



SECRETS OF PINK LADY SLIPPERS

By Margaret Gillespie, Illustration by Cheryl Johnson

I take pleasure in what I think of as the “march of the wildflowers,” as they follow each other in sequence from spring into summer. The early Trailing Arbutus just asks us to kneel and smell its sweet fragrance. Other favorites in the line-up are Hepatica, Gold Thread, Canada Mayflower and Wood Anemone, rushing to bloom before the tree leaves come out, dimming the sun. While the march goes on, basal leaves of Pink Lady Slippers emerge from the moist ground and a stalk arises with its flower still pale green but speaking of the future. At the end of May or beginning of June, I am surprised along a woodland trail to see the blossoms now brilliant pink and showcased against the dead leaves and emerging green of the forest floor. But there is much more to this complex flower than meets the eye. If it were human, we might even say it has “idiosyncrasies!” Let’s delve a little deeper.

What’s in a name? Native Americans called this flower the “moccasin flower.” Another label is the Pink Lady Slipper’s scientific name – *Cypripedium acaule*. *Cypripedium* is from the Greek word *Kyris* or Venus and the Greek word *pedion*, relating to foot – thus Venus’ Slipper. At a glance, both these names fit the flower. Lady Slippers are also called

“Stemless Lady Slipper” and the word *acaule* means “without a stem” referring to the flower stalk which is technically not a stem.

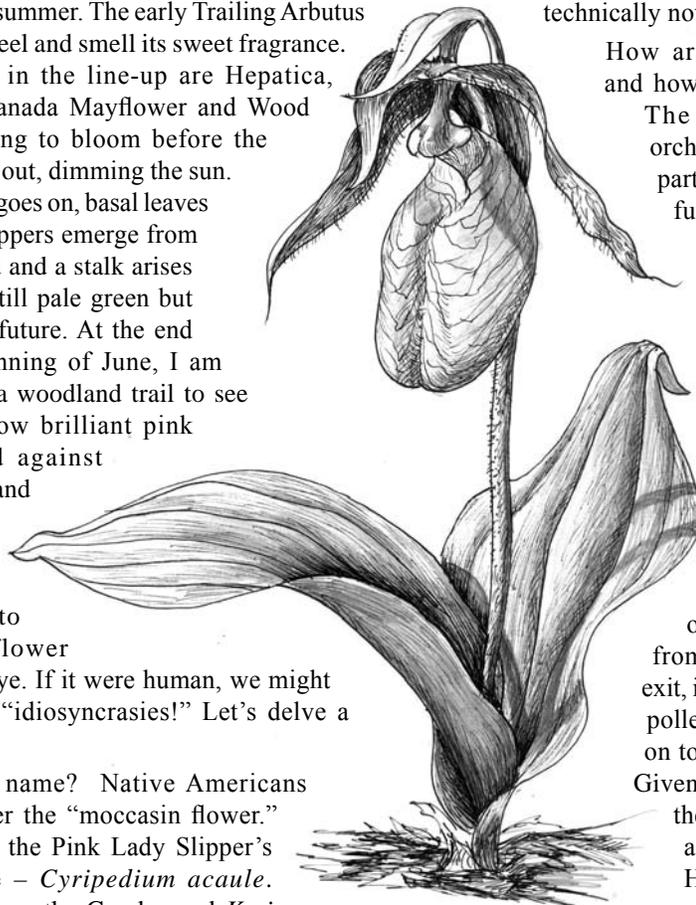
How are Lady’s Slippers pollinated and how do pollinators find their way? The vivid pink color of these orchids attracts our attention. Bees, particularly bumblebees, follow suit, further drawn by the sweet smell.

With only one way in, the rugged bees enter through a slit in the dorsal surface, only to find themselves in an alien world! There is no nectar to be found and only one way out which is, at least, directed by hairs that point towards two small exits at the top of the flower. The flower’s pollination trick is that to escape, the bee has to move under the stigma, rubbing off pollen that it may be carrying from another Lady Slipper. At the exit, it is then doused with this flower’s pollen which the bee may then carry on to pollinate another Lady Slipper.

Given the lack of rewarding nectar and the circuitous routing, it is a feat if a flower is successfully pollinated! However once pollination occurs, a capsule forms holding thousands of miniscule seeds. By summer’s end,

the seeds are ready for dispersal and float away on the air currents when the capsule

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FORGING TRAILS

COUNTING FOR CONSERVATION

I like to count stuff. I love crunching numbers and playing with data. I was never a math whiz at school, but in recent decades I have found myself drawn to the systematic tabulation of numbers and the analysis of trends and statistics within those numbers. A major component of nature study is counting. How many of x species did I see compared to the same date last year? How many young did this pair of x raise compared to that pair; this season versus that season? Nature people (particularly bird people) like to count.

Studying hawk migration (my favorite fall pastime) is all about counting minute specks in the sky and comparing the numbers of specks to previous years. Then we can make tables and graphs and examine population trends to our heart’s content.

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I think this fascination with numbers is one of the reasons I love baseball. I know a lot of hawk watchers who are huge baseball fans – there is a connection. Baseball is all about numbers, statistics, and averages. They count everything in baseball. For a couple years, I even created my own computer spreadsheet with all the Red Sox stats. I had all the box scores. I even had formulas built in to tabulate their home and away averages, total runs scored (home and away), and their cumulative scores against each opposing team – what a geek!

