



UNRAVELING MILK SNAKES

By Margaret Gillespie, Illustration by Cheryl Johnson

My most memorable experiences with milk snakes have been in kitchens! Our family’s 1810 Canterbury farmhouse has always had many points of entry for small creatures. One fall, as temperatures dropped, we were astonished to find that two milk snakes had taken refuge under the refrigerator. The air exhaust from the refrigerator made that the warm spot of the kitchen. At night, the duo explored the kitchen searching for mice – quite a surprise for any humans seeking midnight snacks. During their stay, I would give friends flashlight viewings of the narrow space under our refrigerator. These two- to three-foot snakes always brought a gasp at the very least!

The eastern milk snake, *Lampropeltis triangulum*, is one of 11 species of snakes found in New Hampshire. It is a common but secretive snake. The genus name, *Lampropeltis*, means “shiny shield” in Greek, referencing the striking pattern seen on its dorsal scales. On a background of tan or light brown, a row of large, irregular blotches bordered in black runs down the spine. More rows of smaller blotches are along the snake’s side, alternating with the row above. Look for a distinctive but variable feature on the back of its head – a light-colored “Y” or “V” or triangle within the dark blotch. Hence the species name, *triangulum*. The milk snake’s design of asymmetrical blotches makes it difficult for predators



Milk Snake

or prey to distinguish the creature’s overall shape. Belly scales provide another contrast – black and white in a checkerboard pattern.

What about the story of milk snakes milking cows? As pioneers settled in the eastern United States and cleared land for crops and livestock, they found milk snakes around their farms and even in barns. Typically milk snakes hide in stone walls and under boards, stones or decaying logs. A myth spread that these snakes were responsible for milking some cows dry. A close look at a milk snake’s diet proves that the snakes actually are farmers’ helpers. Their major prey is mice, often found in barns where they eat grain meant for livestock. I know our family’s Jersey cow, Robin, wouldn’t tolerate a milk snake’s sharp teeth. In addition, snakes aren’t adapted to consuming large

amounts of liquid. So, we are left with a fun story and a fascinating snake.

Milk snakes are constrictors, focusing on small mammals but also eating some small birds, lizards and other snakes. Constrictors strike prey, gripping them with their curved teeth. Immediately, they coil around the prey and begin to squeeze. As the prey exhales, they are able to gain ground, but the major impact of constriction comes from collapsing the chest and then compressing the heart. Without a functioning heart, the prey dies rapidly. Milk snakes need constriction to avoid being injured by their

Continued on page 10

FORGING TRAILS

HOURS OF BOREDOM, MINUTES OF CHAOS!

“Eighteen across...takes turns skiing?” ...“How many letters?” ...“Six ...begins with S”...*pause ...crickets chirp...Ospreys whistle...paint dries ...* “Slalom.” Aha! Another clue of August second’s *New York Times* crossword is filled in by committee. We’ve almost completed the puzzle so we’re feeling pretty good. But we have had plenty of time and several brains working together. This is classic wildlife research.

Patience is a virtue when it comes to studying wildlife. Just watch one of those “behind the scenes” making of *National Geographic* specials on Polar Bears or Snow Leopards. Days, sometimes weeks of waiting for that prized shot...hours of boredom, minutes of chaos.

Our crossword solving crew...I mean our dedicated wildlife researcher team is an eclectic gathering of seasoned pros and first time rookies. Think *Deadliest Catch*, without the crab, without the Bering Sea, without the ice and wind, without the danger—actually forget about *Deadliest Catch*. There are fish involved and we

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FORGING TRAILS continued from page 1

are trying to catch something, but truth be told, as we sit in our beach chairs, in the shade of some conveniently-planted spruce trees, sipping ice-cold lemonade on a glorious New Hampshire summer day, Dutch Harbor couldn't be further away. To be exact, it's about 4,058 miles from the J. Jill distribution center in Tilton where we sat waiting all day for our minutes of chaos.

Our quest was—of course—Ospreys. Those who attended *Saturday Night Wild* this year saw a “spoof” documentary that tracked my lifelong obsession with Ospreys. As my wife Susan said afterward, “That’s no spoof . . . he is obsessed.” Attendees of that July 21 event may also remember that one of the many wonderful auction items was the opportunity to spend a day with me catching and fitting satellite transmitters on Osprey chicks as part of Project OspreyTrack. After some hot bidding, now newly elected Science Center Trustee Liz Hager and her husband Dennis won the opportunity.



Joining us was Dr. Richard (Rob) Bierregaard, up from Philadelphia; Chris Martin, Senior Biologist at New Hampshire Audubon; and Tim Bergquist of Chippers Tree Service in Meredith, which donated the bucket truck to access the nest forty feet high atop a wooden pole. Tim’s nine-year-old son Alex also joined us for a portion of the day, as well as three employees from J. Jill who came

to photograph the excitement part. Oh, yes, we did have some excitement – our minutes of chaos – and Liz and Dennis got their money’s worth. The photo above shows Liz and Tim as they were about to release a male chick named Chip (after Chippers). To find out more about Chip and his sister Jill and how you can follow their 3,000+ mile journeys to South America, see page 7.

Forging Trails is written by Executive Director Iain MacLeod.
You may contact Iain at 603-968-7194 x 23 or iain.macleod@nhnature.org.

