



MEET A DECAPOD

By Margaret Gillespie, Illustration by Cheryl Johnson

Imagine yourself on the edge of the Merrimack River when the water is low. One ideal place is at the Sewall's Falls State Recreation Area in Concord, where rocks and boulders line the west bank, intermingled with quiet pools. When my niece and nephew were eight and six years old, we discovered this magical place together. It was their idea to walk and balance their way upstream along the boulders instead of returning by the trail. It was my idea to open their minds to a new world hidden underneath the rocks.

Once they discovered creatures making a living encrusted on stones or squeezed into crannies, there was no stopping them, not even the prospect of being late for lunch. The most impressive, evasive, and feisty find was a decapod although we weren't processing that particular name at the time. If my two could get past the waving pinchers and grasp the slippery body before the creature scooted backwards under the rocks, they proudly held up their trophy. They had outsmarted a crayfish!

You might have heard of other names for this creature like crawdad and crawfish or eaten them as a delicacy in different parts of the United States. Face to face with a crayfish, and beyond the pinchers, one can't help but notice the waving antennae. In fact, there are two pairs. The long, flexible duo takes care of action in front and behind. By swiveling backwards, they can even help the crayfish determine if its body will fit into a hiding spot. The smaller pair, called antennules, takes on short range action. Besides touch, both pairs detect smell. Looking eye to eye with a crayfish is a little disconcerting. Their

black eyes are perched on top of moveable stalks. To detect predators or spot food, a crayfish's eyes can move in or out and in all directions.

Crayfish, shrimp, crabs, and lobsters are all in a group of crustaceans called decapods, literally meaning "ten feet." Zoning in on crayfish, we'll start with the impressive pinchers or chelipeds. Armed with saw-like "teeth" and a claw at the tip, these appendages help crayfish capture

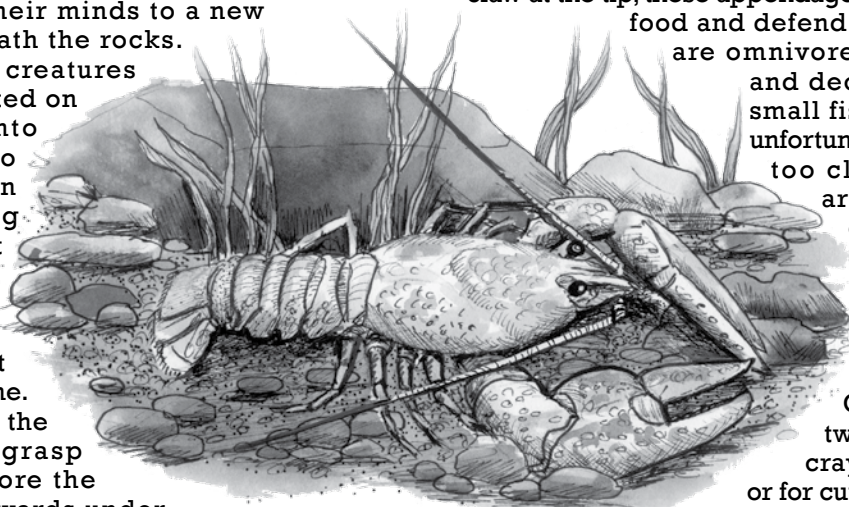
food and defend themselves. Crayfish are omnivores, consuming living and decaying plants, snails, small fish dead or alive, and unfortunate insects which swim too close. Often crayfish

are safely backed into crevices, greeting any predator with open pinchers. Behind the chelipeds are four walking legs which also aid in swimming.

Generally the first two have tiny claws the crayfish uses for digging or for cutting food. The final two terminate in a lone claw used for grasping and traction. All four legs and

pinchters offer an escape mechanism for the crayfish. If any of these appendages are grabbed by a predator, it can break off at a groove near the base. The crayfish has the ability to regenerate its legs and claws, usually starting small and growing through successive molts.

Swimmerets along a crayfish's abdomen, also called pleopods, assist in locomotion. Superficially resembling feathers, these structures incorporate dual paddles with flexible fringes to help the crayfish move forward. As an aside, if you wish to determine the sex of a crayfish, check the first swimmerets. All the swimmerets of females



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**The NEW Water Matters Pavilion
opens May 1 featuring live mink, fish,
turtles, frogs, and 18 water-related exhibits.**

The Live Animal Exhibit Trail Opens May 1

Squam Lake Cruises Begin May 17

FORGING TRAILS

INTRODUCING THE WATER MATTERS PAVILION



As we transition from winter to spring here at the Science Center, there is a hum of activity at the new Water Matters Pavilion. On May 1 it will open to the public for the first time and as I write (early February) our education and facilities staff are busy finishing up the exhibits. This will be the largest new exhibit complex the Science Center has opened in decades. At least 18 different displays celebrate the importance of water.

I've had the pleasure of sitting in on regular exhibit design meetings. We have been focusing on Water Matters for at least three years. It's really exciting to see all the pieces and concepts coming together. It's amazing how much thought and planning goes into each bit.