Every year for the last six years I have participated in the national Breeding Bird Survey (BBS). I cover a set 24.5 mile route in Milan and Berlin on one day in June. The data gathering protocol for BBS routes is simple. You start half an hour before sunrise and count all bird species seen and heard for three minutes at designated stops every half mile. In 2007, more than 4,100 of these routes were monitored throughout North America. All are the same length; all are counted in the same way and all the data is compiled by the USGS Patuxent Wildlife Research Center. The survey was started in 1966 (the same year that the Science Center was founded). The route that I cover has been run in all but four of those 41 years and I love to continue the legacy of those that have gone before me. This is citizen science at its very best.

This June, you are invited to be citizen scientists for a day and do some major counting by participating in the first Squam BioBlitz. For a 24-hour period between 3 p.m. on June 6 and 3 p.m. on June 7, you can join teams led by experts in a variety of biological sciences as they count everything that flies, crawls, grows, swims, wriggles, or jumps in an attempt to catalog the greatest number of species.

We hope to find experts to lead teams in search of diurnal and nocturnal mammals, diurnal and nocturnal birds, fish, vascular plants, lichens, parasites, beetles, diptera (flies), hymenoptera (bees, ants, etc), butterflies, moths, odonates (dragonflies, etc), other lesser insect orders, acari (mites/ticks), arachnids (spiders), fungi, and even plant pathogens. Each team will have an assigned leader and assistant and will cover a specific geographic location for a specific time period within the day. If we can, we will have multiple teams for some taxa covering multiple locations.

At 3 p.m. on Saturday we will wrap up the day with a mass compilation of data and a preliminary tally. This inventory will create some baseline data from which we can expand and compare in future years. We're not committing to doing this every year . . . yet . . . we'll get through this first one and then decide, but certainly it would be fascinating to do this for multiple years and look for changes and trends . . . I feel the urge to make another spreadsheet! Can you create box scores for scientists?

As I write this column we are still reaching out to the experts and team leaders. If you would like to be on a team, please contact us by e-mail (info@nhnature.org) and let us know what sorts of things you would like to count. We will be posting lots more information as we get closer to the date and will make sure you that you are in the loop.

The Squam BioBlitz is a joint project of the Squam Lakes Association, Squam Lakes Conservation Society, and the Science Center.

Forging Trails is written by Executive Director Iain MacLeod.

You may contact Iain at 603-968-7194 x 23 or iain.macleod@nhnature.org.



SQUAM LAKES NATURAL SCIENCE CENTER

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The 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 the Squam Lakes Natural Science Center sent to all members. Comments about the newsletter are welcomed by newsletter editor Janet Robertson at 603-968-7194 x 12 or janet.robertson@nhnature.org.

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MEMBER PROFILE

WOOLSEY S. CONOVER

By Laura Dentel



LD: Tell us about your first visit to the Science Center. What enticed you to become a member and donor?

WC: My wife, Bea, and I have been involved in one way or another with the Science Center since 1976, when we built our first home in the Squam watershed. Our two sons, now 44 and 40, were among the first “Future Naturalists,” working at a young age with Brenda and Dave Erler and other staff members to help with various chores and take care of the animals, most memorably, Bertha the Bear. More recently we have had all four of our grandchildren participate in day camps and other youth-related activities while visiting us. So, it has always been effortless for us to get involved as members and donors.

LD: In your opinion, what are some changes the Science Center needs to make in order to be successful in the future?

WC: In terms of making changes to assure the Science Center’s future success, continuing

what is now being done is most likely the best course to follow. But I would be remiss in not adding that, while they had very little “natural science” components to them, the blacksmith shop, sawmill, and sugar shack of days gone by drew big crowds and lots of curiosity and interest in their operations. So, if building attendance is considered an important measure of success, some thinking outside the proverbial box might pay some dividends.

LD: Tell us a little bit about your background and involvement in the Lakes Region.

WC: As it happens, Bea and I are about to sell (we hope!) our Massachusetts home and move full time to Holderness, where we have vacationed most summers for the past 32 years. I spent my working career in the employee benefits administration business, selling, in 1996, the company my two partners and I started in 1971. I now spend much of my time doing pro bono work, locally now serving on the Lakes Region Conservation Trust and Little Church Theater boards, and I have also developed an interest in the work of the Northern Forest Center. Bea matches me step-for-step by serving on the Whole Village Family Resource Center board and is on the Advisory Board of the

Lakes Region Division of the New Hampshire Charitable Foundation.

LD: Tell us about your hobbies and interests.

WC: For the past 15 years or so, when Bea and I are not volunteering or traveling, I have developed a strong interest in painting, particularly oil landscapes.

LD: As an artist, what inspires you?

WC: Visitors to my website, www.conoverart.com, will observe that my muse resides, and is deeply rooted, in the lakes and mountains of New Hampshire. If I have an artistic heritage (and most artists do) I would say it includes 20th century painters Edward Hopper and Fairfield Porter, two well-known artists who were diligent in their efforts to create satisfying, evocative, yet understandable, works of art.



