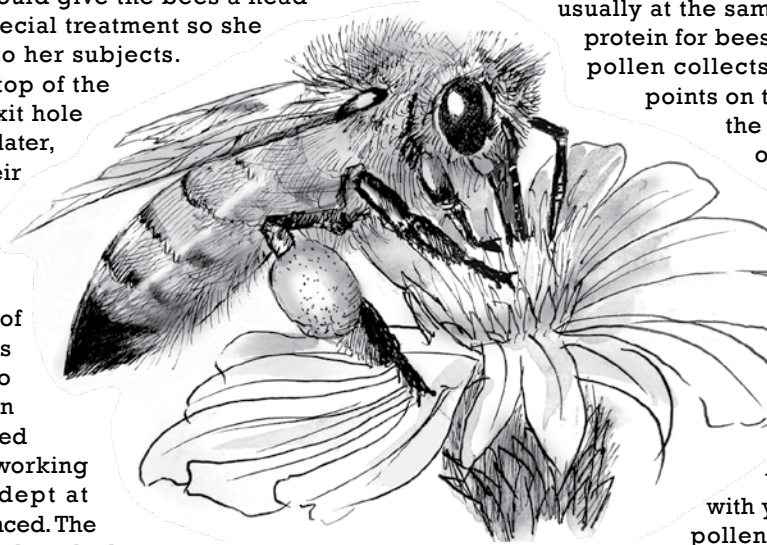
The worker honey bees we commonly see in our flower gardens or visiting wildflowers are mature, experienced foragers. They share information about the direction, distance, and quantity of food sources with other forager bees from their hive by

performing "waggle" dances. On the vertical surface of the hive, they move in a figure eight pattern, vibrating or wagging their abdomen in the center, and then they circle back to repeat the action. Other workers are then able to fly directly to the food, in a beeline. The word "beeline" now has a real foundation in nature for me.

Bees collect both pollen and nectar from flowers but not usually at the same time. Pollen is a source of protein for bees. As bees move over flowers, pollen collects on their hairs. At different points on their foraging trips bees use the abundant hairs on the inside of their legs as combs to gather pollen together. Then they compress it with a touch of nectar and deposit this wad of pollen in a corbicula, or pollen basket, for transport. The corbicula is not a real basket but a hollow encircled by hairs found on each hind leg, which is very conspicuous when filled with yellow pollen. There is always pollen that escapes this gathering process and rubs off on the next flower, making bees the major pollinator for many of our fruits and vegetables.

The flower's nectar has a different journey. A forager bee collecting nectar passes the sweet liquid directly into her unique honey stomach. Back at the hive, the bee transfers the nectar into another worker's mouth where enzymes blend with the nectar. It continues from mouth to mouth. This nectar mix is then placed in a honey cell, often fanned by bee wings to evaporate extra water, and is transformed into honey. The bottom line is bees have the patent on making honey.

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FORGING TRAILS

A FOX TALE



This spring, the staff has been treated to a glimpse inside the world of a family of wild red foxes.

On March 29, I noticed that a vixen was denning in an old woodchuck burrow in the meadow directly in front of the bus parking lot. As I watched from my car, she nervously guarded the tiny pups and occasionally tried to carry them down the burrow. That day I saw two pups; both were obviously venturing out of the den for the first time. When I got out of my car, mom

ran off across the driveway and I quickly headed for my office not wanting to disturb the family further.

Over the next few days I saw no sign of the fox family and assumed mom had decided to move them to a new site. But I was wrong. On April 16 and 17 I saw four cubs, now much larger, playing in the sun and capering about just like puppies.

Neighbors across the road had seen a vixen with six pups and videoed them nursing and emerging from under a porch. We are not certain whether this was the same family in the neighbor's yard or a second fox family. The neighbors were concerned about the safety of the foxes and posted signs warning of "baby foxes in the road."



On April 20, six pups were at the woodchuck den wrestling and playing king of the hill on the sand pile outside the den. On another day they played in a culvert pipe in our lower parking lot. By this time, the word was out and lots of people, including some professional nature photographers, stopped by to document this easy-to-watch fox family. We set up a trail camera on the post of a nest box close to the den and have hundreds of photos on that memory card.



One morning the baby foxes were seen playing with the remains of a chicken (!) and one photographer reported they had an egg (!) on another day. With six hungry mouths to feed, mom was no doubt roaming far and wide to find food.

It is always a treat to have these sort of up close encounters with wildlife ... especially really cute ones.