One of the highlights of Water Matters is the wall of aquariums and terrariums. The 1,500-gallon warm water tank is home to several species of local fish including smallmouth bass, bluegill, and horned pout. Other species will soon be added including pickerel and yellow perch. The 500-gallon cold water tank will show beautiful native brook trout. Terrariums will hold a collection of native frogs and toads. The custom-built turtle exhibit will feature both painted and snapping turtles. It took much careful thought to design the building to accommodate the pumps and filters, lighting, quarantine tanks, and food tanks, and all the behind the scenes maintenance areas needed to care for these animals. Even the gathering of frogs and fish and turtles had to be coordinated last fall as the May 1 opening would make it hard to find specimens in the spring.

Rounding out the live animal exhibits is a spectacular mink habitat. This custom built enclosure has a waterfall, pond, and running stream inside the rock-lined floor. Fiberglass sculpturing of the substrate was completed last spring. A large format photo backdrop of Squam Lake will be installed next and then glass sides and lighting. Even the acquisition of mink had to be carefully researched and coordinated. Two mink are needed so that each will spend only a half-day shift on view. Both have to arrive ahead of time to spend time in quarantine prior to moving to their new home.

Other interactive exhibits interpret ice, watersheds, and water cycles. One I am particularly looking forward to seeing is the kinetic sand table. It really is hard to describe in words – you'll just have to see for yourself. Let's just say it involves gaming software, a digital projector, and hours of fun creating an infinite variety of virtual watersheds with lakes, rivers, and mountains.

Our friends at the Loon Preservation Committee worked with me to make a special display about Loons and the dramatic decline of Loons on Squam. I created an exhibit all about the Osprey tracking project (look for a life-sized Osprey nest too). Squam Lakes Association staff helped with content about water quality and Squam Lakes Conservation Society provided watershed maps.

The fun spills out onto the lovely deck that overlooks the pond. A life-size beaver lodge will allow kids to crawl inside and see a family of (fiberglass) beavers. A huge three-tier stone water play table will be great fun on summer days, and a kid-size turtle shell will make for great photo-ops.

But wait, there's more . . . but I'm out of room. Stop by and check it out.

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Squam Lakes Natural Science Center is a non-profit educational institution incorporated in 1966 as a charitable organization under statutes of the State of New Hampshire with its principal place of business in Holderness. Its mission is to advance understanding of ecology by exploring New Hampshire's natural world.

Tracks & Trails is a regular publication of Squam Lakes Natural Science Center distributed to members and contributors. Comments are welcomed by newsletter editors Janet Robertson and Amanda Gillen.

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MEMBER PROFILE

BILL WEBB



I first got involved with the Science Center in the late 1980s. Bertha Fauver asked if I would be interested in joining the Board. Frankly, I didn't know much about the Science Center, but it seemed to be an important part of my community and I was flattered to be asked. I soon found out I was an anomaly. I was young, a business person with a slant toward sales and marketing, and a local year round resident. What a combination!

It was an interesting time in the Center's evolution. We were reasonably mature, approaching our 25th anniversary, yet our underlying potential was barely being tapped. We had a terrific staff (still do) and a great product, but there was tension between the Center and many "locals" and we were underselling ourselves in general.

I became Board Chair a year later and shortly after that circumstances required that I step in as Interim Director. I lobbied to add a staff person for marketing, but to sell the concept internally I had to term it as public relations. At the time our gift shop was one glass case where we sold rubber bugs. The whole idea of being commercial was hard to swallow for many. We subscribed to the philosophy "build it and they will come" before the philosophy was ever articulated.

Fast forward 25 years. This diamond in the rough now sparkles. Thousands walk its trails and attend its programs

each year. My two children, who experienced their first up-close encounters with New Hampshire's wildlife here, are now grown and soon they will bring our first grandchild to walk the trail. That's the magic of the Science Center. Every generation is fascinated by the experiences found here, experiences that in many ways only get better as we get older. Lots of folks nowadays think a big screen or a small hand held device substitutes for a real outdoor experience, and that's the challenge for the Science Center - finding new and innovative ways to keep future generations connected to the natural world around them. Based on the past 50 years I think we have good reason to be confident about the Center's future.

Bill has owned and operated the Inn On Golden Pond in Holderness for the past 30 years. Over the years Bill has served his community as Budget Committee Chair and Selectman. He founded and chaired a local, community-based non-profit, Holderness 2000 Inc., which was responsible for constructing a recreation path in town and purchasing land and constructing a town common in Holderness village. He has served on numerous non-profit Boards including Squam Lakes Natural Science Center (Chair 2 years), the Whole Village Family Resource Center in Plymouth (Treasurer 2 years), the New Hampshire Charitable Foundation - North Country (Chair 3 years), and the Grafton County Economic Development Council (Chair 3 years). He currently serves as Board Chair of the Society for the Protection of New Hampshire Forests and on the President's Council at Plymouth State University. Bill is a graduate of Colgate University. He and his wife Bonnie live in Holderness and have two grown children.