NEWSBRIEFS

- ◆ You may have noticed this past year that one of the fishers at the Ecotone Mammal Exhibit seemed to be limping. Last fall he somehow tore the ‘ACL’ on his left rear leg. We waited to see if it might heal on its own, but as time went on it became apparent that was not to be the case. On November 21, Dave Cote, DVM, of the Plymouth Animal Hospital donated his services to perform surgery to repair the torn ACL. Dr. Cote thinks it may be the first time anyone has repaired an ACL on fisher! After doing some rehab time inside, the fisher is back up and running for the 2008 season.
- ◆ Several staff (plus trustee Carol Thompson) attended a “No Child Left Inside” public forum in November in Concord, along with more than 600 others. NH Fish & Game hosted this “Community Conversation about Connecting Children and Nature.”
- ◆ When a pair of Ospreys was spotted on Squam Lake last spring, it was cause for celebration...and concern. The birds were the first of their kind known to take up residence at the lake, but the location of their embryonic nest – atop a New Hampshire Electric Co-op (NHEC) utility pole near the lakeshore – put them dangerously close to live

wires. The pair was first spotted by Executive Director Iain MacLeod. A quick meeting between Iain, NHEC staff, land owners, and New Hampshire Audubon Society biologist Chris Martin determined that the chosen site was too dangerous – for the birds and nearby home owners. A NHEC line crew carefully dismantled the pole top nest, removed the crossbars, and set in motion a plan to provide the pair with safer accommodations once the birds flew south for the winter. On January 15, with labor and equipment donated by NHEC, Iain supervised the setting of a 60-foot pole topped by an artificial nest platform that he built years ago for another “Osprey-luring” project. Erecting the pole required a small fleet of vehicles and some off-road ingenuity. Dragging the pole several hundred yards behind a tracked excavator over narrow access trails, a utility crew maneuvered the pole into place while NHEC Operations Supervisor Brent Fysh hauled the nest to the site in an aluminum boat towed by a snowmobile. After the nest was bolted to it, the pole was set in an 8-foot deep hole and carefully raised into position. Located in an open field between the Upper Pond and Marsh Boardwalk, close to the Gephart Exhibit Trail, the new nest is in an ideal location for the pair to settle down for the

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summer and, hopefully, raise a family. Built of interwoven sticks and padded with straw, the nest should be very alluring to a young Osprey pair. All of us at the Science Center have our fingers crossed that the Ospreys think so too. We are grateful to Brent Fysh and Guy Ford of NHEC and the three employees from JCR Construction (a subcontractor of NHEC) John Littlefield, Levi St Germain, and Philip Worster. Make sure to visit the Photo Journal on our website at www.nhnature.org to view more photos of the nest construction and a photo of the Squam Osprey pair's ill-advised first nesting efforts.

- ◆ The Marsh Boardwalk reconstruction project was completed late this



SLNSC Director Iain MacLeod and some of the team from NHEC prepare to raise the new osprey nest

fall. The floating portion of the boardwalk is now two feet wider than before and an alternative trail was also made, which allows visitors to bypass the floating sections.

- ◆ Installation is near completion for the new River Otter interpretive exhibits, including among others: *You Are What You Eat, Otters and Beavers: What's the Difference?* and *What Do Otters Need?* In 2007, repairs and improvements were made to the visitor area and the animal shifts, a new plastic slide was installed as well as new fencing, and the drainage problems at the underwater observation window and pump room were addressed. This work is funded by generous support from the Lovett-Woodsum Family Charitable Foundation.
- ◆ Thank you for your generous support for our 2008 Annual Fund campaign, which raised a record amount, nearly \$280,000! With almost 500 new and returning donors, these gifts reflect a 12 percent increase over last year's total. We also achieved 100% Board participation and ended our fiscal year with a budget surplus.
- ◆ Our active volunteer program provides opportunities for individuals and groups from all walks of life and all ages to support every aspect of operations. During 2007, 213 volunteers contributed more than 7,200 hours.
- ◆ Trail attendance was up slightly last year with 40,524 visitors in 2007 versus 39,734 in 2006. Science Center Lake Cruises, including public cruises, group tours, and charters, had an outstanding year with nearly 11,000 participants.
- ◆ Please visit the online gift shop, at www.nhnature.org, which has a new look and new merchandise including SLNSC logo T shirts, vests, and more. The website now offers the convenience and security of using PayPal and standard 'shopping cart' technology.
- ◆ The Kirkwood Café and the Squam Lakes Artisans Gallery will return

again this year to the historic Holderness Inn adjacent to Kirkwood Gardens. The Kirkwood Café will serve snacks, sandwiches, and beverages. The Squam Lakes Artisans Gallery, specializing in unique and locally crafted New Hampshire gifts, also opens in May. The Artisans, all juried artists, formed this cooperative gallery which features many types of arts and crafts. Check our website, www.nhnature.org, in May for dates and hours of operation.