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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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NANCY BECK



Puffins got me started...beginning with my first encounter with the Science Center staff in 1986. Trustee Bertha Fauver invited me for dinner at her home with (former) Executive Director Rick Ashley. Later that evening Rick hosted a presentation on puffin colonies along the coast of Maine and within days I found myself selling raffle tickets on Plymouth's main street for the benefit of the Science Center. The association, and my passion, for the Science Center, has continued since that time. What

nature did for me on that day – calling attention to the wonders that reside within it – is what we continue to facilitate all these years later. When Squam Lakes Natural Science Center inspires someone, opens an imagination, fills a heart, then that someone will spread the word. Our world can be made a better place in this way...and it's likely to begin with a "walk in the woods" at the Science Center.

My childhood summers were spent on a lake in northern Ontario. Calls of loons, wild thunderstorms, swimming in icy cold waters,

feasting on fish caught fresh from the lake – nature was not a thing held separate. We grew up learning that nature included us – myself, my sister, the moose that swam past our canoe as we paddled along – we all belonged. Good memories. I was lucky to grow up surrounded by these lessons. The Science Center exists so that more families can share such life-changing experiences.

Squam Lakes Natural Science Center was not designed to provide mere entertainment or simple diversion. The facility was founded to create increased awareness of our natural world. This is the difference that this place makes in our community, our state, and our world and this is the driving influence for developments for the Science Center's future. We seek to further the evolution of our educational programs – with focus on adults as well as youth – in order to best communicate the circumstances of a natural world in constant change. With passion, I look forward to being part of this future.

And, naturally, my soft spot for puffins remains...

Nancy Gould Beck has served as a staff member, volunteer, trustee, Chair of the Board of Trustees, and twice as Interim Executive Director of the Science Center. She resides in Holderness with her husband Paul.

NEWSBRIEFS



• Aubrey Voelker joined the staff as Animal Care Associate in April. She holds a degree in Zoology and Environmental Studies from the University of Wisconsin and was a program intern at the Science Center during the summer of 2013.

Aubrey has previously worked at a veterinary teaching hospital, a vet clinic, a Penguin and Seabird rehabilitation center in South Africa; she has volunteered at the Henry Vilas Zoo in Madison, Wisconsin, and was also an intern at the Conservancy of Southwest Florida. She lives in Meredith.

• Three program interns join the staff this summer. Molly Fifield is a junior at Arizona State University where she majors in Applied Biological Sciences and Applied Ecology, Wildlife Track. Previously she's worked at the Vince Shute Wildlife Sanctuary, caring for black bears and answering guests' questions about black bear behavior. Molly has also volunteered at the Heritage Park Zoological Sanctuary and Arizona Game and Fish Department. Corinne Schuh is Senior at the University of Wisconsin – Stevens Point working towards a Bachelor of Science in Natural Resources in Wildlife Ecology with a minor in Captive Wildlife. Corinne has completed an internship at the Wildwood Wildlife Park in Wisconsin and worked at her college as an Animal Care Facility Technician in the Biology

Department. Cassandra Spano is a junior at Ramapo College of New Jersey with a major in Environmental Studies and a minor in Public Policy. This spring semester she studied in Bangalore, India. She has worked at Petco Animal Supplies, a Farm Market, and also was a volunteer camp counselor teaching therapeutic riding for special needs students.

- Marketing Intern Danica Melone is a junior from Hollis who is pursuing a BS in Tourism Planning and Development at the University of New Hampshire. On campus, Danica is active as the Dunkin' Donuts campus ambassador through which she helps to implement environmental initiatives on campus. Danica enjoys hiking and skiing.
- Guided Discoveries Intern Kelly Buchanan is a senior at the University of Colorado at Boulder working toward a BA in Environmental Studies with a minor in Political Science. Kelly enjoys finding ways to connect children with nature and encouraging them to learn new things. Her own passion for the natural world began when she was young and grew up hiking, skiing, and riding horses in the Rocky Mountains.
- Executive Director Iain MacLeod was recently elected to the board of Association of Nature Center Administrators (ANCA) and has now been nominated to be president-elect. The election will be held in August at ANCA's annual summit, held this year at the Audubon Center of the North Woods in Sandstone, Minnesota.

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Please join our friends, the New Hampshire Musical Festival and New Hampshire Master Chorale, for

SQUAM: A Celebration of Community

Sunday, June 12

5:00 to 7:00 p.m.