NEWSBRIEFS

- Thank you for your help exceeding the 2015 Annual Fund goal! We could not have done it without you! Unaudited financials predict that we will end the year with a slight surplus.
- Trail attendance in 2015 set a record with 53,494 visits, compared to 50,188 in 2014. Lake Cruise passengers numbered 9,895, compared to 9,803 in 2014. Across the state, 16,005 school children and teachers attended a program at the Science Center or their school site, compared to 14,608 in 2014. Another 6,810 people around the state attended non-school outreach programs. Memberships numbered 3,621 at year end.
- Blue Heron School Director Laura Mammarelli attended the Fourth Annual Montessori Accreditation Council for Teacher Education Symposium in Alexandria, Virginia, and participated in a panel on state recognition of the Montessori teaching credentials in December.
- Education Director Audrey Eisenhauer was asked to serve on the New Hampshire Department of Education's Science Standards Revision Strategic Leadership Team responsible for revising New Hampshire's state science frameworks. This fulfills one of our education strategic review goals and adds a voice for informal science education to the process.
- Finance Director Brian Eaton recently joined the Association of Nature Center Administrators Finance Committee as a non-board volunteer.
- It been two years since Sharon Warga replaced Tom Klein as Operations Manager. Since then Tom has continued to work part time with our seasonal Squam Lake Cruises. In February, Tom was hired as a part time Facilities Assistant too. Welcome back Tom!
- Thank you to our outstanding volunteer team of 397 individuals and groups who donated an amazing total of 9,551 hours in 2015.
- Some membership fees will increase as of April 1. Four-person will increase from \$70 to \$75; Six-Person from \$90 to \$100; Eight-Person from \$110 to \$125; and Wetlands from \$135 to \$150. You can renew through March 31 at 2015 fees. Admission fees will increase too, starting on opening day, May 1. Fees will be \$19 for Adults; \$16 for Seniors; and \$14 for Youth.
- Our annual staff retreat took place at the Forest Service Office in Campton in December. Staff shared ideas on subjects such as the 2016 AZA accreditation application, operational challenges pertaining to the new Water Matters Pavilion, the 50th Anniversary Celebration, and strategic planning.

KIRKWOOD GARDENS PLANT SPOTLIGHT

By Brenda Erler

Creeping Phlox

Phlox stolonifera 'Blue Ridge'

Culture: Best grown in rich, moist, organic soil in shade to part shade

Bloom: May to June

Height: 6 - 8 inches

This beautiful spreading groundcover is native to the Appalachian Mountains. The blue flowers are held high above the evergreen foliage. It spreads by both stolons and seed. Great groundcover for woodland, shade and naturalized gardens. Consider planting early spring bulbs amongst its mat of attractive, rounded leaves.

Kirkwood location: Under the large pine along accessible path between upper and lower garden and on either side of the path leading to the circular apple tree bench



Pigsqueak

Bergenia cordifolia

Culture: Easily grown in average, moist, well-drained soil in part shade to full shade. Remove all damaged foliage in early spring and deadhead spent flower stalks.

Bloom: May to June

Height: 14 inches

This Russian native forms clumps of huge, waxy, evergreen leaves with spikes of clustered rose-red blooms in spring. Use for edging, accent, or massing in shade gardens. Good cut flowers. Receives its common name because of the noise the leaves make when rubbed between your fingers.

Kirkwood location: On the right side of the steps at the garden entrance, next to the pipe fountain, and in the center front of the upper garden (on the driveway side)

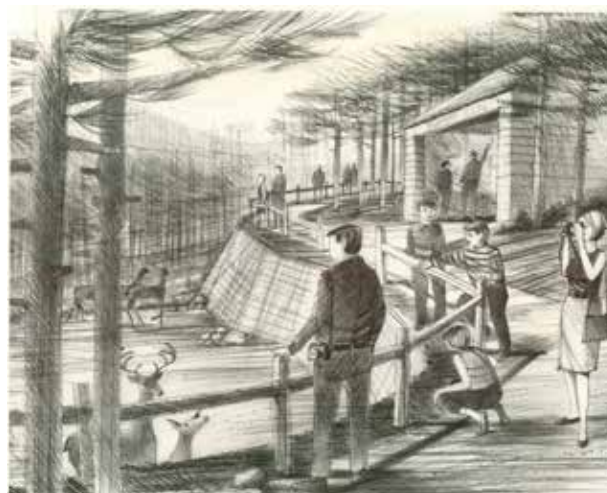


Plant Spotlight and Kirkwood Gardens are sponsored by Belknap Landscape Company, Inc. www.belknaplandscape.com

A LOOK BACK... 1966 TO 2016



The Science Center's first Executive Director, Gib Merrill, delighted in showing animals, such as this red fox kit, up close to audiences of all ages.



This rendering shows early ideas for exhibits and trails.

NATURALIST'S CORNER

SPRING TRILOGY

By Dave Erler

I have to admit spring is my favorite season. After the dormancy of winter, the natural world gradually comes alive in so many ways. The gradual transition is marked by events linked together in my mind, including three flowers that remind me of different stages of spring. They all look different and are from different families but do have much in common. They are perennial, they grow in acidic soil, and their blossoms exhibit some shade of pink.

