



## SECRETS OF WILD SUCKERS

By Margaret Gillespie

Where can our intense curiosity about the natural world intersect with wild fish on the most important mission of their lives? Every spring on Squam Lake, white suckers (*Catostomus commersonii*) all but invite us into their private lives, oblivious to our presence, intent on procreation. Timing is after ice-out at the end of April, when water from White Oak Pond babbles its way over the rocky bed of the Mill Brook Preserve and enters Squam Lake. White suckers struggle upstream in water barely covering their backs on their way from one shallow pool to the next. In some places, tiny white eggs lie sheltered among the rocks and pebbles, fertilized by milt from male suckers. So intent are the fish on their mission, we onlookers may feel transported to a magic land where we watch and learn with the wild excitement of youngsters.

As the suckers surge upstream, males in breeding colors stand out, with a reddish band along their sides highlighted by lighter bands above and below. In contrast, females retain the usual brownish coloration along sides and back. Unlike salmon, which die after spawning, suckers return each spring to breed in the same streams. Spawning takes place at night with each female laying between 20,000 and 50,000 eggs, which are immediately fertilized by two attending males. The eggs, two to three millimeters in diameter, sink and adhere to gravel in the streambed. In about a week, tiny fry hatch and begin feeding on zooplankton, with their forward facing mouths aligned to catch their prey. After growing for another week or so, these youngsters head downstream to lake waters. Once they are approximately a half-inch long, a transformation occurs as the mouth rotates into a downward position, which these bottom feeders retain for the rest of their lives.

Suckers use a feeding technique that bears an amazing resemblance to the action of vacuum cleaners. With no teeth, suckers have thick labia, or lips, which extend into muddy or pebbly substrates. They literally suck up small creatures like insect larvae, snails, leeches, worms, and tiny crustaceans, as well as algae and small plants. A row of pharyngeal (throat) teeth assist in the breaking down of food in route to the stomach. Suckers often travel in small schools, searching shoreline waters for invertebrates. Strong, long pectoral fins help them maneuver in the shallows. Their eyes, located dorsally, give suckers a good opportunity to see incoming predators. From above, these torpedo shaped fish have brownish backs and sides, which blend well with the decaying leaves and debris along lake edges. Ventral areas are white, resembling the brightness of the sky, if they are observed from below. White suckers acquired the “white” in their name from this light coloring.

Adult suckers weigh approximately 3.5 pounds, are 10 to 20 inches long, and have a lifespan of 10 to 12 years in the wild. They are an abundant species, having an extensive range from the Midwest across the eastern United States to the mid-Atlantic and north into Canada. What eats suckers? Their predators range from otters and brook trout, to Bald Eagles, Ospreys, Loons, and Great Blue Herons. For the human palate, white suckers are somewhat disguised under the fine dining name of mullet, a sweet, white meat, which is tasty, if somewhat bony.

A neighbor recently told me her “sucker” story and she certainly was taken in by the unusual activity of these spawning fish. She and her husband were hoping to catch some

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*flickr/Brian Gratwicke, CC BY 2.0*

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## LIVE ANIMAL EXHIBIT TRAIL AND HIKING TRAILS OPEN MAY 1

Be sure to check latest health and safety information at [nhnature.org](http://nhnature.org).

Purchase your live animal exhibit trail and lake cruise tickets in advance at [nhnature.org](http://nhnature.org).

# FORGING TRAILS: EDUCATION MATTERS.. AND SO DO YOU!



This time last year, we were about to enter the final phase of a \$2.8 million capital campaign. The Education Matters Capital Campaign launched in 2017 as the culmination of our most recent strategic plan. The plan identified several key priorities, including the Early Childhood Education Center (new home of the Blue Heron School); the replacement and update of our Raptor Exhibit (which will open in May); paying off the line of credit we used to purchase the land and build the new Lake Cruise Headquarters; and establishing a significant education scholarship fund.

That final phase was put on hold last spring as the realities of the impending pandemic forced us to deal exclusively with day-to-day operations. Thankfully, despite all the negative impacts Covid has wrought, we survived, and by the fall we could once again look to the future and relaunch the final phases of the campaign. In December, we raised an additional \$275,000 towards our goal (thanks in part to a \$100,000 challenge grant from a long-time supporter). Now we are within striking distance of hitting the \$2.8 million goal and the wind is at our backs.

All of us at the Science Center offer our sincere thanks to all the wonderful supporters who have contributed and to the campaign cabinet members who have worked so hard to steer the campaign and do the hard work of raising money. I must single out Ken Evans, Campaign Chair, for his guidance and steadfast leadership.

Now we throw open the walls of the tent and invite everyone within our wonderfully supportive community to help us raise that last \$125,000 to top off the campaign and fully fund the Education Matters Scholarship Fund.

Thank you!!

For more information, visit [www.nhnature.org/em/](http://www.nhnature.org/em/)

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**Save the Date:  
Summer Splash Virtual Gala  
Saturday, July 24**

*Winged Wonders*

**Save the date for this year's virtual  
Annual Meeting on Saturday, August 7.**

Did you know you can purchase items for the animals  
through our Amazon Wish List?

Access the Gifts for the Animals list at <https://amzn.to/3qhZDBN>



or simply support the Science  
Center while you shop at  
AmazonSmile.

<http://smile.amazon.com>.

## SQUAM LAKES NATURAL SCIENCE CENTER

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

## BLUE HERON SCHOOL ALUM, THOMAS ROY, AGE 8



Thomas releasing a banded bird with Dave Erler, AKA Dave Duck, at Blue Heron School.