Burleigh Farm on Route 113

Children and families are welcome.

RSVP by email to Deb Kosits at deb@nhmf.org or by calling 603-238-9007. Suggested \$20 contribution at the door.

KIRKWOOD GARDENS PLANT SPOTLIGHT

By Brenda Erler

Climbing Rose

Rosa 'New Dawn'

Culture: Enjoys full sun in average, moist, well-drained soil

Bloom: early summer until frost if deadheaded

Height: Grows 6 to 12 feet tall and wide, but can be pruned to size in early spring

This beautiful climbing rose has large, fragrant, blush-pink flowers attractive to butterflies. Great for walls, fences, and arbors. Mulch to keep the soil cool and moist, and water regularly.

Kirkwood location: split rail fence along entrance driveway



Mountain Laurel

Kalmia latifolia

Culture: Prefers partial shade with moist, acidic, well-drained, cool soil

Bloom: May - June

Height: 6-8 feet

Mountain Laurel is a lovely native shrub that is great for shady borders. When planted in mass, the flowers make a terrific show. It flowers best in full sun, but the foliage is better in partial shade, so look for a spot with morning sun and afternoon shade

Kirkwood location: Upper garden behind Inn and in the Route 3 bed



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

SCIENCE CENTER NATURE TOURS

Land of Enchantment:

Natural Wonders of New Mexico
November 1-11, 2016

Shetland and Orkney Islands
June 2017

See full trip details and itinerary at nhnature.org/programs/nature_tours.php

SUMMER 2016 GUIDED DISCOVERIES

Guided Discoveries are week-long outdoor natural adventures for children ages 4 to 14 that run weekly from June 20 through August 12. Programs taught by experienced naturalists and educators allow participants an in-depth exploration of nature and science. Learn more at nhnature.org/programs/guided_discoveries.php.

A LOOK BACK...



Senior Naturalist Dave Erler teaching about insects in the Red Barn classroom in the 1970s.



The annual Work Day group in the late 1970s including volunteers, staff, and families shown here in front of the Holderness Inn.

NATURALIST'S CORNER

WHY WATER?

By Eric D'Aleo

We swim in it, bathe in it, clean with it, drink it, splash in it, float in it, dive in it, sit by it, live by it, fish in it, look at it, listen to it, smell it, and grow things in it. We all need water and enjoy it in one capacity or another. It's so common, we take it for granted. Yet water is vitally important to all forms of life. It's so crucial that scientists look for life on other planets by looking for water.

Water affects us physically, mentally, and emotionally, which we all intrinsically know, but neuroscience is just beginning to quantify. Our bodies are mostly made up of water accounting for 60 to 78% of our body's volume and weight depending on our age. From the moment we're born to the moment we die, water is an ever present part of our lives.

Many people drink plenty of water for health reasons. It keeps us hydrated and flushes out toxins in our bodies. Exposure to water also helps calm our mind and alleviates stress from our daily lives. We may enter an aware, yet mildly meditative state, that author and marine biologist Walter J. Nichols calls "Blue Mind." This allows us to perceive things from a broader perspective as well as identify connections and ideas we may have overlooked. Both creativity and insight increase when people are exposed to water. You may have experienced this when you emerged from a shower with a solution to a longstanding problem.

Being around water may also make us feel happy. A 15 minute walk along a river can increase positive emotions and feelings of vitality. Being out in nature has measurable benefits to our mental and emotional health and when we are near water these benefits are enhanced. Even if we are agitated and stressed when we arrive at a shoreline, there's a good chance we'll walk away more calm and relaxed when we leave. This may help explain why 46% of the country's population visited a beach or shoreline in the past year.

*"Get in the water ... listen to it.
Touch the water. Close your eyes
and drink a big glass. Fall in love...
with all its shapes, colors and forms.
Let it heal you ... You need water.
And water needs you. I wish you
water." – Walter J. Nichols*

But it's not just natural water features that influence our health. Fountains, pools, and other built water features may also have an effect. Your heart rate, blood pressure, and mood improve when you visit an aquarium. This may explain why personal aquariums are found in many homes and offices. Your doctor may alleviate his patients' apprehension by having an aquarium in the waiting room.

How is water important to you? Where does the water you use come from? What creatures beside people need healthy water to survive? How do you interact with water? Rediscover your deep connection with water when you next visit a lake, pond, river, or ocean and learn more about water in our new Water Matters Pavilion.

