



ATTRACTING MOSQUITOES!

By Margaret Gillespie, Illustration by Heather Lord

We all recognize that mosquitoes are on the lookout for us but did you know there are ways that we can be even more attractive? By simply breathing we orient mosquitoes to us – they can detect carbon dioxide and lactic acid in our breath from a distance of 100 feet! Chemicals in our sweat also appear to invite those insects for a meal. When mosquitoes get close, sensors responsive to heat help them zone right in. Amazingly, sight also plays a role – wear bright clothing clashing with your surroundings and keep moving. Mosquitoes will pick you right out as a live one! Maybe you are one of those people who really don't have to work hard to bring in the mosquito population – they definitely have preferences! While one is in close, let's make a detailed examination. After all, these are highly adapted creatures with over 3,500 species worldwide and 47 species right here in New Hampshire.

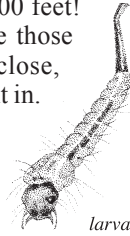
The name, "mosquito" comes from Spanish and means "little fly." Mosquitoes are in the order Diptera (Latin for "two wings") along with other true flies. In place of hind wings, mosquitoes have a pair of "halteres," or balancers which are small knobbed structures that can be flapped quickly to keep the mosquito stable in flight while it performs fast maneuvers – that may explain why they are so hard to swat! What about the characteristic mosquito "buzz?" To fly, mosquitoes can beat their wings up to 25 times a second, making that familiar high-pitched whine. A real

divergence with other flies comes when you experience the female's sharp proboscis, especially designed for penetrating skin. Yes, it is the female that is responsible for that red, itching swelling; males innocently sample plant nectar. Her proboscis has many serrations so as it enters the skin it stimulates few nerves so sometimes you feel nothing until it is too late. An anticoagulant in the female's saliva keeps the blood flowing but is also the protein responsible for your body's immune response and resultant swelling. While female mosquitoes also eat plant nectar, they need blood protein for their eggs to develop to the laying stage.

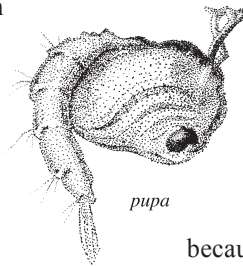
We have been investigating adult mosquitoes but there are two aquatic stages that are quite clandestine. From the eggs hatch mosquito larvae, sometimes referred to as "wigglers," which hang head-down in the water, breathing through an air tube extending from the posterior section. In four to 14 days, after feasting on algae and tiny water organisms, the larvae transform into pupae, often called "tumbler" because of the way they move in water. If undisturbed, pupae rest at the surface getting air through two miniature tubes called trumpets which extend from their heads. Pupae do not feed and in one to four days they transform into adults.

Well, by now you may have had enough of this close relationship with mosquitoes because we also know that along with that itching bite can come some nasty diseases. Here in New Hampshire we are clear of the malaria zone but important concerns focus on Eastern Equine Encephalitis (EEE) and West Nile Virus (WNV).

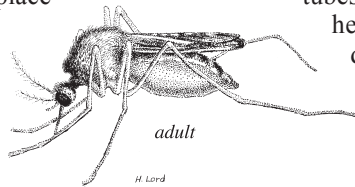
Continued on page 8



larva



pupa



adult

H. Lord

FORGING TRAILS

"SO . . . WINTER MUST BE QUIET UP THERE AT THE SCIENCE CENTER!"

Is it my imagination or has time sped up? Can it really be that it is February already? Wasn't it just Christmas . . . last week? As the days begin to get longer (how nice to head home at 5 PM with some light in the sky) it feels like spring – and another Trail Season is just around the corner.

Several people have said to me ". . . where do all the staff go in the winter? . . . there mustn't be anything to do up there until the spring."(!) Little do they know how much work is being done year-round by ALL the staff to keep the Center ticking. Jim, Clare, Brenda, Frank, Dennis, Matt, and Ron are against the clock repairing and upgrading trails and exhibits to be ready for the onslaught of visitors come May 1.

Amy, Beth, Audrey, Jeremy, Eric, Tiggy and Dave are heading out to schools, teaching homeschool groups, designing exhibit content, and planning the busy summer season while Cortney, Joanne, and Rachel have more than 80 mammals, birds, amphibians, and reptiles to feed and clean every day in all weather.

Continued on page 2

FORGING TRAILS Continued from page 1

The Welcome Center is hopping with activity during the winter season too. Janet and I have been hard at work on the all-important Annual Fund which, thanks to all your wonderful support, surpassed our budget and helped us end the fiscal year with a small financial surplus.

Liz, Ida, Mary and Mary Ellen have seasonal staff to hire, reservations to take, mailings to coordinate, and gift shop merchandise to buy. Brian has new-year budgets to disseminate, end-of-year reports to compile, and an annual audit to prepare for.

Oh yeah . . . and it's member renewal time so Susan is busy, busy, busy. And, it's time to plan the trail season marketing and print our promotional brochures AND we are planning a whole new look to our website and printed materials, so Tiffany is up to her eyeballs in creativity.

It seems that there really is no "quiet time" here at the Science Center. If we're not doing it, we're preparing for it. What seemed – back in November – like a long "off season" ahead, has flown by. We have great things in store for 2007, but don't blink. They will be here and gone before you know it.