The first is trailing arbutus, *Epigae repens*, a member of the heath family. This ground hugging vine like beauty blooms almost as soon as the snow melts. It doesn't like a lot of leaf litter piled on top of it so you usually find it along the margins of rocky or sandy woodlands. The small half-inch tubular flowers have five white petals that are hairy inside. At first glance the flowers appear all white, but often on close inspection you find a wash of pink.

When I see trailing arbutus in bloom I rarely pass up the chance to get down on the ground and smell the sweet fragrance of the blossoms, which resembles the scent of orange blossoms. Although the first time I encountered a Florida orange grove on an early spring family vacation I thought orange blossoms reminded me of trailing arbutus.

Trailing arbutus goes by other names including ground laurel, winter pink, gravel pink, mayflower, and shad flower. The latter is from the historic coincidental association of its blooming with the running of shad up rivers to spawn. When I think of trailing arbutus, I associate it with the early spring "conk-la-ree" call of male red-winged blackbirds and the quacking of wood frogs in a vernal pool.

The arrival of spring is absolutely confirmed for me when I see painted trillium, *Trillium undulatum*. Growing about a foot tall, this member of the lily family is hard to miss. Its nodding two-inch flowers are spectacular, showing off three white wavy-edged petals with pink streaks radiating from a deep pink center. The name trillium comes from Latin meaning three, which is appropriate. As with all trilliums, the three most notable features are in threes: leaves, sepals, and petals.

Painted trillium flowers bloom in the first half of May in our area. This is also when the spring warbler migration is at its peak. So when I am looking down to appreciate these beauties my neck gets a rest from the ache I get from the strain of looking up trying to catch a glimpse of flitting warblers.

The last of our threesome blooms in early June. It is the pink lady's slipper or moccasin flower, *Cypripedium acaule*. The pink lady's slipper gets its name from the lower two bulging petals that vaguely look like a slipper. As a member of the largest family of flowering plants, the orchid family, it is one of over 20,000 orchid species in the world and by far the most common wild orchid in our area. You find it in shady dry forested areas with sandy soil, often around rocky outcrops.

When in bloom the pink lady's slipper stands about a foot tall with two long dark green ribbed leaves growing from the base. The distinctive two and a half inch pink flowers are on top of long slender stems where they attract insects for pollination. Only a few insects can successfully pollinate pink lady's slipper because the flower's shape is so specialized. Bumble bees are number one in accomplishing this feat. Bumble bees enter the flower, squeezing through the slit between the lower petals. Then the bumble bee crawls to the top where it reaches the pollen. As it climbs, pollen from another lady's slipper it previously visited rubs off. As it leaves through at the top of the flower, new pollen sticks to its back for it to carry to another lady's slipper.

Pink lady's slippers bloom when most of our songbirds have completed nest building and are busy raising young. One of the last birds to arrive in our area is a flycatcher called the wood pewee. The wood pewee gets its name from its distinctive plaintive "pee-o-wee" song. That song (if it isn't drowned out by the humming of mosquitoes in my ear) and the sight of pink lady's slippers mark the end of spring for me. All later wild flowers I consider summer flowers. You probably have your own ideas about when spring transforms to summer, but the important thing is to get out and witness the natural succession of spring for yourself.



Trailing arbutus



Painted trillium



Pink Lady's slipper

FROM THE HERON'S NEST

By Laura Mammarelli



At their monthly Family Friday open house in December Blue Heron School children created a special event, Fancy Family Friday. After reading the picture book *Splendiferous Christmas (Fancy Nancy)* by Jane O'Connor, the children made special snacks of cucumber and cream cheese bites, sweet and salty mix, fruit skewers, and sparkling water with fruit to serve their guests. They created crowns and bracelets for visitors to wear and sang three songs for their families at the festivities.



Blue Heron School, a nature-based Montessori school for children ages three to six, operates Monday through Friday, 8:30 a.m. to 1:00 p.m., or 8:30 a.m. to 3:30 p.m., September to June. For more information please visit www.nhnature.org/programs/blue_heron_school.php or contact Laura Mammarelli, Blue Heron School Director, at 603-968-7194 x 40 or blueheron@nhnature.org.

Volunteer Opportunities

Docent Training - Adults

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

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



First Guides Training - Ages 14 to 17

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

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

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

GREEN TIP: BREATHE EASY!

Houseplants are a welcome spot of green inside during the winter. But did you know they also filter indoor pollutants such as formaldehyde, benzene, and volatile organic compounds from the air? All plants absorb carbon dioxide and release oxygen too. Enjoy easy-to-grow plants such as philodendron, spider plant, aloe vera, peace lily, and snake plant while you are waiting for green to return this spring.