NEWSBRIEFS

- ◆ As of September 1, ‘Up Close to Animals’ continues every Saturday and Sunday through October 7, with presentations at 12:00 and 2:00 p.m. at the amphitheater. River Otter enrichment presentations continue every Monday, Wednesday, and Friday at 11:30 a.m. at the River Otter Exhibit through October 31.
- ◆ Blue Heron School has a few openings remaining for the 2012–13 school year for children ages 3 to 6. We welcome donations to the Blue Heron School Scholarship Fund. Please contact Janet Robertson at 603-968-7194 x 12 to learn more about this giving opportunity.
- ◆ We are partnering with Walter’s Basin Restaurant in Holderness. Science Center visitors can show their trail admission or cruise receipt and receive a 10% discount on lunch or dinner. Members can show their membership card and receive the same savings, which is good on Tuesdays only through November 1, 2012.
- ◆ Volunteers had a busy summer! A team of volunteers diligently helped to plan, organize, and staff Saturday Night Wild! Docents were on the trail daily and led Otter Enrichment and Turtle Talks. Many docents mentored the ten new First Guides and four returning First Guides. As they advance their skills, third- and fourth-year First Guides led Otter Enrichment and assisted with outreach programs. Animal Care volunteers, including two new people cared for program animals. Several new gardeners joined the Kirkwood Gardeners team on Thursday mornings. Education Assistants, Facilities volunteers, and Greeters at the Trailhead and Garden Gate also helped throughout the summer. Thank you to our great team of dedicated volunteers!

SQUAM LAKES NATURAL SCIENCE CENTER

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Squam Lakes Natural Science Center is a non-profit educational institution incorporated in 1966 as a charitable organization under statutes of the State of New Hampshire with its principal place of business in Holderness. 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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VOLUNTEER PROFILE

SUSAN AND DAN KEMP



Squam Lakes Natural Science Center cherishes the support of volunteers. In 2011, 354 volunteers donated over 8,000 hours of service. Among those volunteers, many are couples who volunteer in different areas and for their own individual reasons.

Dan: I discovered the Science Center when I first started coming to Squam in the early 1980s. I liked seeing the animals on the exhibit trail, but I especially liked learning something more about them through the “Up Close to Animals” mini-talks. A few years ago I decided to become more involved. After completing docent and Certified Interpretive Guide training, I became qualified to present “Up Close to Animals” programs. I now give mini-talks on six birds and two mammals. I love it when I can leave the audience knowing one or two new things about an animal that they will remember for some time. The trick is to provide some depth for adults, while making the program fun for kids.

The Peregrine Falcon is my favorite. The physical adaptations of this bird are extraordinary — it is generally considered to be the fastest animal on Earth — but the history of the species is even more amazing. For centuries the favorite bird of falconers, it was pushed to the brink of extinction by DDT, but recovered thanks to an extensive captive breeding and reintroduction program. The Peregrine’s story shows that people can affect nature for the good if they care enough.

Susan: I have been coming to Squam since I was a child. My favorite early memories of nature are the smell of the pines when I arrived at summer camp on Bean Cove and the sound of the loons that I could hear from my tent. I remember when the Science Center first opened in the old Holderness Inn building. My favorite exhibit was the Snowy Owl that used to live in the small building behind Kirkwood Gardens. The Owl was afraid of people, so you had to view him through a small peephole in a wooden wall. Now, the Otter Exhibit is my favorite. I love to volunteer and have always liked the atmosphere of the Science Center, so it was natural that I would find opportunities here, where I help in the office with data entry and mailings.

Dan and Susan Kemp live in Wellesley, Massachusetts in the winter and on Little Squam from late May until Columbus Day. Dan retired from a 35-year career as a designer of computer systems and recently completed a master’s program in environmental studies at Antioch University New England. Susan worked in computer systems before becoming a full-time mom and volunteer. Until recently, she was director of Singing Eagle Lodge, the girls’ camp at Camp Deerwood.

NEWSBRIEFS *continued from page 2*

- ◆ Many staff and volunteers attended “Healthy Interactions with Children” and the “People with Disabilities” training in June presented by Voices Against Violence and the Governor’s Commission on Disabilities. Also in June, most Tour Captains attended a continuing education lecture about the Lake Sunapee GLEON Buoy project and took part in on-water safety training for emergency situations.
- ◆ Behind the scenes, Facilities staff members installed an entire new pumping system for the River Otter Exhibit and are building new waterfalls and pools for the Ecotone Mammal Exhibit.
- ◆ Don’t miss our new special event, Festival of Flight, on Saturday, September 8. With a focus on the wonders of flight and migration, the day includes a hawk watch, crafts for children, live animal presentations, and a tethered balloon ride donated by RE/MAX of Meredith. Special guests

Ibex Puppetry will present shows throughout the day. Ibex Puppetry is run by the daughter of famous puppeteer Jim Henson (of Muppet fame). For a preview of their show, visit youtu.be/SRSfo5hpqbQ. Longhaul Farm will be on hand with food for sale. Festival of Flight is sponsored by Community Guaranty Savings Bank.

- ◆ On October 13, the Mission: Wolf – Ambassador Wolf program returns with their moving presentation featuring live wolves. You won’t want to miss these unforgettable shows, which take place at 1:30 p.m. and 3:30 p.m. at the Holderness School in the Hagerman Lecture Hall.
- ◆ Reserve your spaces for Halloween Hoot N’ Howl by October 19 and receive a \$1 discount per person. This fun family event takes place, rain or shine, on October 27 this year.
- ◆ The 2011 Annual Report, Audited Financial Statements, and 990 Tax Return are available for review on our

website at www.nhnature.org/annual_report_990.html. You may request paper copies of these documents in the mail by contacting Development and Communications Director Janet Robertson at 603-968-7194 x 12 or janet.robertson@nhnature.org.