FROM THE HERON'S NEST

By Laura Mammarelli



During one week in late March, Blue Heron School children spent time outside with Naturalist Margaret Gillespie to learn about trees and how to identify sugar maple trees. At the end of the week, Margaret's brother Tony Gillespie brought his tapping tools and evaporator to show the children how maple sap is collected and boiled to make maple syrup. After the presentation, the children's families visited school and enjoyed a special Family Friday and learned about the maple sugaring process and ate waffles with maple syrup.

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.



Squam Lakes Artisans Gallery
Locally crafted New Hampshire gifts at the
Holderness Inn
Open daily 10:00 a.m. to 5:00 p.m.

Kirkwood Café
Open daily July and August
11:00 a.m. to 3:00 p.m.

UPCOMING PROGRAMS

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.

Annual Breeding Bird Census
Saturday, June 11, 2016
Session 1 - 5:30 to 8:00 a.m.
Session 2 - 8:00 to 9:30 a.m.
Adults and families with
children ages 12+

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.


StoryWalk™
July 1 through September 5
Opening Celebration July 1,
10:00 to 11:30 a.m.

StoryWalk™ features *Around the Pond: Who's Been Here?* by Lindsay Barrett George. In this tale, two youngsters set out to pick blueberries for pie, but are soon distracted by telltale signs they see and items they find along an old deer path around a pond. With each discovery, they ask, "Who's been here?" The next stop on the StoryWalk™ provides the answer! Get outside and enjoy this free fun family activity, presented in partnership with the Holderness Library and Holderness Recreation Department. StoryWalk™ opens, rain or shine, with family activities and refreshments on July 1 from 10:00 a.m. to 11:30 a.m. Find StoryWalk™ surrounding the Holderness Town Gazebo located behind the Holderness Post Office at Curry Place.

No charge and no reservations required.

Sponsored by:



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Facebook

50 NATURE ACTIVITIES FOR KIDS

PROGRAM SERIES

For families with children ages 5+

Dig into our new book, *50 Nature Activities for Kids* by Senior Naturalist Dave Erler, published in celebration of Squam Lakes Natural Science Center's 50th anniversary. Each program in the series offered throughout this year will feature activities from the book to get you exploring nature outdoors and give you a project to take nature home. Books are available for sale in the Howling Coyote Gift Shop for \$14.95.

Celebrating Summer I

Saturday, June 25 • 10:00 to 11:30 a.m.

Featured activities: Bio Census, Grass Blade Whistle, and Racing Invertebrates

Celebrating Summer II

Friday, July 15 • 10:00 to 11:30 a.m.

Featured activities: Catching Crawfish, Leaf Prints, Striped Maple Goose Feet

Celebrating Summer III

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

Featured activities: Bracken Fern Hat, Build a Butterfly Net, Sumac Lemonade

Celebrating Summer IV

Tuesday, August 16 • 10:00 to 11:30 a.m.

Featured activities: Bark Rubbings, Color with Plants, Jewelweed, Log Looking

Activities take place both indoors and outdoors. Children must be accompanied by an adult.

Cost per program: \$7/member child; \$9/non-member child

NEARER TO NATURE

PROGRAM SERIES

For Adults

It's all about a new Science Center book called *Nearer to Nature*, authored by Naturalist Margaret Gillespie. The book walks you through the seasons, delving into nature's mysteries. Join Margaret to explore the local fauna and flora at one or more of these places. Books are available for sale in the Howling Coyote Gift Shop for \$19.95.

Unsworth Preserve, Sandwich

Tuesday, July 19 • 9:00 to 11:30 a.m.

Explore this secluded jewel, a preserve owned and managed by the Squam Lakes Conservation Society. We'll wind our way along an extensive wetland and through forests in search of wildlife signs and sounds, checking for unusual flora.

Chamberlain Reynolds Memorial Forest, Center Harbor

Thursday, August 18 • 9:00 to 11:30 a.m.

Access Squam Lake by land, meandering through upland forest, crossing a swamp boardwalk, and exploring shoreline trails at this New England Forestry Foundation preserve managed by Squam Lakes Association.

Squam Lakes Natural Science Center

Saturday, September 3 • 9:00 to 11:00 a.m.

The Science Center encompasses 200 acres but many delightful spots are off trail or seldom seen. Explore lesser known sites at the Science Center. Conclude with a wildlife visit from an animal whose relatives roam the surroundings when all is quiet.

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

UPCOMING PROGRAMS

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.