- ◆ When Science Center Lake Cruises resume this year on Memorial Day weekend, the pontoon boats *Osprey* and *Cormorant* will have new green canopies while the *Loon* and *Kingfisher* will have new upholstery. Daily *Explore Squam* cruises start on May 24, at 1:00 p.m. only, through June 13. Three daily cruises at 11:00 a.m., 1:00 p.m. and 3:00 p.m. start June 14 and run through October 19.
- ◆ This year's annual Clean Up Day is scheduled for Saturday, April 26, starting at 9 a.m. Staff and volunteers will join together to prepare the grounds, including Kirkwood Gardens, for opening day. Your work may take you behind-the-scenes and will make you feel good about contributing your time and energy. Be ready to work outdoors; wear old clothing and work shoes and bring tools, such as rakes, if possible. A complimentary picnic lunch will be served at noon. Contact Volunteer Coordinator Carol Raymond to sign up at 603-968-7194 x 22 or carol.raymond@nhnature.org.
- ◆ New Hampshire Day is on Saturday, May 3 this year. To mark the season opening, trail admission is just \$1 for each New Hampshire resident on this special day.
- ◆ What is a BioBlitz? New this year, the Science Center is joining forces with the Squam Lakes Association and the Squam Lakes Conservation Society to launch a 24-hour bio-inventory of the Squam Range on Friday, June 6 through Saturday June 7, the Squam BioBlitz. Members of the public are invited to become 'citizen scientists' and work side-by-side with experts to identify as many different living things as we can in one 24-hour period. Part contest, part festival, part educational event, and part scientific endeavor, come and learn about the diversity of life the Squam region under the guidance of our naturalists and scientists from many disciplines.
- ◆ Mark your calendars for Saturday, June 14 – this year's annual Kirkwood Gardens Day. Garden volunteers are soliciting used or new garden-related "treasures" for the sale. Please contact Brenda Erler at 603-968-7194 x 21 or brenda.erler@nhnature.org if you'd like to donate or volunteer.
- ◆ Save the date for this year's Summer Gala and Annual Meeting scheduled for Saturday, August 9. We are delighted to announce that Gary Hirshberg, president and 'CE-Yo' of Stonyfield Farm, the world's largest organic yogurt company, will be the Keynote Speaker at the Annual Meeting.
- ◆ Do we have your email address? If you would like to receive announcements of upcoming events via email notices, please send us an email with "Here is my email address" in the subject line to info@nhnature.org. Include your name or business/organization name in the text message box. For your protection, just as we don't share our mailing list, we won't sell or rent this information to anyone else. You may also opt out any time you choose.
- ◆ Iain MacLeod will be a featured columnist in *Accent Home & Garden* magazine. His column "Garden Birds" debuts in the March/April issue. Each column will be accompanied by an audio podcast by Iain on Accent's website (www.accentmagazine.com). The podcasts may also be heard on our website (www.nhnature.org) – click on the podcast link on our home page to listen to Iain's current podcasts about River Otters and an encounter with a Yellow-bellied Sapsucker. The new "Accent" podcast will be available on March 1.

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NATURALIST'S CORNER

NEW HAMPSHIRE'S RARE PLANTS

By Amy Yeakel



When you think of endangered species, which one comes first to mind? Most of us probably think of an animal, but remember, since ecology is about systems and connections, no animals would be here without plants! The New Hampshire Natural Heritage Bureau in the Division of Forests and Lands (www.dred.state.nh.us/divisions/forestandlands/bureaus/naturalheritage/rareplants.htm) maintains lists of plants in trouble. Their list includes 386 types with 288 of them on the endangered or threatened list, with the remaining classified as rare. The Heritage Bureau also tracks plants of "special concern," perhaps due to their attractive appearance or risk of over harvesting. Pink Lady Slipper is one such plant, and the Large Yellow Lady Slipper is far rarer.

The Heritage Bureau website states: In 1987, the New Hampshire State Legislature passed the Native Plant Protection Act (RSA 217-A), which formally recognized that "for human needs and enjoyment, the interests of science, and the economy of the state, native plants throughout this state should be protected and conserved." Despite this law, there is not much enforcement thus public education concerning rare plants is critical to the survival of these plants. Amazingly, there are several plants found here in New Hampshire that are federally protected and found nowhere else in the world! Jesup's Milk-vetch (*Astragalus robbinsii* var. *jesupii*) and Northeastern Bulrush (*Scirpus ancistrochaetus*) are examples of these. Robbin's Cinquefoil (*Potentilla robbinsiana*) is found only in the White Mountains. Small Whorled Pogonia (*Isotria medeoloides*), one of the rarest wild orchids, is also found in New Hampshire but has a wider range in the eastern United States as well.

Long-term protection of New Hampshire's endangered species involves conservation strategies that include plants as well as animals within the bigger picture of conserving natural communities and protecting the ecological processes to maintain biodiversity with the state. So next time you are thinking about endangered species be sure to include the plants too!

GARDENER'S NOTEBOOK



ADDING NATIVE ORCHIDS TO YOUR GARDEN

By Brenda Erler

New Hampshire's native orchids range from the non-descript to the large and showy. Despite their delicate, exotic beauty, all have evolved to deal with our harsh climate and live in a variety of terrestrial habitats. But, their survival here is not assured. Orchids face a wide range of threats, from habitat destruction to over-collection.

Many gardeners are tempted to grow these beauties in their own gardens. It can be done, but proceed with caution. Never dig up orchids in the wild. Disturbing wild native orchids can have very long-lasting effects. Some varieties of lady slippers may take 12-16 years to produce their first flowers. They are so slow-growing that a large clump may be as much as 50 years old! Additionally, they are very difficult to transplant and usually fail within the first few years. If you do decide to attempt orchids in your garden, seek out a reputable nursery that propagates orchids from seed or long-established divisions. Lab-grown seedlings are hardier, easier to grow, and don't impact the plants' wild populations or gene pool.

Still want to try? Start with some research on your particular orchid's needs. Planning ahead and spending time on soil preparation should lead to greater success. The most important requirement is good soil drainage. If you have heavy clay soil, loosen it and add large amounts of sand and humus (compost, leaf mold). If your soil is sandy, add loam and humus. Most orchids benefit from the addition of lime and a good layer of mulch to keep the soil cool and evenly moist.