- ◆ In August, Executive Director Iain MacLeod and Education Program Director Amy Yeakel attended the Association of Nature Center Administrators annual summit held in Wallops Island Virginia at the Marine Science Consortium. More than 100 administrators from around the United States and Canada gathered for five days. Professional development sessions included women leaders, risk management, mentoring, diversity, and others.



GARDENER'S CORNER



AMEND! AMEND!
By Volunteer Carol Stewart

Webster's dictionary defines "amendment" as a substance that aids plant growth indirectly by improving the condition of the soil. Soil condition can be defined in terms of both physical condition and nutrient content. Like humans, plants need a proper balance of minerals and pH (acidity or alkalinity). That balance is much more variable in plants. Also, like humans, they require a proper environment in which to thrive. Part of that environment is the physical texture of the soil. Typically, in New Hampshire, the soils are light – they tend to have a lot of sand or fine sand in them. Adding compost, leaf mold, peat moss, and manure, alone or in varying combinations, to this type of soil will improve its moisture retention capabilities. These additions also help to maintain the good drainage of sandy soil. Adding the same ingredients to a clay soil loosens it so that drainage is improved, thus avoiding the "wet feet" most plants won't tolerate. (Bog, pond and marsh plants are an exception). Well-aerated soil also promotes better root growth.

Addition of nutrients can also be considered a form of amendment. Nitrogen, phosphorus, and potassium are the three most important. Nitrogen spurs vegetative growth, phosphorus promotes bloom and root growth. Potassium is involved in almost every growth process in the plant. The most important thing to remember is to keep the percentages of all three in balance. In my garden, I amend with an equal mixture of compost, manure, and leaf mold.

A third condition of soil to consider is its pH. The range of pH is measured from 0 (very acid) to 14 (very alkaline) with neutral being around 7. Most soils in New Hampshire are naturally acidic. Some soils like those along the Connecticut River between Vermont and New Hampshire are alkaline owing to extensive limestone composition of the soil. Lime is used to bring acid soils closer to neutral. Sulfur will bring alkalinity down.

The pros and cons of specific physical amendment materials and nutrients are extensive. Home garden centers have many useful books as do libraries. The University of New Hampshire Publications Office has outreach locations. Master Gardeners (trained volunteers who share their enthusiasm for gardening with the general public) have a soil testing program too. Visit extension.unh.edu/Agric/AGPDTS/SoilTest.htm for information.

So have your soil tested, amend it, and happy gardening!

Gardener's Notebook and Kirkwood Gardens are sponsored by the Belknap Landscape Company, Inc.
www.belknaplandscape.com

FROM THE HERON'S NEST

By Laura Mammarelli



This spring the Blue Heron School children were able to watch a blue heron nest using the webcam managed by the Cornell Lab of Ornithology in Ithaca, New York. The children enjoyed seeing the parents care for the eggs, saw the chicks soon after they hatched, and watched the parents feeding the chicks. We decided to raise funds to support the blue heron webcam. The children started seeds, made greeting cards from their own artwork, and made snacks to sell at an event for their parents and Science Center staff. We earned over \$100 to send to the Cornell Lab. We received a lovely thank you from Anne Hobbs, who wrote, "To have raised over \$100 shows me that you must have worked really hard and that is very special.... (Other staff members) asked me to thank you very much for your hard work and your enthusiasm for the cams."

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., September through June. The school is now accepting applications and interested parents may contact Laura Mammarelli at 603-968-7194 x 40 or blueheron@nhnature.org.



SQUAM LAKES
NATURAL SCIENCE CENTER

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NATURALIST'S CORNER

ASPEN GOLD

By Dave Erler

Autumn is the golden season, not just in the color of the changing leaves but also in the value of the hard mast (nuts) produced by the likes of oak, beech, and hickory trees. As important as the mast-producing trees are to wildlife, there is another deciduous tree that does not produce large seeds or nuts but stands out as an important food source for some of our best known wildlife species. This tree is the aspen. Quaking or Trembling Aspen (*Populus tremuloides*) is the most common of the aspen species and also the most wide ranging tree in North America. The trembling or quaking part of the name refers to the leaf's flattened stem (petiole) and the flat roundish leaves that flutter in the slightest breeze. This rather unusual leaf design is believed to be an adaptation to reduce air drag that might break the branches and trunk in high winds.



Quaking Aspen usually grow to heights of 40 to 50 feet and rarely to 80 feet, with a 12- to 18-inch trunk and a canopy spread of 25 feet. Younger aspen trees, with their smooth light greenish-grey bark, are sometimes confused with birch trees, but the grey and paper birch have much lighter, whiter bark. Unlike the birches, the aspen bark on the lower trunk becomes rough and furrowed as the tree ages.



There are several interesting characteristics of the Quaking Aspen's reproduction. Aspens are dioecious, meaning the male and female reproductive parts, called catkins, are found on separate trees. The female trees produce abundant seeds, but the seeds are small and have low viability, so few of the seeds have the opportunity to sprout and grow to tree size. More commonly, aspens spread by suckering from their roots. These suckers are exact clones of the tree they are sprouting from. This means stands of aspens are either male or female. A stand of clones is sometimes easy to pick out when several stands on a mountainside are viewed from a distance in the fall. The different stands of clones will vary in their rate of color change and shades of yellow.