50 YEARS OF ENVIRONMENTAL CHANGE – LOOKING BACK AND LOOKING AHEAD

Adult Lecture Series

No charge to attend but reservations are required

State of New Hampshire's Birds

Tuesday, June 7 • 7:00 p.m.

by Dr. Pam Hunt, New Hampshire Audubon Senior Biologist

There are about 186 species of birds that nest in New Hampshire. Of those populations, about one third are experiencing long term population declines, another third are stable or increasing, and the rest lack the data needed to determine what their population trends actually are. Dr. Hunt will present an illustrated talk identifying some major causes of these declines and conservation strategies to help reverse them.

Fisheries Management in New Hampshire's Large Lakes

Tuesday, June 21 • 7:00 p.m.

by John Viar, New Hampshire Fish and Game Fisheries Biologist

John Viar will explain Fish and Game's annual management efforts undertaken to sustain landlocked salmon, rainbow trout, and lake trout, as well as to share angling opportunities for these species.

Effects of Winter Climate Change on the Northern Hardwood Forest

Wednesday, July 13 • 7:00 p.m.

**by Pamela Templer, Associate Professor of Biology, Boston University;
Researcher, Hubbard Brook Ecosystem Study**

Why are scientists at Hubbard Brook Experimental Forest in Thornton removing snow from the forest floor in some areas and heating it in others? Dr. Templer will reveal the answers as she shares the Climate Change Across Seasons Experiment that aims to determine the impacts of climate change on nutrient uptake and carbon sequestration in the northern hardwood forest.

Ben Kilham on Black Bears

Tuesday, August 9 • 7:00 p.m.

by Ben Kilham, Wildlife Biologist

Through this illustrated presentation, Ben invites us into the world he has come to know best, that of black bears. For decades, Kilham has studied these animals in a vast tract of Northern New Hampshire woodlands. At times, he has also taken in orphaned infant bears—feeding them, walking them through the forest for months to help them decipher their natural world, and eventually reintroducing them back into the wild. Once free, the orphaned bears still regard him as their mother. One of these bears, now a 20-year-old female, has given him extraordinary access to her daily life, opening a rare window into how she and the wild bears she lives among carry out their daily lives, raise their young, and communicate.

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 programs above are included with trail admission

Invasive Species Removal Work Days

July 12, July 26, August 11

9:30 to 11:30 a.m.

Adults

Join Master Gardener Liz Stevens to 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 the 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. Snacks and lemonade will be provided to wrap up our work sessions.

No charge to attend but advance registration is required.

NATURAL ADVENTURES SERIES

Nature Play Time

Wednesdays, July 6, July 20, August 3, August 17, September 14, October 12 • 10:00 to 11:00 a.m.

Ages 3 and under

Join us for some unstructured play in nature with your little one! We will set the stage for fun so you and your tot can laugh and explore the natural world together. We will play in a shallow stream with buckets and scoops one week and play in the forest walking on log balance beams, and making stick forts the next. Come once or come every session. Program will be held outdoors; please dress for the weather. Adults get to play too!

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

Yoga Wild

Wednesdays, July 13, 27, August 10, 24 • 10:00 to 11:00 a.m.

Ages 4 to 7

Explore animal movement through fun yoga poses done outdoors in the fields and forests of the Science Center. Children will learn spatial concepts, stimulate their senses, and develop motor skills as they use their imaginations to mimic animals. Each session includes a visit with a live animal.

Cost per session: \$7/member child; \$9/non-member child

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 21 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 10
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. See the beautiful lake where *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 5 to August 31 - Tuesday, Wednesday, Thursday at 4:00 p.m.
September 1 to October 6 - 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.

Bald Eagle Adventure

May 17 to June 28 - 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 a Squam since 2003.

Loon Cruise

June 6 to August 29 - 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.

*Explore Squam, Nature of the Lakes,
 Bald Eagle Adventure, and 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)

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

Dinner and Sunset Cruise

Thursday, July 21 and 28

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

Lake Explorers – A Family Cruise

July 12, 26, and August 9

Tuesdays at 10:00 a.m.

For 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. Operations Manager Sharon Warga will personally arrange your charter for any occasion or celebration.

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

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.

UPCOMING EVENTS

H2Ooooh! Day

Thursday, July 7

9:30 a.m. to 5:00 p.m. (last admission 3:30 p.m.)