*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

- Volunteer, member, and former exhibits staff Donald Parsons, 85, passed away in December. During World War II Don was an Army staff sergeant serving in Okinawa as a radio man in a tank battalion. Afterwards he completed his education at Framingham State College and worked as a senior engineer at Arthur A. Crafts Company in Waltham, Massachusetts helping to design nuclear submarines. Retiring in 1985, Don and his wife Natalie moved to Center Harbor, and became dedicated volunteers here. In 1996, trustees created an annual volunteer service award called the Parsons Award, in recognition of Don and Natalie's dedication. We were fortunate to have known him as a colleague and a friend. His influence continues here in the legacy of exhibits he designed and constructed.
- Bradford Washburn died in January 2007 at age 96. By any measure his life was remarkable and much has been written elsewhere about him. His links to the Squam region began in childhood when he summered on the lake with his parents and resulted eventually in a precise chart of the lakes and elegant map of the Squam Range. The process of his mapmaking and highlights of his other accomplishments are shown in the Washburn Exhibit, which will be temporarily on loan to the Squam Lakes

Association this year to commemorate Brad Washburn's singular life and share the exhibit with a wider audience.

- Naturalist Beth Roy is currently enrolled in the Environmental Science and Policy Masters program at Plymouth State University's Center for the Environment. She is attending classes and working on a thesis involving the development of a riverfront recreational and educational trail system in Plymouth.
- Clare Eckert is building exhibit components for the new Coyote Exhibit that will open in the Mead Discovery Place this year. The Coyote Exhibit will show coyote adaptations, behaviors, population changes, and how to identify coyotes from tracks, size, color and scat.
- At the River Otter Exhibit, Dennis Capodestria has completed exterior repairs to the building. Still to come are drainage improvements, a new slide, new fencing, and re-roofing. Look for new interpretive exhibits to be installed during summer 2007. This work is funded by generous support from the Lovett-Woodsum Family Charitable Foundation.
- We welcome two new staff members. Rachel Cilley is our new Animal Care Assistant, who joined us in November 2006. Rachel holds a BA in Zoology, with a minor in Spanish from the University of

Continued on page 4



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 encouraged and welcomed by newsletter editor Janet Robertson at 603-968-7194 x 12 or janet.robertson@nhnature.org.

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MEMBER PROFILE

INTERVIEW WITH ROSEMARY CONROY

By Tiffany Teaford

TT: You're an artist. When did you get your start and what inspires you?

RC: My mom first sent me to art lessons when I was about 10, but I never had any formal training. Animals captivated me from the start. I recently came across some of my first paintings and they are all of lions, horses, and leopards. My biggest dream was to be like Dr. Doolittle and to talk to the animals. I guess it still is, really! My career path has been anything but linear. My first career was doing computer tech support on Wall Street. I was good at it but not really happy. Then I discovered bird watching and it changed my life. My colleagues were caught up in junk bond scandals and merger mania of the go-go 80s. I was rhapsodizing about warbler fallouts and staging areas on the eastern flyway! Eventually I decided that if I couldn't speak to the animals, maybe I could speak for them. That led me to graduate school in New Hampshire and then onto 10 great years working at the Society for the Protection of New Hampshire Forests. I've come full-circle. I'm now back to painting the creatures I love.

TT: Where is your studio and how do people get to see your work?

RG: I live on a small farm in Weare with a separate building for my studio. It's a dream come true for me. I walk to work; I'm surrounded by fabulous wildlife habitat and I have high-speed Internet access! My work is primarily shown at East Colony Fine Art in Manchester and Expressions Gallery in Milford. I also participate in group shows around New England. I'm happy to arrange studio tours and of course, there's my website: www.studiobuteo.com. ("Buteo" is the name of the family that includes broad-wings, red-tails, and red-shouldered hawks.)

TT: You also write and narrate New Hampshire Public Radio's "Something Wild?"

RC: That started while I was at the Forest Society. Mark Handley (NHPR's General Manager then) wanted a local nature program and asked New Hampshire Audubon to develop something with us. We didn't have a budget, so I volunteered to do the voice for the Forest Society until we could hire a professional (Ed note: Our own Iain MacLeod was the "Something Wild" voice for NH Audubon for eight years). But I guess I did OK, since they never did hire anyone else and it's been nearly nine years now! It's incredibly gratifying to share my love of nature this way.

TT: How do you research "Something Wild" topics?

RC: I was fortunate to spend two years in the woods following around some of the best

naturalists and biologists in the state while at Antioch New England Graduate School. Guys like Meade Cadot, Rick van de Poll, Tom Tynning, Tom Wessels, Ty Minton. I just soaked up their knowledge like a sponge. It was a great education and still forms that basis of my work, whether in writing or painting. I spend part of every week outside observing, tracking, just being in nature. Most of my ideas come from things I observe or from people asking me. My best ideas often come from my 94-year old neighbor Mary Clapp, who remains inspiringly curious about the natural world. Then I go online to expand upon facts or email experts to flesh out my scripts.

TT: How long have you been involved with the Science Center and what do you imagine it will be like over the next decade?