Snake plant

SUMMER 2016 GUIDED DISCOVERIES

Guided Discoveries are week-long outdoor natural adventures for children ages 4 to 14. Programs taught by experienced naturalists and educators allow participants an in-depth exploration of nature and science. Learn more at nhnature.org.

| Week | Program | Age |
|-----------------|-----------------------------|-------|
| June 20-24 | Summer Sensations | 4-6 |
| | Animal Adventures | 7-9 |
| | Nature Detectives | 7-9 |
| June 27- July 1 | Wild Art! for Young Artists | 6-8 |
| | After Camp Care | 6-8 |
| | Junior Animal Keepers | 9-12 |
| July 4-8 | Night and Day | 4-6 |
| | Rhythms of the Forest | 6-8 |
| | After Camp Care | 6-8 |
| July 11-15 | Junior Animal Keepers | 9-12 |
| | Wild Tales | 4-6 |
| | Nature Explorers | 4-6 |
| July 18-22 | Mad Science | 7-9 |
| | The Nature of Clay | 8-12 |
| | After Camp Care | 8-12 |
| July 25-29 | Up, Down, and Around | 4-6 |
| | Be a Survivor I | 10-14 |
| | Be a Survivor II | 12-14 |
| August 1-5 | Predator Prey I | 7-9 |
| | EcoArt Construction Zone! | 7-10 |
| | Creature Features | 4-6 |
| August 8-12 | Predator Prey II | 7-10 |
| | Wild Tales and Trails | 4-6 |
| | AquaCamp | 9-12 |
| August 15-19 | Sky Hunters | 4-6 |
| | Wild Art! | 9-12 |
| | After Camp Care | 9-12 |
| August 22-26 | Fairy Houses/Gnome Homes | 6-8 |

UPCOMING PROGRAMS

Advance registration is required by noon the day before the program. If minimum enrollment is not met, programs may be cancelled. Walk-ins may be accommodated if space is available.

WELCOME BACK!

Trails open for the season

Sunday, May 1

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

last trail admission at 3:30 p.m.

Maple Celebration

Saturday, April 2 • 10:00 to 11:30 a.m.

All ages

Join us for festive sugar maple action. See clouds of steam rise from sap in an evaporator. Meet a sugar maple tree and find out how and why sap flows. Discover how trees are tapped and participate in a sap taste test. Learn how Native Americans first made syrup through a live demonstration. Top off your experience by enjoying a maple syrup-smothered snack.

Activities will take place both indoors and outdoors; please dress warmly.

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

Annual Breeding Bird Census

Saturday, June 11, 2016

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

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

Adults and families with children ages 12+

For over three decades Senior Naturalist Dave Erler has conducted a census in early June of bird species that nest on the Science Center campus. The census is done primarily by ear, listening for territorial songs of male birds, indicating probable nesting. This is a great opportunity to hone your bird song identification skills. The early session (5:30 a.m.) involves canvassing two forested zones, including Mt. Fayal. The later session (8:00 a.m.) covers fields, exhibit areas, and Kirkwood Gardens. Binoculars are available at no extra charge, or bring your own.

No charge but reservations are required.

Squam Lakes Artisans Gallery

Locally crafted New Hampshire gifts at the Holderness Inn

Open daily 10:00 a.m. to 5:00 p.m. starting May 19

50 NATURE ACTIVITIES FOR KIDS

PROGRAM SERIES

For families with children ages 5+

Dig into our new book, *50 Nature Activities for Kids* by Senior Naturalist Dave Erler, published in celebration of Squam Lakes Natural Science Center's 50th anniversary. Each program in the series offered throughout this year, will feature activities from the book to get you exploring nature outdoors and give you a project to take nature home. Books will be available for sale in the Howling Coyote Gift Shop after May 1 for \$14.95.

Signs of Spring

Saturday, April 16 • 10:00 to 11:30 a.m.

Featured activities: Bird Nesting Materials, Sucking in a Bird, and Visit a Vernal Pool

Celebrating Summer I

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

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

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

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

April School Vacation Camp: Junior Wild Animal Keepers

Monday, April 25 to Thursday, April 28 - 9:00 a.m. to 3:00 p.m.

For ages 8 to 12

Otter popsicles? Training time for a coyote? Treats and puzzles for opossums? Do you love caring for animals? Do you wonder what the Science Center's animals eat for dinner? Join us for a week of learning how New Hampshire's wild animals survive. Then apply that knowledge by helping with the care and feeding of the wildlife at the Science Center. Go behind the scenes to watch staff train animals and then build puzzles and treats to engage our resident animals. On Thursday, family, friends, and Science Center staff will stop by to learn about your adventures.

Cost: \$230/member; \$250/non-member



Spring Birding

Fridays - May 13, 20, 27, June 3, 10 • 7:00 to 10:00 a.m.

Adults and children ages 14+

In partnership with the Squam Lakes Conservation Society, the Science Center is offering weekly bird ID programs. Join Iain MacLeod for this series of beginning birding programs. A huge variety of birds fill our woods, meadows, and wetlands each spring. Explore a variety of habitats in the Lakes Region looking for birds as you learn identification by sight and sound, building on your bird ID skills each week.

Cost per program: \$12/Science Center or Squam Lakes Conservation Society member; \$15/non-member.