Orchids are best planted in the fall but can be planted in early spring (by mid-April). Find a spot in partial shade. A little sun in the morning or late afternoon is fine, but shade is best for mid-day. Place the plants with their buds just below the surface. If you aren't using mulch, plant them slightly deeper. Spread the roots out horizontally in the first several inches of soil, taking care that they don't dry out.

Orchids don't require fertilizer (and, in fact, don't tolerate high nutrient fertilizers). If the soil has been prepared properly, they'll get everything they need from the added leaf or bark compost. If you think the plant would get a boost from some extra nutrients, use a low strength organic fertilizer at a quarter of the rate suggested for other flowering plants.

Planting an orchid in your woodland garden can create a botanical focal point. It can also make a statement that you care about our wild native plants by growing them in an ethical manner. But don't stop at orchids – each year a number of native wildflowers (grown by an area nursery) are offered at the Kirkwood Gardens Day sale, some that are considered "species of concern" in New Hampshire. Do your part to increase their populations by going a bit of native in your garden!

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

NATURAL ADVENTURES

THE SHAPE OF NATURE

Saturday, April 5

9:30 - 11:00 a.m.

Ages 3-6

Spark your child's imagination as we explore the outdoors freely in search of shapes, patterns, and colors. We'll explore forest and field to find the shape of nature. Adult must accompany child at no additional cost.

Cost: \$6/member; \$8/non-member

CELEBRATIONS OF SPRING

Wednesday, April 23

10:00 a.m. - 12:00 Noon

Grades 3-5

Have fun outdoors, exploring woods, meadows, and ponds in search of signs of spring. We will seek out colors, smells, and other clues that tell us winter is over. We'll explore wild places using stories and active games and wrap up with a live animal visit to learn about its springtime activities after a long winter slumber.

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

STREAM BOAT RACE

Saturday, May 31

10:00 a.m. - 12 Noon

Ages 5+

You bring the brains! We supply the materials! This is fun for the young and the young at heart as we design and build tiny boats to float down a stream. See how your boat deals with obstacles and how it handles in rapids. You will also find out how creatures that live in streams adapt to their watery world. We'll explore the underwater stream searching for hidden creatures and will meet a large stream dweller face-to-face.

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

EAGLES OF THE LAKES REGION

Tuesday, June 3

7:00 p.m.

Adults

Join Chris Martin, Senior Biologist at the Audubon Society of New Hampshire, for an update on the status of Bald Eagles in the Lakes Region and across New Hampshire. In cooperation with NH Fish & Game, Chris has coordinated state-wide eagle monitoring and management for 18 years and has been instrumental in heightening public awareness about eagles and their breeding and wintering habitat needs. Chris received an Environmental Protection Agency Environmental Merit Award for Individual Achievement in 2006.

Cost: free

BIRD IDENTIFICATION SERIES

SOUTHERN WOODLAND SONGBIRDS

Thursday, May 8, 7:00 - 9:00 p.m.

AND

Saturday, May 10, 6:00 a.m. - 4:00 p.m.

Adults

Learn about the huge variety of warblers, vireos, thrushes, tanagers and orioles that make their home in the rich hardwood forests in southern and central NH. This two-part, in-depth workshop with Iain MacLeod will focus on identification by sight and sound. The evening session will include a presentation with color illustrations and audio recordings. Saturday's field trip will be to Pawtuckaway State Park in Nottingham where highlights might include Louisiana Waterthrush, American Redstart, Wood Thrush and Scarlet Tanager.

Cost: \$45/member; \$55/non-member

NORTHERN FOREST BIRDS

Thursday, May 29, 7:00 p.m. - 9:00 p.m.

AND

Saturday, May 31, 6:00 a.m. - 4:00 p.m.

Adults

Join Iain MacLeod for another in this series of in-depth workshops this time focusing on the birds that inhabit our boreal forest habitats in northern NH. The evening session will include a presentation with color illustration and audio recordings. The Sunday field trip will visit Trudeau Road in Twin Mountain, Pondicherry Wildlife Refuge in Whitefield/Jefferson and perhaps Cannon Mountain in search of spruce/fir specialties such as Black-backed Woodpeckers, Boreal Chickadee, Yellow-bellied Flycatcher and a wide variety of northern forest dwelling warblers.

Cost: \$45/member; \$55/non-member

COLOR CODED MESSAGES

June 4, July 2, August 6, September 3

9:30-10:30 a.m.

Ages 3-4

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

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

SHARE THE DISCOVERY

2008 DOCENT TRAINING

June 10, 12, 16, 18, and 20

4:00 p.m.-8:00 p.m.

Adults

As part of our volunteer docent team you can share your enthusiasm for the natural world by adding a welcoming and informative presence for visitors. Docents are volunteers trained to interpret our exhibit trail and New Hampshire's natural world using educational props and live animals year round, but primarily from May through October. Docents also assist staff naturalists with classes, leading tours, and hosting hands-on discovery tables at community events. Docents must be 18 years old and are required to complete 40 hours of training, including the dates and times listed here. Please contact Volunteer Coordinator Carol Raymond to register at 603-968-7194 x 22 or carol.raymond@nhnature.org.

Cost: \$45 (financial aid available)

CERTIFIED INTERPRETIVE GUIDE TRAINING

June 12, 13, 14, and 16

8:30 a.m.-4:30 p.m.