Meet aquatic animals such as mink, turtles, beaver, and osprey at Up Close to Animals presentations. See the River Otters get a special fishy treat. Visit with a docent at the Shaping Watersheds exhibit at the new Water Matters Pavilion and learn how watersheds work. Artist Christine Destrempe of Art for Water will be at the Stream of Conscience art exhibit from 10:30 a.m. to 12:30 p.m. to share the inspiration for her art. She will work with visitors to add their own thoughts to the Stream of Conscience. Stream of Conscience is made possible by funding from the Steinwachs Family Foundation, an anonymous donor, the Science Center's Innovative Project Fund, and Cottage Place on Squam Lake.

Cost: included with trail admission

Christmas in July for the Critters

Monday, July 25

9:30 a.m. to 5:00 p.m.

(last admission 3:30 p.m.)

This is a special day all about the animals. Learn how animal care staff members provide a rich and stimulating environment for its animal ambassadors through daily enrichment activities. Up Close to Animals presentations will focus on enrichment techniques and special demonstrations will be held at animal exhibits. Docents will answer questions. Visit the Christmas in July tree at the Welcome Center to make the animals' wishes come true! Select an ornament featuring an enrichment toy and donate that amount to allow the Science Center to purchase it.

Cost: included with trail admission



SAVE THE DATE

Raptor Spectacular

Saturday, September 10

Featuring Vermont Institute of Natural Science
Sponsored by Bank of New Hampshire (Community
Guaranty Savings Bank)



Golden Anniversary Gala

Saturday, July 23

Join us to celebrate 50 memorable years of bringing people nearer to nature! Tickets are \$50, which includes an open bar and food by The Common Man.

- Dance to the Golden Oldies with Annie and the Orphans
- Live auction for a North Country trip led by Iain MacLeod
- Raffle with wonderful prizes donated by local businesses

Of course, along with celebrating 50 wonderful years, proceeds will support the Science Center's educational programs to get things off to a good start for the next 50 years.

Tickets may be purchased online at
nhnature.org/programs/gala.php.

Annual Meeting for Members Saturday, August 6 • 8:30 to 10:00 a.m.

Enjoy a complimentary continental breakfast before the business meeting, which starts at 9:00 a.m.

- Elect officers and trustees
- Honor retiring board members
- Recognize employee service
- Present Horizon Award

All members are welcome and encouraged to attend.

For the election slate and biographies of nominees, please visit nhnature.org/programs/annual_meeting.php

Please call 603-968-7194 x 11 to reserve your seat or if you would like paper copies of the meeting materials.

continued from page 3

Iain would assume the duties of board president at the summit in 2017. Iain also helped coordinate the ANCA New England Regional Meeting in March held at Earthplace in Westport, Connecticut.

- Naturalist Jeremy Phillips was elected as Vice President of New Hampshire Environmental Educators (NHEE) at their annual meeting held at the McLane Audubon Center in Concord in April. NHEE is the state's professional environmental education organization, with a mission to advocate for high quality environmental education in New Hampshire and provide a forum for networking and professional development for environmental education.

NEWSBRIEFS

- Several groups gave time to clean up the grounds in April to prepare for opening day. Supervised by Volunteer Coordinator Carol Raymond, groups included: employees from Hypertherm, J. Jill Group, and Stonyfield Farm; Plymouth Regional High School National Honors Society; Plymouth State University volunteers and Tau Omega sorority; and Patrick Wolk's senior school project from the Oliverian School. Thank you to these businesses for helping us to feed the workers: Bob's Shurfine Market, Ashland; Hannaford Supermarkets, Plymouth and Meredith; E.M. Heath Supermarket, Center Harbor and Holderness; Lakes Region Coca-Cola Bottling Company, Belmont.
- Dead River Company and the New

Hampshire Electric Co-op Foundation generously supported New Hampshire Day on May 14. Dead River Company representatives shared energy efficient ideas with visitors. New Hampshire Electric Cooperative provided free admission to Co-op Members.

- In July, Science Center members may visit The Fells Historic Estate and Gardens (thefells.org) in Newbury, once at no charge. In September, Science Center members are invited for one free visit to the McAuliffe-Shepard Discovery Center (starhop.com) in Concord. Be sure to take your membership card with you when you go. Check their websites for information about hours and directions.

OPENING A WINDOW TO THE NATURAL WORLD

Please join the Naturalist's Legacy Society

How far we have come! As part of our celebration of our 50th anniversary milestone, our Development Committee, led by Trustee Bill Lee, started a 50 by the 50th campaign to identify 50 new legacy gifts. Committee members are reaching out to our most treasured members, donors, and friends and sharing with them how easy it is to document a legacy gift. At this writing in early May, 34 donors have declared their intent to leave a legacy to the Science Center.