RC: Back in the early 1990s, I did an internship at Boston University's Sargent Camp, which is an outdoor education center in Hancock, NH. I took the job because they had a Great Horned Owl that I could work with. What started out as a great experience soon turned tragic when the feisty old bird died! It was awful but the owl was more than 20 years old. Luckily, Dave Erler found me an immediate replacement — a nice, mellow Barred Owl. As a bonus, Dave also gave me a complete tour of the Science Center. I've been coming back ever since! There's no other place quite like this — where else can both adults and children not only learn about our native wild animals but see them live, too? I come here several times a year now to



sketch and photograph. I don't think I would be as successful as a wildlife artist without those four-legged and feathered ambassadors. With such a dedicated professional staff and an ever-improving facility, I believe the future is quite bright for the Science Center. It has to be! The work you do keeping people connected with wildlife is so important. It's vital that we keep that spark, that awe that comes from being in contact with nature, alive in folks. That's what I'm trying to do with my writing and painting, so I appreciate what hard work it can be sometimes. And how absolutely wonderful it is when you do make that connection. Thanks for being part of my success!

The Howling Coyote Gift Shop OPENS MAY 1

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NEWSBRIEFS Continued from page 2

New Hampshire. At UNH she volunteered and interned at the Marine Animal Lifeline (a seal rescue and rehabilitation center) in Portland, Maine, the New England Aquarium, and the Southern Encounter Aquarium in Christchurch, New Zealand. Originally from Madbury,

Rachel remembers visiting here with her family every summer when she was young. Jeremy Phillips, Assistant Naturalist, started his new job in January. He holds a BS from Central Michigan University in environmental studies and outdoor recreation. His love for the outdoors led him to Pennsylvania and the Pocono Environmental Education Center before he came here. Jeremy's hobbies include hiking, camping, birding, fishing, and tracking.

- Through our accreditation with the Association of Zoos and Aquariums (AZA), we are pleased to offer a new benefit for our members this year:

reciprocal admission to any of the other AZA-accredited zoos and aquariums that participate in the Reciprocal Admissions Program. See the list of participating zoos and aquariums at <http://www.aza.org/ForEveryone/reciprocity/>. Be sure to call before you visit as benefits may vary.

- Thank you for your generous support for our 2006 Annual Fund campaign, which succeeded in raising \$226,614! We had many new and returning donors, receiving more than 400 gifts, and finished the year with a modest pre-audit surplus. The strong finish to the Annual Fund campaign, combined with frugal spending throughout the year made the surplus possible despite both trail admission and school program revenues coming in below budget. The success of the Annual Fund capped off a great 40th anniversary year – together we have set the stage for a banner year in 2007.
- Thanks also to our wonderful volunteers who support every aspect of operations. In 2006, 211 volunteers contributed a grand total of 8,295 hours!
- We received a \$1,500 grant in January from the Finlay-Lamb Family Fund of the New Hampshire Charitable Foundation-Lakes Region to purchase a wireless

auditory assistance device that will allow hearing-impaired visitors and staff members to more fully participate in meetings, lectures, and programs.

- Staff and volunteers attended a Child Abuse Prevention and Awareness training in February facilitated by Voices Against Violence, Plymouth.



Rachel Cilley



Jeremy Phillips

The training covered laws regarding reporting child abuse, signs of abuse, and ways to promote healthy interactions between children and adults.

- The Kirkwood Gardens Café and the Squam Lakes Artisans Gallery will return this year to the historic Holderness Inn adjacent to Kirkwood Gardens. The Kirkwood Gardens Café, owned and operated by member and donor Earle Jenkins for the convenience and benefit of the Science Center and its visitors, will continue to serve top quality, gourmet snacks, sandwiches and beverages from Memorial Day through Labor Day. The Squam Lakes Artisans

Gallery, specializing in unique and locally crafted New Hampshire gifts, will also reopen in May. The Artisans, all juried artists from central New Hampshire, have formed this cooperative gallery to present all manner of art works.

- Science Center Lake Cruises start the season Memorial Day weekend, with the addition of two larger pontoon boats, which were acquired in December from Squam Lakes Tours. We are selling two smaller boats, which gives us a very flexible fleet to meet the demands of tour and program use. Daily cruises at 1:00 PM start on May 26 and run

through June 15. Three daily cruises are offered June 16 through October 14 at 11:00 AM, 1:00 PM and 3:00 PM.

- Celebrate Earth Day at the Science Center on Clean Up Day on Saturday, April 21! Staff and volunteers will work together to prepare the grounds for opening day and take on some special projects as well. Be ready to work outdoors with old clothing and work shoes. A complimentary picnic lunch will be provided. Contact Volunteer Coordinator Audrey Eisenhauer to sign up at 603-968-7194 x 22 or audrey.eisenhauer@nhnature.org.
- New Hampshire Day will be held this year on Sunday, May 6. Trail admission for New Hampshire residents is \$1 each on this special day to celebrate the opening of the Gephart Exhibit Trail.
- Spring is just around the corner! Please keep the Kirkwood Gardens Day sale in mind and consider giving any garden-related “treasures” for the Trash and Treasures sale table. Kirkwood Gardens Day is on Saturday, June 9, 2007. Contact Brenda Erler at 603/968-7194 x 21 or brenda.erler@nhnature.org if you'd like to donate or volunteer.
- Mark your calendars for Saturday, July 28, 2007 for the Summer Gala and 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.

Join the Science Center team!

Both full and part-time positions are available for Admissions and Howling Coyote Gift Shop staff and Lake Tour Leaders beginning in May 2007.

Contact Operations Director Liz Rowe at 603-968-7194 x 15 or liz.rowe@nhnature.org.

Renew your membership online at www.nhnature.org

NATURALIST'S CORNER

SPRING... IN JANUARY?

By Amy Yeakel

As I write this column, it is January and we have just experienced days of unseasonably warm weather. By the time you receive this newsletter it will be March – will it be wintry then or sunshiny warm?