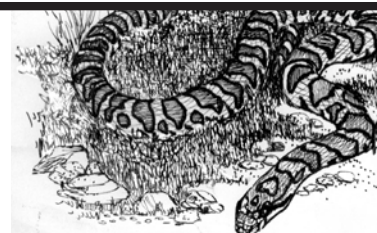
Although not one of our largest native trees, Quaking Aspen fills an important ecological niche. Sometimes referred to as a "pioneer species," it is quick to colonize disturbed ground following a forest fire or logging clear-cut. Growing quickly in full sun, it provides shade for the seedlings of slower growing shade tolerant tree species such as Sugar Maple and American

Beech. Sun loving aspens are intolerant of shade, so individual trees usually die out as the other tree species grow taller. Although individual aspen trees may be short-lived, stands of clones have been estimated to survive for 5,000 to 10,000 years. One western stand is estimated to be 80,000 years old, making Quaking Aspen one of the longest living organisms.

Human use of aspen has been mostly for pulp in paper production and, to a lesser extent, in the fabrication of flake boards and boxes. A characteristic of the wood is that it doesn't splinter easily, so it is also used for ice cream sticks, tongue depressors and wooden matches. As a source of food for wildlife, Quaking Aspens are used by over two dozen species of animals. It is of major importance to ruffed grouse, beaver, snowshoe hare, moose, and white-tailed deer. Moose and deer browse the twigs and leaves. Beaver and snowshoe hare prefer it over other tree species, gnawing the bark and twigs to get at the nutritious inner cambium. Ruffed grouse may benefit the most from Quaking Aspen. Sunlit early stands of aspen provide many insects that young grouse need for growth. Middle-aged stands provide important winter food in the form of buds, particularly the stands of male trees with their larger, more nutritious buds. Older stands provide shelter. Wildlife managers have found clear-cutting aspen stands in ten-acre blocks maximizes the benefits for both wildlife and human uses. Although not usually a tree of choice for landscaping, the quick-colonizing, fast-growing Quaking Aspen has value for more than the gold of its autumn leaves.



SNAKE QUIZ



1. How many species of snakes live in New Hampshire?
A. 8 B. 11 C. 14
2. True or False? Milk snakes are constrictors.
3. What trait of rattlesnakes do milk snakes imitate?
4. True or False? Milk snakes do milk cows but only on rare occasions.
5. Milk snakes can be beneficial to farmers by eating

Snake Quiz Answers: 1. B 2. True 3. Vibrating their tails 4. False 5. Mice

NATURAL ADVENTURES

DISCOVER YOUR WORLD

Wednesday • September 5
9:30 to 10:30 a.m.
Ages 3 and under

Foster your child's own 'natural curiosity' and sense of wonder with a visit to a unique natural community. Outside adventures will build a foundation for a lifetime of enjoyment and appreciation of the natural world. Adult must accompany child at no additional cost.

Cost:

\$5/member child
\$7/non-member child

SEED SEARCH

Saturday • September 15
10:00 a.m. to 12:00 p.m.
Adults and Children ages 6+

Autumn is the peak of seed production for most of our native plants. Join us to search for seeds and look closely at the ingenious ways they have to get themselves planted. Adult must accompany child.

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

LEAF PEEPER PARADISE

Saturday, September 29
9:00 to 11:00 a.m.
Adults and Children ages 12+

New England is renowned for its majestic hillsides filled with the reds and golds of the changing leaves. Enjoy a relaxing drive to some of the state's best sites for viewing the fall magic. The tour will be highlighted by short walks, concentrating on leaf colors and tree identification.

Cost: \$15/member; \$20/non-member

CHILDREN OF THE LEAVES

Wednesday • October 10
10:00 to 11:30 a.m.

Adults and Children ages 5 and under

Autumn leaves create a special time for young children. The rustle of dry leaves when you walk through them is exciting to all ages. Join Naturalist Eric D'Aleo for a morning of exploration and fun with your child as we collect and sort leaves, make "leaf animals," and search for creatures under the leaves. We'll also investigate places to hide among the leaves and become leaf creatures ourselves. Adult must accompany child at no additional cost.

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

UPPER POND ADVENTURE

Saturday • November 3
10:00 to 11:30 a.m.
All ages

On the surface, the Upper Pond looks tranquil. But underwater is another story. Join us to collect and learn about critters camouflaged and hiding, predators and prey, large and small. All equipment is provided but your sharp eyes are needed. We'll conclude with a visit from an aquatic animal.

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

NATURE PLAY: A PARENT-CHILD WORKSHOP

Friday • November 16
10:00 to 11:30 a.m.

Adults and Children ages 6 and under

You know your child loves to play outside and that fresh air and exercise are certainly a good thing. If you are not really sure what to do or where to go, join us for this family outing. We will explore outdoors together and remove the notion that there has to be a plan. Even during this chilly, changing season there is much to discover in the world around us. Adult must accompany child at no additional cost.

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

Limited space available; reservations and advance payment required unless otherwise noted. Programs are subject to cancellation if minimum enrollment is not met.

PROGRAMS FOR HOMESCHOOL STUDENTS



USING OUR FIVE SENSES

Ages 4 to 6

10:00 to 11:30 a.m.

November 1: Touch • December 6: Smell

January 3: Sound • February 7: Sight

March 7: Taste

April 4: Celebrate All Five Senses!

How do we understand and interpret the world? With our senses of course! Learn all about your senses and put them to work as you explore what types of information we get from each of sense. Learn how animals use their senses. The focus is on a different sense each month and the last day is a celebration of them all.

BE A SCIENTIST!