Legacy giving, through bequests, insurance, retirement accounts, donor advised funds, and other estate gifts, is vitally important to the long-term financial health of the Science Center. Legacy gifts will help the Science Center remain a special place to future generations as it is to those of you who enjoy it now. One way to think about it is that your legacy gift will continue your support after you're gone. You'll gain a great feeling of satisfaction now, knowing you can continue to help an organization you care about be strong for the next 50 years.

Have you already included Squam Lakes Natural Science Center in your estate plans? We'd love to know so we can follow your wishes, thank you, and welcome you into the Naturalist's Legacy Society.

Opening a Window to the Natural World is written by Janet Robertson, Development and Communications Director.

You may contact Janet at 603-968-7194 x 12 or janet.robertson@nhnature.org

Golden Tributes Celebrating 50 Years 1966 to 2016

You can help celebrate our 50th anniversary by making a special \$50 tribute donation to honor friends or family, a favorite staff member, or outstanding board member.

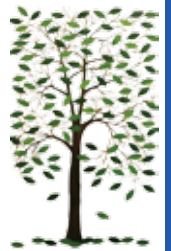
We'll notify each honoree with a personalized letter and you'll receive acknowledgment of your tax deductible contribution. Your tribute will be recognized at the Golden Gala on July 23, and on our website.

All tribute gifts support the Science Center and its mission. Make a tribute online at www.nhnature.org/50.

Naturalist's Legacy Society

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

Learn more at http://www.nhnature.org/support/planned_giving.php



WISH LIST

Dehumidifiers

For Blue Heron School:

Crock pot and shade screen

For intern residence:

Twin bed frame and box spring

For Howling Coyote Gift Shop:

Working DVD player

For animal care:

New or clean dog or cat toys, garden cart, 5 gallon buckets, good condition dog crates-not more than 32 inches high, fish tanks of assorted sizes, sheets and towels

GREEN TIP: LET IT RAIN!

Every living thing needs water! As water issues are often in the news now, you may wonder how to conserve water in your home. Aside from familiar advice such as use low flush toilets, take short showers, water gardens when it's cool, and so on, one practical solution is to install a rain barrel. Since 40% of household water is used outside, a rain barrel is a great way to beat high water prices, prepare for summer drought, and protect a precious natural resource. An added bonus is that rainwater may help to improve the health of your gardens, lawns, and trees since it is naturally soft water without minerals and chemicals. Start a trend in your neighborhood and teach others about rain barrels. Get started at this website: <http://www.rainbarrelguide.com/>.

Water Matters Pavilion rain barrel, which helps to supply water for the water play area.



These generous donors made tribute gifts, which were received between January 1 and March 31, 2016:

In memory of Mary Smith Denison

Elizabeth Dewey

In honor of Helen Hiam's birthday

Susan and Tom Stepp

In memory of Rick Fabian

Liz Rowe

In memory of Wade Fowler

George Carr

In honor of Carol Thompson

Linda Lee

In memory of Richard L. Robertson

Elsie Robertson

In honor of Betsy and Bruce Whitmore

Kevin and Frazier Walker

HONEY BEE QUIZ

1. Which source of protein do honey bees collect from flowers?
2. True or False? Queen bees eat royal jelly throughout their lives.
3. Foraging honey bees can communicate the _____ and _____ of food sources to other bees in the hive through waggle dances.
4. Which of these honey bees can sting?
 - a. Female workers and queen
 - b. Drones
 - c. Queen and drones
5. True or False? Only bees can make honey.

Answers:

1. Pollen 2. False 3. direction and distance 4. A 5. True



TRAIL'S END

50 YEARS!



Back in the 1960s a small group of visionaries had a great idea that some form of science center was needed in Holderness. United by an appreciation of the area's beauty and a desire to preserve it, the founders thought a science center would attract visitors while also protecting the area's natural assets. In 1966, the organization was incorporated and a large plot of land was obtained from the former owners of the Holderness Inn. The first Executive Director was identified and convinced to relocate to New Hampshire from Philadelphia in 1967.

The origins of this incredible institution are well documented in our files. In that era, most communication, other than in person, was via letter. We have handwritten letters as well as typed letters with carbon copies stored in our archives. If the science center were founded today we might not have as much information available to us 50 years later as any communication might have disappeared in cyberspace.