HOMESCHOOL SERIES

Be A Scientist! - Entomology

Thursday, April 7 • 10:00 to 11:30 a.m. / Ages 7 to 10

There are many different types of scientists - from Dendrologists to Ornithologists and don't forget Entomologists too. Become a scientist as you develop and test predictions and participate in and conduct experiments. Learn how to use keys and books to identify living and non-living ecosystem components that make New Hampshire so unique.

Using Our Five Senses - Celebrate All Five Senses!

Thursday, April 7 • 10:00 to 11:30 a.m. / Ages 4 to 6

How do we understand and interpret the world? With our senses of course! Learn all about your senses and put them to work as you explore what types of information we get from each one. Learn how animals use their senses.

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

An adult must participate with children at no additional cost. Each additional adult pays child fee. Program offerings are aligned with the New Hampshire Science Framework.

SQUAM LAKE CRUISES

New Hampshire is famous for its picturesque lakes and mountains and Squam Lake is a gem among many. See its amazingly clear water, rocky shores, celebrated islands, historic homes, scenic mountain views, and remarkable wildlife. If you are looking for a memorable experience, choose from one of these fabulous 90-minute guided tours on beautiful Squam Lake.

Explore Squam

May 21 to June 30 - Daily at 1:00 p.m.
July 1 to August 31 - Daily at 11:00 a.m., 1:00 p.m., 3:00 p.m.
September 1 to October 10
Tuesday, Wednesday, Thursday at 11:00 a.m., 1:00 p.m.
Friday through Monday at 11:00 a.m., 1:00 p.m., 3:00 p.m.

This unforgettable guided tour has something to delight everyone. Learn about the natural history of the lake, the wildlife that makes Squam so special, and the people who have enjoyed these lakes for over 5,000 years. See the beautiful lake where *On Golden Pond* was filmed over 30 years ago. Watch Common Loons and Bald Eagles, regularly seen, but best viewed while nesting from May through August.

Nature of the Lakes

July 5 to August 31 - Tuesday, Wednesday, Thursday at 4:00 p.m.
September 1 to October 6 - Tuesday, Wednesday, Thursday at 3:00 p.m.

Uncover the rich natural history of Squam Lake with an experienced naturalist educator. Observe Loons and Bald Eagles and their nesting sites along with other wildlife. Learn how animals survive and adapt to their aquatic world. Gain an appreciation and deeper understanding of Squam Lake from mountain ranges to island stories to quiet spots during this memorable lake experience.

Bald Eagle Adventure

May 17 to June 28 - Tuesdays at 3:00 p.m.

Join a naturalist for a special Bald Eagle Adventure to view these magnificent birds in their natural habitat. The cruise focuses on the recovery of Bald Eagles as a nesting species in the state, with particular discussion about the Bald Eagles that have nested on a Squam since 2003.

Loon Cruise

June 6 to August 29 - Mondays and Fridays at 3:00 p.m.

We are delighted to join forces with our friends and colleagues at the Loon Preservation Committee (LPC). Offered twice a week these cruises focus on Common Loon conservation, biology, and monitoring. A Science Center naturalist joins an LPC biologist who guides the tour and discusses the work LPC does across the state and on Squam to protect these extraordinary birds. This special cruise route is designed to maximize Loon observations.

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

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

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

Dinner and Sunset Cruise

Thursday, July 21 and 28
Dinner at 5:00 p.m.
Cruise departs at 6:30 p.m.

Start your evening with a delicious, fixed-price dinner at Walter's Basin Restaurant, followed by a sunset cruise on Squam Lake. This guided tour showcases Squam's beauty as dusk falls. The guide discusses the natural history, wildlife, and people of Squam Lake.

Cost: \$55.00 per person; not recommended for children

Lake Explorers – A Family Cruise

July 12, 26, and August 9
Tuesdays at 10:00 a.m.
For ages 5+

Experience the excitement of Squam Lake as active explorers. This family-style cruise gives children an opportunity to use binoculars, search for loons, collect microscopic life, watch live fish, participate in a scavenger hunt, and test their navigational abilities. Get on board for a cruise that could spark an interest to last a lifetime.

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

Squam Lake Charters

Treat your visiting family or friends to a truly memorable experience in the Lakes Region. Host your own cocktail party or other unique gathering on Squam Lake. Transport wedding guests to Church Island. Any of these are possible by chartering a private cruise customized to fit your plans. Five canopied pontoon boats and experienced tour guides are ready to help with your special outing. Operations Manager Sharon Warga will personally arrange your charter for any occasion or celebration.

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

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

Space is limited on Squam Lake Cruises.
Call 603-968-7194 x 7 for information and reservations.

UPCOMING EVENTS

New Hampshire Day Saturday, May 14 Trails open at 9:30 a.m.

\$5 admission for New Hampshire residents
Live Animal presentations at
11:00 a.m., 1:00 p.m., and 3:00 p.m.

Sponsored by:  **Dead River Company**

Kirkwood Gardens Day Saturday, June 4 9:00 a.m. to 1:00 p.m.

Gain inspiration from Kirkwood Gardens and find beautiful plants for your own garden.