10:00 to 11:30 a.m.

November 1: Biology

December 6: Dendrology

January 3: Ecology

February 7: Ornithology

March 7: Mammalogy

April 4: Entomology

There are many different types of scientists – from Dendrologists to Ornithologists and don't forget Entomologists too. Become a scientist as you develop and test predictions and participate in and conduct experiments. Learn how to use keys and books to identify living and nonliving ecosystem components that make New Hampshire so unique. You will investigate a different scientific field of study each month.



Cost \$9/member child; \$11/non-member child

Reserve all six programs for a discounted rate: \$8/member child; \$10/non-member child per program.

One adult must attend with children for free. Each additional adult pays child fee.

Program offerings are aligned with the New Hampshire Science Framework.

SPECIAL EVENTS

FESTIVAL OF FLIGHT

Saturday • September 8

Sponsored by Community Guaranty Savings Bank
9:30 a.m. to 4:30 p.m. (last admission at 3:30 p.m.)

With a focus on the wonders of flight and migration, the day includes a hawk watch, crafts for children, live animal presentations, and a tethered balloon ride donated by RE/MAX of Meredith (4:30–6:30 p.m.). Special guests Ibex Puppetry will present shows throughout the day. Ibex Puppetry is run by the daughter of famous puppeteer Jim Henson (of Muppet fame). For a preview of their show, visit youtu.be/SRSfo5hpqBQ. Longhaul Farm will be on hand with food for sale.

Call 603-968-7194 to reserve a

late afternoon balloon ride (\$10/adult; \$5/youth, up to age 15).

All programs, except the balloon ride, are included in trail admission fees: \$15/adults, \$12/seniors, \$10/youth.

No charge for Science Center members and children 2 and under.

GRANDPARENTS DAY

Sunday, September 9

9:30 a.m. to 4:30 p.m. (last admission at 3:30 p.m.)

Celebrate Grandparents Day with free admission to the Gephart Exhibit Trail for each grandparent accompanied by a paying grandchild. Bring the whole family "Nearer to Nature!"

All programs are included in trail admission fees of: \$15/adults, \$12/seniors, \$10/youth.

No charge for Science Center members and children 2 and under.

MISSION: WOLF AMBASSADOR WOLF PROGRAM

The Wolves Are Coming!

Make a face-to-face connection through the stare of a live wolf.

Saturday, October 13

1:30 and 3:30 p.m. at Holderness School in the Hagerman Lecture Hall

Limited seating; advance reservations and payment are required.

Cost: \$10/member; \$12/non-member

PROJECT OSPREY TRACK TAKES FLIGHT

By Iain MacLeod



Three more New Hampshire Ospreys are now sporting hi-tech backpacks that will allow us to follow their incredible 3,000-mile migrations to South America. We launched this research and education project last year with financial and logistical support from Public Service of New Hampshire (PSNH). This project allows us to track these birds continuously for three or more years. It is part of a larger New England-wide project spearheaded by Dr. Richard Bierregaard, a distinguished visiting research professor at the Department of Biology at the University of North Carolina. Bierregaard has studied Ospreys on Martha's Vineyard where, after 12 years, and more than 40 birds tagged, his project is providing much-needed data revealing migration differences among Ospreys and identifying where threats to the birds lie.

In addition to support from PSNH, funding came from the Jane B. Cook 1983 Charitable Trust and the Science Center's Innovative Project Fund. Logistical support was provided by Bridgewater Power Company, J. Jill of Tilton, Chippers Tree Service of Meredith, and 3 Phase Line Construction of Farmington. Chris Martin, Senior Biologist from New Hampshire Audubon, is a key Project Advisor.

On May 29, 2012, we tagged an adult male (christened Art) at his nest in Bridgewater. Over the summer we have monitored his hunting trips around the Lakes Region as he fed his mate and their single chick. He increased our knowledge about male Ospreys, which allows comparison with other birds that Bierregaard has followed in coastal New England. Art is a creature of habit. Early morning trips to the Baker River in Rumney, afternoon trips along the Pemi, and cocktail hour (5:00 p.m.) on Little Squam. In September, we can watch Art departing for South America and follow him next spring as he heads north. Perhaps we may even see him arrive back at his nest in April.

On August 2, we successfully trapped two newly flying youngsters at a nest located near the J. Jill distribution center. Backpacks were fitted to both chicks. The female chick is named Jill (of course). Her brother is Chip, in recognition of Chippers, who provided the bucket truck to access the nest forty feet up on a specially installed wooden pole.

To follow Art, Jill, and Chip's incredible journeys in near real time via Google Earth, visit:

www.nhnature.org/osprey_project/overview.html.

HALLOWEEN HOOT N' HOWL

October 27 • Starts at 6:00 p.m.

Eerily entertaining 40-minute guided tours along a jack-o-lantern-lit trail features family-oriented live skits, storytelling, and fun Halloween themes. Call 603-968-7194 to reserve your spaces.

Cost: \$8/member; \$11/non-member
\$1 discount for reservations made by October 19.

SATURDAY NIGHT WILD A GREAT SUCCESS

Saturday Night Wild on July 21, 2012 was a great success! Because of widespread community support, you helped us to reach our goal of \$30,000 in revenue from ticket sales and silent and live auctions. But more importantly, the comedy show, directed by Lisa Lovett, drew many new people and everyone seemed to have fun! It was attended by more than 330 people and the weather was perfect.