The original mission crafted by the founders was broad: 1) to be a museum of natural, scientific, cultural, and historical subjects; 2) to educate school children and others in the fundamentals of natural science; 3) to serve as a training center for environmental education; and 4) to be a natural sciences resource center. While the words that express our mission today have been updated, the operations of the science center remain remarkably true to that original mission statement.

Over the course of time the physical presence of the science center has morphed from a small operation housed primarily in the Inn with a few animals in the form of a "petting zoo" to a fully accredited zoo with many live animals housed in natural habitat exhibit areas. We now have a 3/4-mile nature trail and a brand new Water Matters Pavilion housing many exhibits related to water. What a change!

While the physical characteristics of the Science Center are relatively easy to track, it has been the dedication of many people over all of these years that caused the Science Center to prosper. Over these 50 years approximately 169 people served as trustees who have helped develop and guide the operations. There have been seven Executive Directors who each put their stamp on the Science Center and many dedicated employees. And, of course, we have had countless volunteers who donated a huge amount of time, talent, and money consistently year after year.

I think the early visionaries would be pleasantly surprised by the size and sophistication of the operation they originated. They would be impressed by the number of people who visit the Science Center and by the number of people involved in all aspects of the operation. They could not have imagined or hoped for more.

As we celebrate this year with our Golden Anniversary Gala on July 23 and with books and other events, we are not resting on our laurels. We will unveil our latest strategic plan for the next five years at our Annual Meeting on August 6. That plan promises to further the tradition of innovation and pursuit of mission that will continue to make our founders proud. We look forward to the next 50 years!

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

SWEET GOLD *continued from page 1*

Another unique product that worker bees make is bee bread. This fermented product incorporates honey, pollen, and secretions from certain glands. When young worker bees called nurse bees eat bee bread they produce a food called royal jelly from glands in their throats. They feed this potent food to bee larvae during only part of their growing stage. The queen develops as the queen bee on a diet of royal jelly throughout her larval period.

In sharp contrast to worker bees, the males, or drones, are freeloaders most of their lives. Drones are not foragers and don't even have stingers to help protect the hive. How can you tell if a bee is a drone? They have exceptionally large eyes compared to the worker bees, the better to spot a queen on a mating flight.

Most of us don't need to work up excitement about honey but bee stings get the opposite publicity. Although queens do have a stinger it lacks barbs and is essentially used for attacking rival queens. The workers are a different story. When aroused

by danger, they band together to eject the intruder. Their stingers are barbed and can penetrate flesh but then tear out of the worker's abdomen, sacrificing the bee for the good of the hive. Nerves and muscles operating the stinger come with the package so the stinger continues to inject venom when detached. The best strategy is to remove the stinger as quickly as possible, preferably by scraping or even brushing it off. Are there positives to bee venom? Scientists are looking into its value for therapeutic remedies.

Circling back to our Canterbury hive, by fall, the hive grew in population as well as height, with the addition of another brood box and a smaller "super" on top. The bees produced honey for themselves in the bottom two boxes to carry the hive through the winter. There was ample honey in the super for the human inhabitants of the farm. In your corner of the world, be kind to bees as much as you are able. Avoid insecticides. Turn a blind eye to dandelions – those early bloomers can be life savers for bees. Celebrate flowers – they are the path leading to sweet gold.

Volunteer Opportunities

Docent Training - Adults

Docents are volunteers trained to interact with guests on the live animal exhibit trail. Docents represent the Science Center at off-site events and also travel to assist naturalists with educational programs. Docents must commit to 40 hours of training in their first year and 16 hours annually after that.



June 20 to 23 3:00 to 8:00 p.m.
 Cost: \$50 (financial aid available)

First Guides Training - Ages 14 to 17

First Guides are teens trained to provide an educational presence on the live animal exhibit trail and at special events.

June 28, 29 9:00 a.m. to 4:00 p.m.
 July 1 9:00 a.m. to 1:00 p.m.
 Cost: \$50 (financial aid available)

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

THE HOWLING COYOTE GIFT SHOP

Established 1966 Apparel and Gear
 Many styles to choose from
 Prices vary



Nearer to Nature, by Margaret Gillespie (\$19.95) and *50 Nature Activities for Kids*, by Dave Erler (\$14.95) available for sale in the Howling Coyote Gift Shop.

All proceeds from sales at the Howling Coyote Gift Shop benefit the mission of Squam Lakes Natural Science Center.

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