- Fine perennials from a prestigious New England nursery
- Silent auction of desirable plants and garden items
- Plants from knowledgeable local gardeners
- Exceptional craft vendors including Nancy Benjamin's lampshades, the New Hampshire Mushroom Company, Shin-boku Nursery, and Kevin Bragg's herbs.
- Expert gardening advice
- Hot and cold drinks and baked goods for sale

All proceeds benefit Kirkwood Gardens, established 1995.

Sponsored by:  **Belknap Landscape Company, Inc.**



CELEBRATING 50 Years Golden Anniversary Gala

Saturday, July 23

Join us to celebrate 50 memorable years of bringing people nearer to nature! Watch for your invitation in June.

- Tickets are \$50, which includes an open bar and food by The Common Man.
- Dance to the Golden Oldies with Annie and the Orphans
- Live auction for a North Country trip led by Iain MacLeod
- Raffle with wonderful prizes donated by local businesses

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

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

SCIENCE CENTER NATURE TOURS

**Land of Enchantment:
Natural Wonders of New
Mexico
November 1-11, 2016**



**Shetland and
Orkney Islands
June 2017**

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

SAVE THE DATE

Annual Meeting for Members
Saturday, August 6

SPONSOR A SPECIES



You can help to provide food, health care, and housing for the animal ambassadors at the Science Center through Sponsor A Species. You may sponsor a species for yourself, your family, or your company, school, or club. You can even send a sponsorship package as a gift. It's a

unique way to learn about a particular species and help us to care for its live animals.

Complete your sponsorship online at nhnature.org/support.

 Find us on
Facebook

**New Hampshire Young
Birders Club**
www.nhyoungbirders.org

OPENING A WINDOW TO THE NATURAL WORLD

Legacies and Anniversaries

I've been thinking about legacies lately. This is partly because – if you haven't heard – the Science Center is celebrating its 50th anniversary this year!

A few of us have been looking at old photos, brochures, and newsletters. They bring back memories. My life has certainly been enriched because of the amazing people I've met here. I imagine you have stories too. That's why we're asking you to share them by submitting a Golden Memory for our website and to display at our July 23 Golden Anniversary Gala. We're also asking for \$50 Golden Tributes to honor that special person who you think made a difference (see below and complete the enclosed form or make a tribute online at nhnature.org/50).

As we reflect on these past stories, we're also starting a new strategic planning process (see *Trail's End* on page 11). We hope the past successes and failures will lead the way to a stronger organization for the next 50 years.

On the planned giving front, we're still looking for 50 new legacy donors by our August 6 Annual Meeting (we're at 25 and counting). Please do tell us if you've made a

planned gift so we can welcome you into the Naturalist's Legacy Society. You'll be happy knowing you are helping an organization you care deeply about continue to teach about the natural world long into the future.

And finally, with pleasure I announce we are publishing two wonderful books this spring! *Nearer to Nature: Writings and Photographs from Squam Lakes Natural Science Center* features 24 selected *Tracks & Trails* articles written by Naturalist Margaret Gillespie, combined with over 80 full color photographs. The second book is by Senior Naturalist Dave Erler with graphic design by Marketing and Visitor Services Manager Amanda Gillen. This family-friendly guide is called *50 Nature Activities for Kids*. These amazing books are legacies from Margaret's and Dave's combined 60-plus years' experience teaching natural science here. I know you will enjoy them. Both books will be available for sale in the Howling Coyote Gift Shop after May 1 and at events throughout the year.

Thank you for your part in making the Science Center what is it today. Now it is to the future we look for even greater achievements. I hope you'll join us.

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

These generous donors made tribute gifts, which were received between October 1 and December 31, 2015:

In memory of Anne and James Alvord

The DeHaven Families

In memory of Ellen Fabian Barry

Georgene and Rick Fabian

In memory of Mary Smith Denison

Elizabeth Dewey

In memory of Laura Ann Manazir

Karen Shimer

In memory of Greg Smith

Ann and Richard Chalmers
Frances Chalmers and Gail Smith
James Talcott Fund of the New York
Community Trust

In memory of Don Parsons

Priscilla and Wayne Fletcher
Natalie Parsons

In honor of Charlene Swainamer

Lucy and Dennis Ford

**In memory of Janet Townsley
and in honor of Edwin Townsley**

Sarah Sherrill

Golden Tributes Celebrating 50 Years 1966 to 2016

Tribute gifts are a unique way to celebrate, honor, and remember those people who have made a difference at Squam Lakes Natural Science Center. You can help celebrate our 50th anniversary by making a special \$50 tribute donation to honor friends or family, a favorite staff member, or outstanding board member.

We'll notify each honoree with a personalized letter and you'll receive acknowledgment of your tax deductible contribution. Your tribute will be recognized at the Golden Gala on July 23, 2016, and on a special page on our website.

All tribute gifts support the Science Center and its mission. You can make a tribute using the enclosed form or online at nhnature.org/50.