The talented sketch writing team included Peter Adams, Eric D'Aleo, Dave Erler, Lisa Lovett, and Iain MacLeod. We are grateful to the EVP Marketing and Media team of Peter Adams, Ben Adams, and Don Hyde and for support from Riveredge Marina, Barry Gaw, Sam Barnum, and Sid Lovett. The wonderful cast and crew included: Laurie Beeson, Daizy Boutwell (the dog), Nathan Boutwell, Nicholas Boutwell, Ursula Boutwell, Eric D'Aleo, Terri Dautcher, George DeWolf, Diane Downing, Brian Eaton, Liz Eaton, Dave Erler, Barry Gaw, Ellie Gaw, Amanda Gillen, Nancy Grady, Earl Hansen, Jason Hibbard, Gary Hirshberg, Tom Klein, Susan Laverack, Woodie Laverack, Sid Lovett, Iain Macleod, Helen Mathieson, Dan Mitchell, Todd Mosenthal, Mary Noyes, Fran Page, Jeremy Phillips, Ian Soderberg, Paula Tracy, and Bebe Wood. Postage Due provided live music.

We extend special thanks to Asquam Marina at Holderness Harbor, The Common Man, Pat Kelly of WLNH as auctioneer, and Lakes Region Tent and Event for their in-kind donations of services. We also thank the volunteer

event committee: Susan McKimens, co-chair and Ron Piro, co-chair, assisted by Kay Anderson, Nancy Beck, Andrea Eaton, Mary Kahn, Joan Martin, Pat Sava, Lea Stewart, Carol Thompson and Marcia Zahr. Operations Director Liz Rowe and Volunteer Coordinator Carol Raymond led a team of devoted volunteers and staff.



During the "It's Not My Job" skit, Lenny Pepperbottom (left), also known as Don Hyde of EVP Marketing, quizzes Gary Hirshberg (right) on his natural history knowledge.



Operations Manager Tom Klein as "Dan Acorn" and Marketing and Visitor Services Manager Amanda Gillen as "Jane Honeydew" provide a Wilderness Update in "Point Counterpoint" skit.

Many local individuals and businesses donated to the silent and live auctions: Kay Anderson, The Barnstormers Theater, Nancy and Paul Beck, Laurie Beeson, Lori Card, The Common Man, Curt's Caterers, Denise Doyle, Franz Dubach, Andy and Mal Eaton, Bonnie Edwards, Ehlers Management Group, Peter Francesco, The Fitness Edge, Carol Gader, Pam Gould, Gunstock Mountain Adventure Park, Inns and Spa at Mill Falls, Ippolito's Furniture, Lou and Mary Kahn, King's Stone Masonry and Landscaping, Laconia Athletic Fitness & Swim Club, Lake Opechee Inn and Spa, Lakes Region Seaplane Services, Liz Lapham, Mark Knipe Goldsmiths, Louise and Sandy McGinnes, Joan and David Martin, Meadowbrook US Cellular Pavilion, Winky and David Merrill, Mountainview Fly Fishing, New Hampshire Interiors, New Hampshire Music Festival, O Steak and Seafood Restaurant, Bob Ritz, Rockywold-Deephaven Camps, Sawyers

Jewelry, Estelle Smith, Carol and Bob Snelling, Robert Stewart, Tish's Nail Care Boutique, Waterville Valley Resort, Eric Webster, Winnepesaukee Playhouse, and Marcia Zahr. New Hampshire Colonials Realty, Overhead Door Options, and Squam Boat Livery sponsored the program.

SCIENCE CENTER LAKE CRUISES

EXPLORE SQUAM

Through October 14

Daily at 11:00 a.m., 1:00 p.m., and 3:00 p.m.

NATURE OF THE LAKES

September 4 to October 11

Tuesdays, Wednesdays, and Thursdays at 3:00 p.m.

Reserve our canopied pontoon boats for your Church Island wedding, or charter a private cruise.

Contact Operations Manager
Tom Klein at 603-968-7194 x 10 or
tom.klein@nhnature.org for reservations.

WISH LIST

2- and 4-drawer file cabinet
hand cultivators and weeders
paper shredder
coolers
umbrellas

For animal care:

dog treats (unopened)
dehumidifier
stainless steel/metal bowls
clean pine needles

2012 ANNUAL MEETING REPORT

The 2012 Annual Meeting of Squam Lakes Natural Science Center was held on Saturday, August 11. A quorum of members unanimously accepted the minutes of the August 13, 2011 Annual Meeting. Treasurer Bruce Whitmore presented the 2011 financial report.

Four officers were elected unanimously to serve one-year terms, commencing with election: Chair Laurie Beeson, Holderness; Vice Chair Nancy Beck, Holderness; Treasurer Bruce Whitmore, Holderness; and Secretary John Fernandes, Ashland.

Mark Goldstone, Newton, Massachusetts; Bryant Tolles, Concord; and Bruce Whitmore, Holderness were re-elected unanimously to serve three-year terms commencing with election.

Ken Colburn, Meredith; Elizabeth Hager, Concord; Carol Thompson, Center Harbor; and Tony Wagner, Cambridge, were unanimously elected as new trustees to serve three-year terms, commencing with election.

Chair Laurie Beeson honored three retiring trustees for their dedicated service on the Board of Trustees: John McRae, Judy Webster, and Peter Wood.