There is a lot of discussion these days about Global Climate Change and Global Warming – and there should be! One key thing to first clarify is the difference between climate and weather. Weather is “the state of the atmosphere at a particular time and place” while climate is the “general or average weather conditions of a certain region, including temperature, rainfall, and wind” (American Heritage Science Dictionary). So weather can be thought of as at the moment, while climate is average weather over time.

There is no question that the Earth’s climate has changed through its existence – from ice ages to warm periods. There is strong scientific research to support this, including studies involving pollen, tree rings, ice cores, and more. There is also no question that the Earth is in a period of change right now. Human activity (such as burning fossil fuels) contributes to these changes and the challenging part is to identify what is human-caused versus “natural.” These changes or global warming can result in erratic local weather patterns. Perhaps we have experienced a taste of that here in the Granite State this winter.

Climate change is a real issue for New Hampshire with the maple sugar, ski, and tourism (ice fishing, snowmobiling, etc.) industries all being affected not to mention our backyard gardens and wildlife. What should you do? Learn more, be informed, and make choices in your own life that are earth friendly – reduce your use of products and resources, recycle, complete the process by buying recycled materials – do small things because they combine to make a big difference!

GREENING OUR SCIENCE CENTER

By Eric D'Aleo

With all the news lately about climate change, energy efficiency and the wise use of natural resources, it’s interesting to consider how the Squam Lakes Natural Science Center’s mission “to advance understanding of ecology by exploring New Hampshire’s natural world” relates to these issues. By focusing on our mission we help to lay the foundations to an “ecological understanding” that is just as important to the development of an educated public as reading, writing, and arithmetic. Through our programs and exhibits, we encourage our visitors and members to see how humans are a part of the environment and understand how their own actions affect the natural world.

Over the years, we have made quiet efforts to be a good role model and have now reached a point where we feel it is important for us to take a more proactive role in our own use of resources and energy. Recently, we took part in the Greening Our Science Centers Initiative, a program of the New England Science Center Collaborative (www.sciencecentercollaborative.org). This solutions-based program is designed to track, quantify and reduce energy use and greenhouse gas emissions. By offering technical assistance, facility assessments, and peer networking, the Collaborative helps organizations develop and implement long term greening plans to improve operations.

In December, 2006, a team from the Collaborative conducted an on-site visit with staff-wide interviews discussing our daily operations. They offered feedback and ideas on how we can make “greener” choices. We’ve also formed a “Green Team” to prioritize and implement changes to our operations and facilities. Although some changes we make may not be visible to visitors and members, we’ll keep you updated about steps we’re taking to green your Science Center. We hope that, as in our programs where our goal is to inspire you to learn more about and experience the natural world, you’ll be encouraged by our efforts to be greener and take some steps of your own.

WISH LIST

Air conditioner in good condition for animal quarantine facility

Small cases for retail displays

Laser or inkjet printers

250 to 300-quart cooler for transporting snakes safely

Thermal coffee carafe

GREEN FACT

Here is one small thing that will make a big difference!

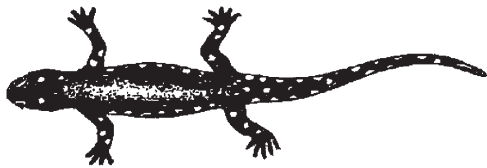
Every incandescent light bulb you change to a compact fluorescent light bulb* will:

- Use 1/3 of the energy of a standard incandescent light
- Last up to 10 times longer
- Save an average of \$30 or more in energy costs over its lifetime
- Prevent 450 pounds of greenhouse gas emissions over its lifetime
- Help preserve our energy resources

Source: www.energystar.gov

*Because they contain small amounts of mercury, compact fluorescent light bulbs should be disposed of properly. Do not throw them away in your household garbage. Check directly with your local waste management agency for recycling options and disposal guidelines in your community.

NATURAL ADVENTURES



SPRING SALAMANDER SCRAMBLE

Date and Time to be determined

8:00 PM - 10:00 PM ■ Ages 6 and up

Early warm spring rains create ideal conditions to find salamanders on the move. Depending on local weather this annual migration begins anytime from the end of March through the beginning of May. Spotted and Jefferson's salamanders often utilize the Science Center's vernal pools as prime nursery sites. In the past we have randomly picked a date hoping to be lucky enough to catch them as they congregate for mating and egg-laying. This year we'll watch the forecast closely to determine the date when conditions look best. If you are interested in joining this evening exploration contact us with the best method of reaching you on short notice and we will let you know the exact date and time. Warm waterproof clothing, boots, and a flashlight or head lamp are a must. Minimum enrollment 4, maximum 20.

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

APRIL VACATION WEEK

AMAZING MIGRATORS

Tuesday, April 24

10:00 AM - 12:00 NOON ■ Grades 1-3

The arrival of spring means that a lot of animals are on the move. Join us to learn the "hows and whys" of animal migration. Outdoor activities, stories, and a craft will help us understand what it would be like to migrate. We'll also meet a live animal to discover the story of its migratory journey! Minimum enrollment 4, maximum 12.

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

CELEBRATIONS OF SPRING

Thursday, April 26

10:00 AM - 12:00 NOON ■ Grades 3-5

Join us for this fun day of exploring the woods, meadows, and ponds of the Science Center in search of signs of spring. We'll be in search of the colors, smells, and clues that tell us winter is over. We will read stories and play games as we explore these wild places. Come meet a live animal to learn about its springtime activities after a long winter slumber. Minimum enrollment 4, maximum 12.