Adults

Certified Interpretive Training will teach you how to effectively prepare and give oral presentations in engaging and thoughtful ways. This training blends the theoretical foundations of interpretation with practical skills. In combination with docent training, you have opportunities to present talks such as "Up Close to Animals" and "Turtle Talks." The National Association for Interpretation's Certified Interpretive Guide course is offered in partnership with the Margret and H.A. Rey Center, Waterville Valley. Please contact Volunteer Coordinator Carol Raymond to register at 603-968-7194 x 22 or carol.raymond@nhnature.org.

Cost: \$168 for training, certification, and membership (student fee is \$153)

\$88 for training and membership

(student fee is \$73)

\$43 for training only

Reservations and advance payment required unless otherwise stated.
Programs are subject to cancellation if minimum enrollment is not met.



SPECIAL EVENTS



CLEAN-UP DAY

Saturday, April 26 • 9:00 AM

Help prepare the trails and grounds for opening day and wake up Kirkwood Gardens! Be prepared to work outdoors with old clothing and work shoes. Extra leaf rakes, metal rakes, and work gloves are always needed too. A complimentary picnic lunch will be provided at noon. Groups welcome. Contact Volunteer Coordinator Carol Raymond to sign up at 603-968-7194 x 22 or carol.raymond@nhnature.org.



SQUAM BIOBLITZ

Friday, June 6 - Saturday, June 7

3:00 p.m. - 3:00 p.m.

All ages

New this year, we are joining forces with the Squam Lakes Association and the Squam Lakes Conservation Society to launch a 24-hour bio-inventory of the Squam Range. Become a 'citizen scientist' and work side-by-side with experts to identify as many different living things as possible in one 24-hour period. Find out about the diversity of life and see expert scientists at work. The event will start Friday evening with some teams counting through the night recording owls, bats, moths, amphibians, crickets, etc. At dawn there will be songbird surveys and on Saturday teams will continue looking for trees, plants, mammals, and many other forms of life (down to microscopic molds and fungus). At the end of the day we will host a wrap-up event to share stories and make a provisional tally of the biodiversity of Squam.

At press time we are still planning the day's schedule. If you would like take part, please contact us by e-mail (info@nhnature.org) or check our website, www.nhnature.org for details.

SCIENCE CENTER NATURE TOURS

NORTH COUNTRY WEEKEND AT THE BALSAMS

July 12-13

Join Iain MacLeod for a weekend in the Great North Woods. Trip includes a pontoon boat tour of Lake Umbagog and the Magalloway River, evening Moose viewing around Errol, and a morning of birding for northern forest specialties, such as Black-backed Woodpecker. Of course, there is also the delight of Saturday dinner and Sunday breakfast and lunch at the Balsams Grand Resort. More details to follow in summer *Tracks & Trails*. Contact Iain at 603-968-7194 x 24 or iain.macleod@nhnature.org if you want to be on the list.

Save the Date

ANIMAL ENRICHMENT DAY

Wednesday, July 16

SCIENCE CENTER LAKE CRUISES

EXPLORE SQUAM

Daily at 1:00 p.m. • May 24 – June 13

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

June 14 – October 19

NATURE OF THE LAKES

Tuesdays, Wednesdays and Thursdays at 4:00 p.m.

July 1 – October 16

Kirkwood Gardens Day

June 14, 2008

9:00 AM to 1:00 PM

Gain inspiration from Kirkwood Gardens while searching for beautiful additions to your own!

- ✿ Fine perennials from a prestigious New England nursery
- ✿ Silent Auction of desirable plants and garden-related items
- ✿ Plants from knowledgeable local gardeners
- ✿ Drinks, sandwiches, and baked goods available
- ✿ Garden collectibles and treasures
- ✿ Expert opinions and advice
- ✿ Exceptional vendors, including:
 - Canterbury Herbs
 - South African handmade table linens
 - Earth Jewelry by Lois Stratton
 - Wooden bowls by Robin Dustin
 - Bird Carvings by John Harris

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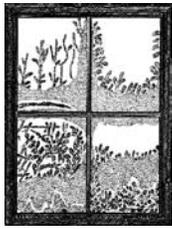


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OPENING A WINDOW TO THE NATURAL WORLD

ROBERT T. BARTLETT BEQUEST

A bequest was received in November from the Roberta T. Bartlett Charitable Remainder Unitrust. At the December meeting of the Board of Trustees, the board voted to use the Bartlett gift to fund a project to redesign all outward marketing design elements – logo, stationery, brochures, website, signage, advertising styles – fonts, colors, graphics, etc. This enormous project is nearing completion and many new elements are already in place. This project created “a brand,” which will be used for years to come. It seems appropriate to allocate this legacy gift to this long-term “legacy project.” Mrs. Bartlett, a resident of Plymouth, was a long-time member and a generous annual fund and capital projects donor and also a wonderful supporter of many other organizations in the community. We are honored to have been part of her life.

NATURALIST'S LEGACY SOCIETY

If you have already named the 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 legacy donors allows us to express our appreciation and may also inspire others to give support through their own estate plans.

Opening a Window to the Natural World is written by Development and Communications Director Janet Robertson. For more information, contact Janet at 603-968-7194 x 12 or janet.robertson@nhnature.org.

We are grateful for these memorial and honorary gifts received from November 1 through December 31, 2007.

In memory of Barbara Benoit
Betty Main Cannon

In memory of Rosemary Copenhaver
Nancy Macaulay

In memory of Mrs. Robert H. Denison
Mr. and Mrs. William F. Dewey, Jr.