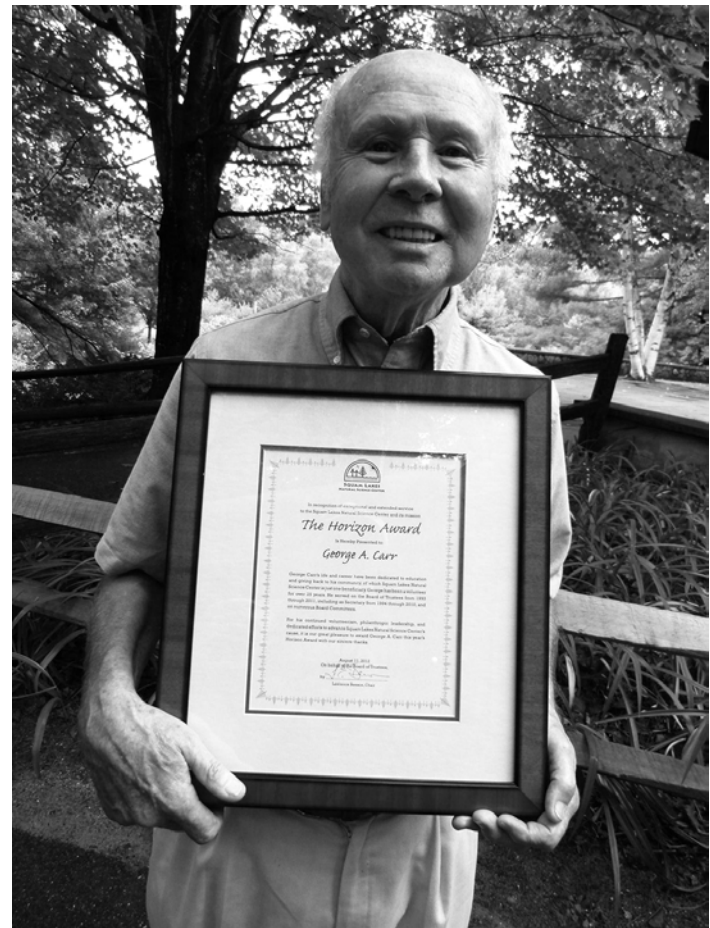
Executive Director Iain MacLeod recognized Volunteer Coordinator Carol Raymond for her anniversary as an employee for five years.

Vice Chair Nancy Beck presented former trustee and volunteer George Carr with the 2012 Horizon Award for his volunteerism and dedicated efforts to advance the Science Center's cause.

Attendees received copies of the 2011 Annual Report for review. If you did not attend the meeting, you may request a copy of the Annual Report in the mail or view it at www.nhnature.org/annual_report_990.html. Following the business meeting, Association of Zoos and Aquariums (AZA) Executive Director Kris Vehrs presented an overview of the AZA. Guests also enjoyed a complimentary continental breakfast.



Executive Director Kris Vehrs presents the AZA Accreditation plaque to Iain MacLeod.



Horizon Award recipient George Carr.



*New trustees (L to R)
Carol Thompson, Tony Wagner, Liz Hager, and Ken Colburn*

MILK SNAKE continued from page 1

prey. With adequate food, snakes grow and periodically shed their skin. Starting at the head, the skin is rubbed and folded back over itself. Look for abandoned skins – they are inside out.

Why would milk snakes be imitators? When alarmed, these snakes will vibrate their tails. Rustled in dry leaves, their tails sound like rattling. If further provoked, milk snakes will hiss and strike. Though not rattlesnakes nor poisonous, they use this trick to protect themselves. It may not always work. Superficially, milk snakes resemble venomous northern copperhead snakes which are found south of New Hampshire's border. Copperheads have bands, not blotches, of dark color, but sometimes frightened people act quickly to eliminate what they think are poisonous snakes.

In August and early fall, young milk snakes, with brightly colored red blotches, hatch from eggs laid in loose soil, rotting logs or in piles of manure. The elongated, leathery white eggs are about an inch and a quarter long and adhere to each other. By late fall, snakes, both young and mature, will be hibernating below the frost line until April. Such is the life of an ectothermic creature whose temperature is regulated by its environment.

As I was making preliminary plans for this article, my landlord came quickly down the stairs one day in June. He greeted me with, "There's a snake in our kitchen. Do you know anything about snakes?" I replied, "Yes, I do," with a definite lack of humility! I still have much to learn about snakes in general but I have a specialty in "kitchen snakes." Other snakes do come indoors, but in this instance, I was delighted to find a milk snake positioned cautiously on the bricks surrounding the wood stove. Donning a pair of gloves, I scooped it up without incident. Letting its body slip through my hands, I carried the snake to a place where it had many choices, releasing it by a compost pile adjacent to a garden shed, stone walls, and piled lumber.

We've found that snakes sometimes visit us. Some day, when you are feeling adventuresome, check out a snake's spot by slowly lifting up a random plank or flat stone. Is anyone home? In any case, be sure to gently lower the "roof" back in place. Visiting, with respect, can be reciprocal!

NATURALIST'S LEGACY SOCIETY

If you have already named Squam Lakes Natural Science Center through your will or other estate plans, please let us know. As a member of the Naturalist's Legacy Society, you will be invited to donor recognition events and recognized in the Annual Report, unless you prefer to remain anonymous. Recognizing planned giving donors allows us to express our appreciation and may also inspire others to give support through their own estate plans.

Contact Development and Communications Director

Janet Robertson at 603-968-7194 x 12 or janet.robertson@nhnature.org for more information.



OPENING A WINDOW TO THE NATURAL WORLD

WHY GIVE?

"How wonderful it is that nobody needs to wait a single moment before starting to improve the world."