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

GARDEN TAI CHI

Tuesdays, May 1 through June 19

8:00 AM - 9:30 AM ■ Adults

Tai Chi is a Chinese martial art of self defense, now done in a modified style mainly as a health practice. Its forms combine relaxed, fluid, slow movements with a calm and alert mental state. By practicing Tai Chi movements, one can build endurance and enhance flexibility, balance, and coordination. Join us in lovely Kirkwood Gardens for a morning class! (A second series will be offered from June 26 through August 14.) Minimum enrollment 6, maximum 12.

Cost for eight weeks: \$48/member; \$64/non-member

ANNUAL BREEDING BIRD CENSUS

Saturday, June 2

6:00 AM and 8:00 AM ■ Ages 10 and up

For nearly 30 years, a census of the Science Center's breeding bird population has been taken. Join Senior Naturalist Dave Erlar and learn to identify some of the area's resident birds. Early risers meet at 6:00 AM or you may join us at 8:00 AM to complete the census. No reservations required.

Cost: free/member; \$4/non-member

STREAMBOAT RACE

Saturday, June 9

10:00 AM - 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 one of the Science Center's streams. See how your boat deals with obstacles and how it handles in rapids. How do creatures that live in streams full-time adapt? We'll explore the underwater stream world searching for hidden creatures and also meet a large stream dweller face-to-face. Minimum enrollment 5, maximum 16.

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

LOONS OF SQUAM

Tuesday, June 12

7:00 PM ■ Adults

Senior Biologist and Executive Director of the Loon Preservation Committee Harry Vogel will share with us the life history of loons, some of the challenges facing loons in New Hampshire, and the Loon Preservation Committee's efforts to keep loons common on Squam Lake and throughout the state.

Cost: free/member; \$4/non-member

YOUNG MINDS IN MOTION SERIES

Wednesdays: June 13, July 11, August 8, September 12

9:30-10:30 AM ■ Ages 3-4

The mind and body of a young child are constantly on the move. Join us to foster your child's "natural curiosity" and explore motion from an animal's perspective - jump like a frog, swim like a fish, crawl like a caterpillar, and fly like a bird. These experiences you share with your child will build foundations for a lifetime. Parent(s) MUST attend with child; no charge for adults. Minimum enrollment 4, maximum 10.

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



Reservations and advance payment required for all programs unless otherwise stated. Natural Adventures will be cancelled by noon the day prior if minimum enrollment is not met.

Bird Identification Series

SESSION III

OWLS OF NEW HAMPSHIRE OWL PROWL

Friday, March 30
11:00 PM - 2:00 AM

Learn about the owls of New Hampshire in this in-depth workshop with Iain MacLeod. Start the evening indoors with an overview about the identification and ecology of New Hampshire's owls. Then at midnight, we will venture out into the night and check local suitable habitat to listen for great-horned, barred, and northern saw-whet owls. We may carpool from the Science Center to another site.



Cost for Session III: \$12/member; \$16/non-member

SESSION IV

SOUTHERN WOODLAND SONGBIRDS

Thursday, May 10 ■ 7:00 PM - 9:00 PM
Saturday, May 12 ■ 6:00 AM - 3:00 PM

A huge variety of warblers, vireos, thrushes, tanagers and orioles make their homes in the rich hardwood forests in southern and central New Hampshire. This two-part, in-depth workshop with Iain MacLeod will focus on identification of woodland songbirds 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 for session IV: \$45/member; \$55/non-member

Attend both Sessions IV and V for \$75/member; \$95/non-member

SESSION V

NORTHERN FOREST BIRDS

Thursday, June 21 ■ 7:00 PM - 9:00 PM
Saturday, June 23 ■ 6:00 AM - 4:00 PM

Join Iain MacLeod for another in this series of in-depth workshops this time focusing on birds that inhabit our boreal forest habitats in northern New Hampshire. The evening session will include a presentation with color illustration and audio recordings. The Saturday 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 for session V: \$45/member; \$55/non-member

Attend both Sessions IV and V for \$75/member; \$95/non-member

Reservations and advance payment required.

Ages 14 to adult.

Minimum enrollment 4, maximum 18 for each session.

Save the Date!

ANIMAL ENRICHMENT DAY - THURSDAY, JULY 19

SUMMER GALA & ANNUAL MEETING - SATURDAY, JULY 28

Share the Discovery

National Association for Interpretation's CERTIFIED INTERPRETIVE GUIDE TRAINING

June 1, 2, 5, 6 ■ 8:30 AM - 4:30 PM

Volunteer Coordinator Audrey Eisenhauer will teach interpretive techniques in this National Association for Interpretation's Certified Interpretive Guide (CIG) course. Graduates receive an internationally-recognized certification that identifies individuals who exhibit a basic understanding of and ability to apply interpretive techniques to guided talks and informal situations. Registration is open to docent volunteers and the general public. Current docents who successfully complete this 32-hour course will be eligible to offer "Up Close to Animal" presentations. Space is limited; please contact Audrey Eisenhauer at 603-968-7194 x 22, for fees, additional course information, and reservations.