In memory of Jean Kempton
Elizabeth Sproule

In memory of Greg Smith
Mr. and Mrs. Richard Chalmers

Mr. and Mrs. James Ferguson

Frances Chalmers and Gail Smith

James Talcott Fund of the New York Community Trust



Naturalist Margaret Gillespie with Coyote

The Howling Coyote Gift Shop

Opens May 1

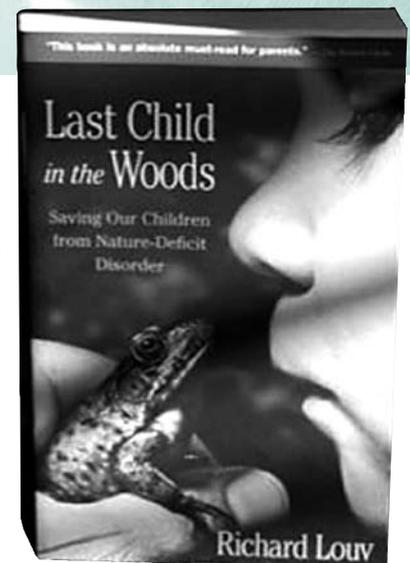
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TRAVELS IN THE LAND OF ENCHANTMENT

By Volunteer Lea Stewart

In November 2008, 10 adventurous souls, led by Iain MacLeod, set out to discover the 'Land of Enchantment.' We were not disappointed.

A brief overview: 124 species of birds and 16 species of animals (five of which were road kill) in ten days. The van was stuffed with spotting scopes, cameras, binos, luggage, water, bags of groceries, and one cooler. We explored from the Rio Grande to the Pecos River, from the northern reaches of the Chihuahuan Desert in the south to the mountains north of Santa Fe. Temperatures averaged 30 degrees above normal for the first five days. We saw pocket gophers, feral Barbary sheep, mule deer, and pronghorn. There were Gambel's and Scaled Quail, Roadrunners and Pyrrhuloxias, four species of falcon, Bald and Golden Eagles, countless hawks. We bravely sampled local New Mexican dishes. We visited the Bosque del Apache National Wildlife Refuge, Carlsbad Caverns, Las Vegas National Wildlife Refuge, and Bandelier National Monument. We shopped in Santa Fe, walked through the lava beds at the Valley of Fires, and toured the Living Desert State Park.

Snow Geese flew so low over our heads at dawn that you could almost feel their wings beating. There was the sunset with thousands of Sandhill Cranes flying in, as far as the eye and binocular could see, followed by a night sky full of stars. There was the surprise find of a prairie dog colony just off the main street of Roswell, complete with four burrowing owls! And, after seeing the Ross's Geese flushed by the Golden Eagle; we were "still talking about it" when we returned a few hours later.

All of these details do not begin to describe the fabric of this wonderful trip. Thousands of photos were taken, many indelibly etched in our brains, and new friends were made. Thank you, Iain, for your easy-going style and great patience in teaching us the difference between seemingly identical birds!

Iain's June trip to Scotland is full but he will lead a 'North Country Weekend' at the Balsams, July 12-13, 2008. See page 7 for more information.



Snow geese at dawn over Bosque del Apache



Lea Stewart (lower right) with Iain MacLeod (far right) and the rest of the New Mexico trip participants



This snoozing Burrowing Owl was just one block from downtown Roswell

LADY SLIPPERS continued from page 1

cracks open.

In order for seeds to germinate and develop into full-fledged plants, Lady Slippers have special requirements – slightly acidic soil, mixed sunlight and shade and, most importantly, the presence of microrrhizal fungi! Pink Lady Slippers are one of New Hampshire’s few orchid species. Like other orchids (and in fact most plants), they thrive thanks to a symbiotic relationship with these special soil fungi where both benefit from the association. Featuring the Pink Lady Slipper as the “Plant of the Week,” the USDA Forest Service describes how this relationship works. Seeds of Lady Slippers do not include a food reserve so they need a way to absorb external nutrients. Help comes as threads from soil fungus (genus *Rhizoctonia*) colonize the seed, passing water and nutrients from the soil fungus to the seed. Continuing to support the Lady Slipper as it grows, the fungus will eventually benefit by taking some carbon nutrients from the orchids roots when the plant is mature and producing its own food through photosynthesis.

Have you noticed that Lady Slippers are elusive? That is not an adjective we usually use for plants! However, they seem to pop up one year and maybe not the next. New clusters greet us one year only to change their formation in subsequent years. Amazingly, Pink Lady Slippers can live up to 100 years! Some of those years

may be spent dormant below the forest floor, especially after plants have expended energy producing seeds or if the habitat becomes less conducive for growth by becoming too shady or sunny. These beauties certainly don’t bloom every year, perhaps treating the world with their moccasin flowers just 10 to 20 times over their long lifespan and producing seeds only four or five times.

If you were to select an official state wildflower, which one would you choose? New Hampshire decided upon the Pink Lady Slipper in 1991. It truly is a flower to celebrate and brings each of us the opportunity to go for many spring walks in the woods to keep track of what these unique orchids are up to each year!