W I S H L I S T

90hp 4-stroke outboard motor for the Heron pontoon boat

Electric kettle

Dehumidifiers

Crock pot for Blue Heron School

Twin bed frame and box spring for intern residence

Working DVD player for gift shop

For animal care:

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

TRAIL'S END

STRATEGIC PLANNING



I am delighted to report that at our January meeting the Board approved funding for a strategic planning effort this year.

By way of background, the Science Center has been guided over the past several years by a strategic plan adopted in 2008. We decided to defer initiating a new strategic plan as we approached the end of the planning horizon in 2013 because we were in the midst of our Nature Matters capital campaign. The build out from that capital campaign will be completed this spring with the opening of the Water Matters Pavilion.

2016 is the fiftieth year that the Science Center has been in existence. It seems appropriate that we develop a new strategic plan to kick off our second half century. At that January board meeting we concluded that our strategic planning task force will be comprised of eight trustees and six staff. The trustees were selected based on their particular area of expertise: education, buildings and grounds, human resources, finance, development, governance, and volunteers. The staff members are Iain MacLeod and each of the directors: Tim Curry, Brian Eaton, Audrey Eisenhauer, Janet Robertson, and Liz Rowe. Our goal is to have the board approve the final strategic plan at our board meeting in late July and roll out the plan to the public at our Annual Meeting on August 6.

In anticipation of developing a full strategic plan this year, a task force was formed last year to develop our educational strategic goals upon which the remainder of the strategic plan will revolve. The output of that initiative was reviewed and approved at our board meeting last November. As education is at the core of everything the Science Center does, we thought it best to develop our education strategy before addressing the strategic goals for all of the supporting functions.

Because the strategic direction for education has been set, we have already embarked on several initiatives in 2016. We will report more about those initiatives as they begin to unfold. You may notice some of the outcome on the trail this year. Stay tuned!

As I mentioned earlier, we are celebrating our fiftieth anniversary this year. We are planning a celebration for the evening of July 23. Please plan to come to that celebration. You will hear more about the plans for that evening elsewhere in this edition of *Tracks & Trails* and in the next issue as well. We want you to know it will be a very special evening and you should put it on your calendar now.

We are all looking forward to a very exciting and active 2016 at Squam Lakes Natural Science Center!

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

MEET A DECAPOD *continued from page 1*

are soft while males have a longer, stiff pair attached to the first segment of the abdomen which they use in transferring sperm. Swimmerets also feature prominently in care of the eggs and growth of the young crayfish. The female coats the lower abdomen with a natural glue substance and attaches masses of dark eggs to the swimmerets. Movement of the swimmerets brings oxygenated water over the eggs. When the young crayfish hatch, they remain in this sanctuary for a few weeks, molting two or three times, and venturing on short excursions until they are on their own.

How can crayfish surge backwards so swiftly? It's all about the tail. The last segment of the abdomen has a central section called the telson, flanked by two pairs of fanning uropods. When a crayfish flips its tail under its body, this powerful reverse gear whips it away from danger. Predators include herons, otters, fish, raccoons, mink, loons, and even barred owls. Barred owls may sound like unlikely predators but they wade in shallow wetlands in search of crayfish, frogs, and salamanders. Crayfish are generally nocturnal so if you would like to find these greenish brown crustaceans in daylight you need to search under submerged dead leaves or logs, among aquatic plants, or in fissures between or under rocks. We've all heard the saying, "Leave no stone unturned." That's certainly a way to find out what's underneath. But wildlife etiquette encourages restraint and in the end to "leave no rock out of place." Savor the adventure.

CRAYFISH QUIZ

1. How many legs does a crayfish have?
2. True or False? Male crayfish do not have swimmerets.
3. How many antennae do crayfish have?
4. True or False? Barred owls are predators of crayfish.
5. Crayfish are closely related to:
A. shrimp B. crabs
C. lobster D. all of the above

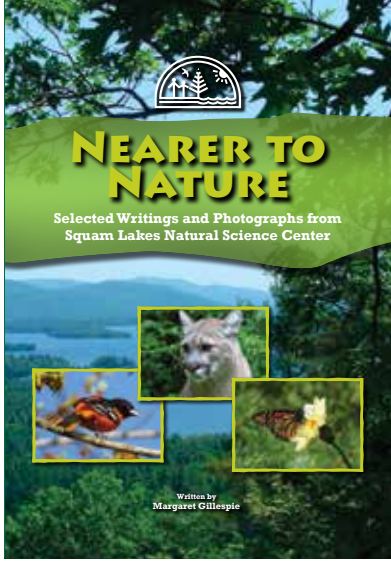
Answers:

1. Ten 2. False 3. Four 4. True 5. D

Renew your membership by March 31 to lock in 2015 rates. Visit nhnature.org/membership

THE HOWLING COYOTE GIFT SHOP

We're proud to introduce two books published especially for Squam Lakes Natural Science Center:



Nearer to Nature
Written by Margaret Gillespie
\$19.95



50 Nature Activities for Kids
Written by Dave Erler
\$14.95

All proceeds from sales at the Howling Coyote Gift Shop benefit the mission of Squam Lakes Natural Science Center: *to advance understanding of ecology by exploring New Hampshire's natural world.*

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