DOCENT TRAINING

Tuesday, July 10 ■ 4:00 PM - 8:30 PM

Friday, July 13 ■ 8:30 AM - 4:30 PM

Saturday, July 14 ■ 8:30 AM - 3:30 PM

Join our team of docents and share your enthusiasm for the natural world. A welcoming and informative presence for Science Center visitors, docents are volunteers trained to interpret our exhibit trail and New Hampshire's natural world using educational props and live animals. Docents are most active May through October. They can also be found assisting with classes, leading tours, and hosting hands-on discovery tables at fairs, festivals, and other community events throughout the year. Docents must be at least 18 years old and are required to complete 40 hours of training including the sessions listed above.

The docent training fee is \$45 (financial aid available).

SPECIAL EVENTS

CLEAN UP DAY

Saturday, April 21 ■ 9:00 AM

Celebrate Earth Day at the Science Center by lending a hand on Clean Up Day. We prepare the grounds for opening day and also will install a large bat house, landscape around our new water fountain, and wake up Kirkwood Gardens! Be prepared to work outdoors with old clothing and work shoes. If you can, please bring leaf rakes, metal rakes, and work gloves. A complimentary picnic lunch will be provided at noon. Groups welcome. Contact Volunteer Coordinator Audrey Eisenhauer to sign up at 603-968-7194 x 22 or audrey.eisenhauer@nhnature.org.

NEW HAMPSHIRE DAY

Sunday, May 6 ■ 9:30 AM - 4:30 PM

\$1 admission for New Hampshire residents

KIRKWOOD GARDENS DAY

Saturday, June 9 ■ 9:00 AM - 1:00 PM

Plant and garden-related products for sale, garden treasures sale, silent auction of plants, lunch available.

**Kirkwood Gardens Day is sponsored by
Belknap Landscaping Company**

Mosquitoes Continued from page 1

Both EEE and WNV are viral diseases spread by mosquitoes which bite an infected bird and then transmit the illness when biting another bird or mammal. Symptoms do not even occur in most people but for a small percentage, these diseases can be serious or fatal, particularly in the case of EEE. Late July through September is the prime time for contracting EEE. Should we panic? Not really, but common sense precautions are a good idea. Mosquitoes are most active at dawn and dusk so cover up if you find yourself outside at those times. Insect repellants certainly help – they range from chemical repellants like DEET products to various natural oils and herbs. In addition, mosquito culprits breed in standing water so check around your house for residual water in barrels, wheelbarrows and forgotten bird baths. Be prepared and continue to enjoy the great outdoors!

Do you want to make a biologist cringe? Ask if mosquitoes are good for anything! Mosquitoes are simply a natural part of the world where we live and have existed in North America for the vicinity of 100 million years. Although not the sole prey for any predator, mosquitoes are a staple food source for many, including birds, fish, bats, spiders, amphibians, and insects such as dragonflies. The ancient ancestors of our current mosquitoes were three times larger so let us be content with what we have!

Win A Trip to Scotland!

Take a chance and you could win one space in June 2008 on the Wildlife of Scotland – Hebrides and Highlands trip! A maximum of 100 raffle tickets will be sold at \$100 each. There will be TWO winners – you and the educational programs at the Squam Lakes Natural Science Center.

To enter, fill out a separate entry form for each ticket purchased.

Return with payment for \$100 to:

Squam Lakes Natural Science Center
PO Box 173, Holderness, NH 03245
603-968-7194 www.nhnature.org

Name _____

Mailing address _____

Phone _____

Email address _____

Payment method: Check Credit Card Cash

Please make checks payable to: Squam Lakes Natural Science Center.

Charge my credit card: Visa MC AMEX Discover

Card # _____ Expires _____

Cardholder Name _____

Signature _____

The trip has an approximate value of \$5,000. A minimum of 50 raffle tickets must be sold for the raffle to take place. If fewer than 50 tickets are sold, participants will be reimbursed. The drawing will be held at the Annual Meeting - Summer Gala on Saturday, July 28, 2007. The winner need not be present to win. All participants must be 18 years of age or older and provide all information requested. No purchase required to enter.

SCIENCE CENTER NATURE TOURS

NEW MEXICO –
LAND OF ENCHANTMENT
NOVEMBER 5 - 15, 2007

Join Executive Director Iain MacLeod for a spectacular trip to the great Southwest featuring visits to Bosque del Apache, Bitter Lakes, and Las Vegas National Wildlife Refuges. Highlights will include breath-taking flights of sandhill cranes and snow geese, countless other waterfowl, raptors galore, and multiple sightings of roadrunners and coyotes. We'll visit Bandolier National Monument with its ancient cliff dwellings, The Living Desert Zoo and Gardens State Park (AZA-accredited), and the spectacular caverns of Carlsbad. The last leg of the trip will be to Santa Fe to visit the National Forest and explore the town. Group size limited to ten. Cost includes all accommodations, leader fees, van transportation beginning and ending at Albuquerque airport, and admission fees. (Cost of meals NOT included). Contact Iain by phone: 603-968-7194 x 23 or e-mail: iain.macleod@nhnature.org for a full trip itinerary or to book your place on the trip.