Anne Frank (1929–1945)

I often reflect that there is always more to be done to make the world a better place. Luckily for me, I work here at Squam Lakes Natural Science Center and feel like I can help just by coming to work every day. But I understand how easy it is to be overwhelmed by the constant barrage of bad news we all receive in excruciating up to the minute detail. Fortunately there are many good, strong, non-profit organizations in Holderness, in New Hampshire and across the country that work hard to make a difference. Your charitable gifts to those organizations you choose to support are important. I hope Squam Lakes Natural Science Center is at the top of your list for a contribution this year.

Later this fall you will receive a request to donate to our Annual Fund campaign and I hope you will consider making a generous gift. And if your employer matches contributions, you can double your gift. You can use the option of recurring gifts to make a larger gift, spread throughout the year through monthly or quarterly donations. Recurring gifts are convenient for you and provide dependable support for the Science Center. Your donation will be billed to your credit card and automatically renew each year. Once a year, we will send you a record of your giving history for tax purposes and give you an opportunity to update your pledge amount and account information. Of course, you can change or cancel your payments at any time. There is a minimum donation of \$10 per donation and a 30-day notice to cancel your authorization. And of course, we welcome one-time gifts as before. You can also donate online at our website, www.nhnature.org. Thank you.

You may contact Janet Robertson, Development and Communications Director at 603-968-7194 x 12 or janet.robertson@nhnature.org.

**We are grateful for these memorial
and honorary gifts received from
April 1 through June 30, 2012:**

In memory William P. Beetham, MD
David Klinger

**In honor of Liz and Bev Lapham's
50th wedding anniversary**
Candace and Marsellus

**Renew your membership online at
www.nhnature.org**

TRAIL'S END

Every time I read one of Margaret Gillespie's articles, I'm awed by how much our naturalists know and how skilled they are at communicating knowledge in fun, interesting ways. So I thought I'd try to emulate her on a subject on which I have some passing familiarity, Squam's fish.

Here are some things that have changed in our lifetimes:

Eels, which were once common, were all but extirpated by the 1960s. Lake whitefish (a.k.a. shad) may be going the same route; I haven't caught one since the late '70s. Yellow perch, while still resident in the hundreds of thousands, appear to be less dominant numerically than they were several decades ago. Fishermen will tell you this is true on New Hampshire's other big lakes as well. White perch, which weren't evident when state biologist Deke Townes published his exhaustive report on Squam's fisheries in 1959, are now prolific and waxing in numbers. Ditto largemouth bass, although they had a modest presence back then. Our lake trout population has dropped back to minimal numbers, but bigger average size, since Fish & Game stopped their auxiliary stocking program in 1992. Most lakers caught now come through the ice. By the way, Deke needed a propeller-driven iceboat to interview all the Big Squam ice fisherman in the '50s; today he could do it with two or three cell phone calls.

Here are some things that will likely change in our kids' lifetimes:

Birds or "bucket biologists" will bring black crappie to Squam. They're already in the Pemi, in Winnepesaukee, and

in several nearby ponds. Many Fish & Game people believe crappie could coexist well with our current species. The rock bass, small and prolific, is another likely newcomer. They've become established in the big lake, in Winnisquam, Pleasant Lake, and Sunapee in the past 15 years or so. They're much maligned but seem to find their ecological niche after a "shaking out" period, and they sure make a nice meal for a lake trout.

And here's one thing that doesn't and won't change:

Every fifteen years or so there's a mass outcry that "___ is killing the fishing." Historically, the "___" has been loons, herons, silver salmon, excessive numbers of perch and sunfish, and bass fishermen. As recently as the '60s, kids were offered "a penny a [dead] perch" to fix the problem.

One can look at the above and say, so what? What's this got to do with the dynamic nature of Earth's environment? How do these changes relate to habitat, adaptation, populations and interrelationships? Answer: darned if I know. That's why I hope the likes of Margaret and her colleagues Dave Erler, Eric D'Aleo, Jeremy Phillips and Amy Yeakel can weigh in on questions like these in the not too distant future. I know they would like to. Stay tuned!

Trail's End is written by Laurie Beeson, Chairman of the SLNSC Board of Trustees. You may contact Laurie at 603-968-2409 or lbeeson@worldpath.net.

Festival of Flight

Saturday • September 8

9:30–4:30

(last admission at 3:30 p.m.)

FEATURING

Hawk Watch • Kids Crafts
Live Animal Presentations

SPECIAL GUESTS

Heather Henson's Ibex Puppetry

youtu.be/SRSfo5hpqbQ

Late Afternoon Tethered Balloon Rides

Reserve yours—603-968-7194 (additional \$10/adult; \$5/child)

Donated by RE/MAX of Meredith

Longhaul Farm will be on hand with food for sale.

For schedule, visit:

www.nhnature.org/Calendar/calendar_of_events.html

All programs are included in trail admission:

\$15/adults, \$12/seniors, \$10/youth.

No charge for SLNSC members and children 2 and under.

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THE WOLVES ARE COMING!

MISSION: WOLF AMBASSADOR WOLF PROGRAM

Make a face-to-face connection
through the stare of a live wolf.



Saturday
October 13

Two presentations

1:30 p.m.

3:30 p.m.

Holderness School
Hagerman Auditorium
Route 175

Limited seating; advance reservations
and payment are required.

Cost: \$10/member; \$12/non-member

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9:30 a.m. to 5:00 p.m. daily through November 1.
Available by appointment November through April.

FALL IS A GREAT TIME TO VISIT!

Trails are open through
November 1, 2012

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