WISH LIST

**Pine needles for animal enclosures
2-quart and gallon plastic pots for
Kirkwood Gardens**



Sponsor a Species

Sponsor a Species is an educational experience. Once you have chosen a species and submitted the form, you will receive a certificate, information about your species, a natural history word game and a photo postcard. You will also be satisfied knowing that you are helping the Science Center teach its visitors about wildlife. **Your name will be listed on a poster in the Trailhead Gallery from May 1- November 1.**

Yes I want to Sponsor A Species!

Name _____ Phone _____

Mail Address _____

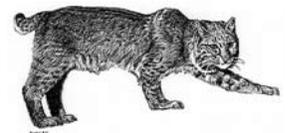
City _____ State _____ Zip _____

Email _____

Name to be listed in Trailhead Gallery: _____

Select the species you would like to sponsor for this season for \$50 each. All gifts are tax deductible.

- | | | | |
|--|---------------------------------------|--|---|
| <input type="checkbox"/> Black Bear | <input type="checkbox"/> Saw-whet Owl | <input type="checkbox"/> Beaver | <input type="checkbox"/> Coyote |
| <input type="checkbox"/> White-tailed Deer | <input type="checkbox"/> Bald Eagle | <input type="checkbox"/> Mountain Lion | <input type="checkbox"/> Bobcat |
| <input type="checkbox"/> River Otter | <input type="checkbox"/> Red Fox | <input type="checkbox"/> Striped Skunk | <input type="checkbox"/> Great Horned Owl |



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Print name as it appears on the card _____

Signature _____

- Send certificate to me
 Send certificate to recipient

TRAIL'S END

Those of you who know and love Squam - most of you - are aware that there are many volunteer organizations in addition to the Science Center working together to protect the environment we love - the Squam Lakes Association (SLA), the Squam Lakes Conservation Society (SLCS), the Loon Preservation Committee, the Lakes Region Conservation Trust, and the Society for the Protection of New Hampshire Forests to name but a few. What many of you may be less aware of is that three of these, the SLA, the SLCS, and the Science Center - dubbed the "Troika" - have been working particularly closely over the past 18 months or so to coordinate their efforts on behalf of the Squam Lakes environment. The Chairs of the three entities and their Executive Directors meet quarterly over a brown-bag lunch to exchange ideas, coordinate activities, and generally try to ensure that we don't trip over one another in our enthusiasm. One of the pleasures of chairing the Science Center is participating in these lively exchanges; the most recent was January 31, 2008, where, among other things, we discussed topics ranging from the mundane, coordinating calendars for 2008/2009 so that we don't have our overlapping constituencies trying to appear in different places at the same time, to the ephemeral, how to respond to an initiative for a Squam [Lakes] National Historic District, based on the old camps we are privileged to have around the lakes. I've culled out three items that struck me as possibly of particular interest to *Tracks & Trails* readers:

1. As many of you know, the NH Department of Environmental Services has proposed revisions to the Shoreline Protection Act, to take effect April 1, 2008. Several of these revisions could have significant implications for protecting the view from the lakes and hence the experience that those taking the Science Center Lake Cruises have. The SLA will be co-sponsoring an information session on April 3 at 6.30 p.m.

2. The Science Center has had significant cooperation with Plymouth State University over the years - the most recent being a PSU-written grant proposal to the National Science Foundation to fund a floating water monitoring device that would upload real time data to a visitor-accessible interactive exhibit at the Science Center. It was, thus, particularly interesting to learn more about the Memorandum of Understanding that the SLA has signed recently with PSU regarding cooperation on constructing a field station on SLA property and other aspects of the SLA's collaborative efforts with PSU that can benefit the Science Center and the SLCS.

3. Squam BioBlitz - as detailed elsewhere in this *Tracks & Trails*, the Science Center will be hosting a Squam BioBlitz June 6 and 7 to inventory the exciting fauna and flora we have in this area. The SLA and the SLCS are co-collaborators in this event - and indeed it was during a "Troika" meeting last year that the Squam BioBlitz had its genesis.

These are but three instances of how the three organizations are working together. There are many more - rest assured that when it comes to environmental/ecological matters, we in the Squam Lakes region are doing everything possible to make sure that the right hand knows what the left is doing.

*Trail's End is written by Peter M. Wood, Chairman of the SLNSC Board of Trustees.
You may contact Peter at 603-968-7194 x 27 or peter.wood@nhnature.org.*

WILDFLOWER QUIZ

1. What yellow wildflower has a name derived from French, meaning "teeth of the lion?"
2. What wildflower is a favorite spring food of black bears and resembles a minister preaching?
3. The name for this wildflower dates back to a time when it was thought that the plant depleted minerals from the soil. Its genus name "*Lupinus*" refers to wolf. (In fact, it adds nitrogen to soil.)
4. The genus name for this flower "*Cyripedium*" comes from the Greek for Venus' foot.
5. Which of these wildflowers is NOT native?
 - A. False Solomon's Seal
 - B. Canada Mayflower
 - C. Jewelweed
 - D. Queen Anne's Lace



Answers: 1. Dandelion 2. Jack-in-the-Pulpit 3. Lupine 4. Lady Slipper 5. D

CLEAN UP DAY

Saturday, April 26 • 9:00 AM

Help prepare the trails and grounds for opening day and wake up Kirkwood Gardens! Be prepared to work outdoors with old clothing and work shoes. Extra leaf rakes, metal rakes, and work gloves are always needed, too. At noon, a complimentary picnic lunch will be provided. Groups welcome.



Contact Volunteer Coordinator Carol Raymond to sign up at 603-968-7194 x 22 or carol.raymond@nhnature.org.

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