Cost: \$1,600/member; \$1,700/non-member

WILDLIFE OF SCOTLAND –
HEBRIDES AND HIGHLANDS
JUNE 2008



Executive Director Iain MacLeod will lead this trip to his homeland in search of birds and beasties. Highlights will include nesting red-throated loons, comcrakes, and shorebirds (plovers and sandpipers) breeding in the greatest densities found anywhere in Europe. You'll enjoy spectacular wild flowers on the shell-sand farmland known as the Machair. We'll look for golden and white-tailed eagles over the ragged mountain peaks, watch seals in the sea lochs, and search for otters in the late evening twilight (the "summer dim"). In the Highlands we'll visit Loch Ness for monsters and view ospreys at the famous Loch Garten Reserve. Another highlight is the sight, sound and smell of tens of thousands of breeding kittiwakes, guillemots, razorbills, and puffins at the Fowlsheugh cliffs. The trip will wrap-up in historic Edinburgh with its famous castle, royal mile, and beautiful gardens. This will be a trip to remember! Accommodations will be in comfortable historic country house hotels with exquisite local cuisine. Group size limited to ten. Cost will include all accommodations, round-trip airfare from Boston to Glasgow, van transportation, admission fees, and all meals. Detailed itinerary and cost available in fall 2007.

2007 Kirkwood Gardens Day

A GARDEN IN FULL BLOOM AT THE SQUAM LAKES NATURAL SCIENCE CENTER

Be inspired, be instructed, be in the center of gardening perfection!

- * Sale of hard-to-find perennials from a prestigious New England nursery
- * Plants from knowledgeable local gardeners
- * Select colorful annuals – some new, some old favorites
- * Garden antiques and collectibles
- * Expert opinions and advice
- * VENDORS: Canterbury Herbs
South African handmade table linens
Earth Jewelry by Lois Stratton
Center for Traditional Arts

**TO BENEFIT THE KIRKWOOD GARDENS,
EST 1995**

JUNE 9

9:00 AM – 1:00 PM

9:00 AM–Noon: Silent Auction
Drinks, sandwiches and baked goods available

For more information please call the Squam Lakes Natural Science Center at 603-968-7194

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GARDENER'S NOTEBOOK

TOADS

By Brenda Erler

Many gardeners take great joy in creating gardens that are full of character, gardens full of interesting art, found objects, and hidden “rooms.” It can be even more fun to find some natural “characters” among the plants. One such creature that should be encouraged by everyone is the toad.

Toads provide fantastic natural insect control and pack huge appetites for their size. A single toad may eat a whopping 10,000 bugs, beetles, cutworms, flies, and slugs in a single summer. One toad was observed eating 86 houseflies in just ten minutes! Almost 90 percent of a toad’s diet is made up of what we humans consider to be garden pests. What gardener wouldn’t welcome that kind of help? So, what can be done to welcome these amphibians to our yards?

Toads absorb moisture through their skin and are highly sensitive to pesticides. They will avoid chemically sprayed,

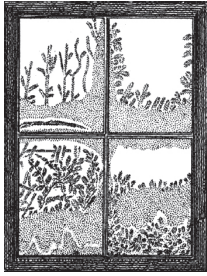
manicured lawns. If a toad takes up residence in your garden, it’s a sign that you have created an environmentally friendly, toxin-free habitat. You can encourage toads to move in by providing water and shelter. A backyard pond for breeding is the ultimate in toad attraction. But, if that’s more than you care to take on, you can provide water for drinking and soaking simply by placing a shallow water saucer at soil level in a shady, protected spot. Plant low growing groundcover around the saucer and change the water regularly to discourage mosquitoes. A toad shelter is equally easy to make. The shelter should be placed close to the water source you’ve created. Break one side out of an old 8-10” clay pot and place it broken side down on the soil. Put soil over top and plant some low growing plants to camouflage it. That’s it! Sit back and see who moves in. If you build it, and conditions are good, they will come.



Kirkwood Gardens

on the grounds of the historic Holderness Inn are available for your wedding or other special event. Contact Operations Director Liz Rowe at 603-968-7194 x 15 or liz.rowe@nhnature.org for details.

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



Opening A Window to the Natural World

Philanthropic Families

BOBCAT FUND

Frances Chalmers and Gail Smith recently established a restricted fund in memory of their beloved son, Gregory Thomas Smith. The fund will provide an annual stipend for the care and feeding of the bobcats. Greg passed away in a tragic accident at age 15 in May 2003. Greg's annual visits to New Hampshire with his family were a huge highlight of his year. Greg and his cousins always visited the Science Center three or four times each summer. Greg had a tremendous sensitivity and loved adventure and the wild side of life. He especially loved the bobcats so it is appropriate that his family and friends have generously created this fund in his memory. Furthermore, Greg's family especially hopes their example will serve as a springboard to inspire similar donations from other families. Francie and Gail noted "The work the Science Center does is so important in teaching people about nature and fostering stewardship of beautiful New Hampshire. We wanted to create a fund in Greg's memory to support the care of the bobcats and to set an example for others."

LAKES REGION SCHOLARSHIP FUND

Occasionally when summer Guided Discovery courses for children are announced, we receive requests from local students who would like to attend but cannot afford the fees. This led us in 2006 to ask for contributions on the Guided Discovery registration form for the first time, and we will continue soliciting gifts this way. A small amount was contributed last year from a few families when they registered their own children for summer courses. Our goal is to build the fund over time to the point that it will allow us to offer scholarships. Now, with a new gift from Margie and Charlie Emmons and their children, Beth Lowenstein, Chip Emmons, and Matt Emmons, we are much closer to our goal.

This past Christmas Margie's parents, Arthur and Peggy Howe, asked her family to choose a non-profit organization to which they would give a generous gift. The Emmons family were all in agreement for the Howe's donation to go into the Science Center's Scholarship Fund. You might recognize these names as being connected with a neighbor, Rockywold-Deephaven Camps (RDC), just down the road on Route 113. Arthur Howe, Jr. is a grandson of Mary Alice Armstrong, one of RDC's founders. The Howe/Emmons' gift continues a long philanthropic tradition by this extended family at the Science Center and throughout the Squam community. Speaking of her family's contribution, Margie said, "This gift is very meaningful to us. We encourage enabling local children to experience the exciting summer programs offered by the Science Center. Hopefully, they will learn about their natural world and learn ways to respect, appreciate, and care for our beautiful region."

SCHREIBER MEMORIAL FOUNTAIN

You may have noticed an intriguing rock wall taking shape near the White-tailed Deer Exhibit over the past year. This structure was built in memory of Phyllis 'Fee' Schreiber, a longtime member

and donor who loved the natural world and the Science Center. When Mrs. Schreiber died, her son Jamie Schreiber and his wife Sandy asked for memorial contributions to be made here. Later, they added their own major gift to underwrite the construction of the drinking fountain and wall. Volunteer and mason Larry Fernald designed the layout and donated a portion of his time and services as well. The final landscaping touches will start this spring with help from the Kirkwood Gardens volunteers. Additional gifts to help with landscaping are welcome.

On your next trip around the Gephart Exhibit Trail, stop for a rest and a cool drink of water and enjoy a moment of quiet contemplation, guided by Mrs. Schreiber's philosophy on the memorial plaque: "Every day is special."

UPPER POND TRAIL RESTORATION

Throughout his life, John Jacoby spent as much time as possible in New Hampshire, not far from the Science Center, on beautiful Jackson Pond in New Hampton. He loved the quiet beauty of Jackson Pond. It is fitting that his children, Allen Jacoby and Pat Cameron and their families, chose to remember him through a major gift to fund the reconstruction of the Upper Pond trail in the northwestern corner of the property. His family chose to make this gift to honor Mr. Jacoby's love of the natural world and his interest in educating children. Not every visitor stops there but the pond is regularly used by schools and the occasional mink and otter passing through. It is home to newts, frogs, brook trout, and many invertebrates and microscopic plants and animals. Thanks to the Jacoby family, now the access to the water is easier and the trail has been made more accessible. The Meredith Rotary Club generously matched the contribution. Most of the work was completed during the mild Thanksgiving weekend last year with a few minor details left to finish this spring.

Other memorial gifts received in 2006 included gifts honoring Stephen Burke, Emilie Ellard, Don Parsons, Sherburn Ramsay, Sr., and James Sylvestre. Donations were made in 2006 to honor: Betty Main Cannon, Frances Carter, Mr. and Mrs. Brian Grisi, Jain Himot and Renny Daly, Andrew Lane, Mr. and Mrs. George Levin, Warren and Paul Miller, Margaret Pfaff, Mr. and Mrs. Peter Richards, Mr. and Mrs. Robert Rothschild, and Shirley and Walt Stockwell.

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.

Naturalist's Legacy Society

If you have already named the Squam Lakes Natural Science Center in your will or trust, please let us know so that we can thank you and welcome you into the Naturalist's Legacy Society. The Naturalist's Legacy Society was established in 2006 to celebrate the Science Center's fortieth anniversary and to recognize and honor those who have made gifts which will help to continue its work into the future.

TRAIL'S END

WHY IT MAKES A DIFFERENCE

I had an interesting experience this past year, which brought home to me, in a very real way, why what we do at the Science Center is important; that it makes a difference. It all has to do with environmental stewardship.

The New Hampshire State Legislature in 2005 established a commission to review the State's Comprehensive Shoreland Protection Act (CSPA) and to recommend needed changes. The CSPA recognized that "the shorelands of the state are among its most valuable and fragile natural resources and their protection is essential to maintaining the integrity of public waters." I had the privilege to serve on this commission.

The commission was made up of folks from a broad spectrum of interests and backgrounds; conservation, legislation, governance, land development, realty, timber, education, and private landowners. We had engineers, scientists, lawyers, public administrators, academics, and business people.

Going into this process a number of skeptics suggested to me that there would be no way such a diverse group could find

common ground for doing what was in the best public interest. They were wrong! The commission was able to come together through an informed consensus-building process and develop 17 specific recommendations for improvement of the act.

I believe that this was possible, to a great extent, because of a shared fundamental understanding of the value of New Hampshire's natural resources both from an ecological perspective and economic perspective and from an understanding of the cause and effect relationship between human activities and the natural world. There was ample room, based on this fundamental understanding and shared values, to come together on public policy.

This experience brought home to me in a very practical way, just how important our educational mission is in achieving our vision of an informed citizenry able to translate knowledge and values associated with the natural world into public policy.

It certainly makes a difference!

*Trail's End is written by Bob Snelling, Chair, SLNSC Board of Trustees.
You may contact Bob at 603-968-9809 or snellg@adelphia.net.*



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 |



Enclosed please find a check in the amount of: _____

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- Send certificate to me
 Send certificate to recipient

Signature _____

CLEAN UP DAY

Saturday, April 21 • 9:00 AM

Help us get ready for opening day!
 Be ready to work outdoors with old clothing and work shoes.
 Bring leaf rakes, metal rakes, and work gloves.
 Complimentary picnic lunch at noon. Groups welcome.

Celebrate
 Earth Day
 at the
 Science
 Center!



Contact Volunteer Coordinator Audrey Eisenhauer to sign up
 at 603-968-7194 x 22 or audrey.eisenhauer@nhnature.org.

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