### *How did you first get involved with the Science Center?*

I walked the trail for the first time when I was 2 and was surprised to see all the animals. I think that when I saw the mountain lions and the coyote I started freaking out. The mountain lions are my favorite because they are fascinating and they are really good climbers. I like to look at animals' paws to see how they are different. I also like to look at their teeth. You can see the molars and everything and they are all different. Their teeth can tell what type of food they eat.

### *What was it like attending Blue Heron School?*

It was a little scary at first, but then when I met my friend George I really liked it and started looking at animals

and I learned a lot. I loved my teachers, especially Miss Jordan, and the programs with a naturalist. Releasing birds and bird banding was awesome. I got to release a chickadee. I learned so much at Blue Heron School and had so much fun. I'm excited that my two brothers are still there. I have a lot of great memories of the Science Center and school.

### *What made you decide to make a donation to the Science Center this year?*

I like the animals so I thought it would be generous to give some money to them to help out. I know that they eat a lot of food. I know that with the coronavirus the Science Center is going through some tough times. It would be great if people can help the Science Center and really care for it.

### *What can a kid your age do to help and do you feel hopeful for our environment in the future?*

Animals are just so important to the environment and populations. Kids my age can tell people how important they are. Remember that one animal may be able to bring back the whole population. I'm hopeful because I'm hoping things will come back that were endangered. I'm hoping the Science Center will be able to get more animals. I want nothing to go wrong, I want nothing to go extinct, and I want everything to come back that is endangered.

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*Editor's Note: Marketing Manager Amanda Gillen is Tommy's mom and she conducted this interview, which has been edited for length and clarity. Take a few minutes to sit down and interview a child you know. You'll be amazed at what you find out.*

## NEWSBRIEFS

- Thank you! Although a challenging year, the 2020 operating budget closed in the black with (unaudited) donations totaling an amazing \$411,806. What an incredibly generous response from our donors! Gifts came early in response to our Wellspring appeal; others were made in June for the statewide NH Gives campaign; and others came at year-end. The Science Center was also fortunate to receive \$720,647 in 2020 federal assistance in Cares Act support: \$323,000 from Payroll Protection Program (PPP); \$369,591 from NH Non-Profit Relief; and \$28,055 from NH Child-Care Relief. We applied for and received a second PPP loan in January 2021. Overall, 2020 revenues, excluding contributions and government grants, were down 52 percent, in areas from memberships, to retail, to cruises, to admissions. Staff cut back on discretionary spending and with other measures, we were able to keep all year round staff employed and brought back seasonal staff once we opened on June 15.
- We are delighted to welcome back Operations Director Sharon Warga after a two-month absence! Thank you Liz Rowe for stepping in as interim HR Director for November and December.
- While much is still unknown regarding the pandemic, we are optimistically planning to open the live animal exhibit trail as usual on May 1. Last year we welcomed more than 35,000 visitors safely (which was less than half of 2019's record attendance), using measures such as timed tickets, limited capacity, outdoor retail, a one-way trail, facemasks, and more - and we'll do much the same in 2021. We can't wait to see you again and to show off our renovated Bird and Raptor Exhibits, which were closed last year.
- Most indoor volunteer opportunities were cancelled in 2020, but many people still donated time, either through Zoom meetings or outside in various capacities. A total of 4,200 hours were given by 179 volunteers. Docent and First Guides Training is planned for June 2021 (see page 9).
- Scheduling for animal outreach programs for groups is continuing. Choose from a variety of informative programs held outdoors or virtual outreach for groups. Programs feature live animal ambassadors and are led by our expert naturalists. See [www.nhnature.org/programs/outreach.php](http://www.nhnature.org/programs/outreach.php) for more information.
- School programs continue, too. A Science Center naturalist and live animal ambassadors are available to visit classrooms virtually. Small groups can also be accommodated for outdoor programs at the Science Center. Learn more at [www.nhnature.org/teachers](http://www.nhnature.org/teachers).
- New Hampshire Day is sponsored by Dead River Company. It will be held on Saturday, May 8 and will feature live animal pop up encounters along the trail and \$5 admission per person for New Hampshire residents. Capacity is limited and tickets must be purchased in advance.
- Planning is underway for Winged Wonders, our virtual Summer Splash on Saturday, July 24.

# NATURALIST'S CORNER

## WILD BEHAVIOR IN HUMAN CARE

By Josh Flagg

Since graduating from Unity College in 2019, with a degree in captive Wildlife Care and Education, I am the Science Center's newest naturalist. My duties allow me to help our animal care staff to train our ambassador animals to help ensure their wellness. One way we do this is to give them opportunities to use their natural behavior as they would in the wild.

What is the function of behavior? In the wild, animals use their behavior to hunt, forage, avoid predators, and for countless other functions. Animals in the care of humans don't face these same pressures. In an environment like the Science Center where predators aren't an issue and food is guaranteed, it is essential to provide opportunities for animals to use their behavior in the same way as they would in the wild.

Free food might sound appealing, but for animals in human care, the ability to earn their food using their behavior is essential to their welfare. To address this, we use techniques called enrichment. Enrichment goes beyond toys and puzzles. Enrichment gives animals the opportunity to operate on their environment using their behavior, just as they



would in the wild. As behavior has come to the forefront of the animal care profession in the past several years, so has our understanding and use of training and enrichment to give animals the ability to use their natural behavior.

Not only is food an essential part of an animal's life, so too is its need to earn that food itself. For instance, a skunk in the wild may use its sensitive nose to sniff out fruit while it is foraging. It may find a soft patch of dirt where beetles and other insects reside. The skunk will use its physical adaptations, like its grooved,

shovel-like claws to dig through the dirt and catch the burrowing insects. In human care, food could be delivered in a metal bowl and eaten by the animal with no difficulty or challenge and the skunk wouldn't work too hard for his diet that day. Instead, mealworms might be buried in a box of dirt and blueberries and raspberries hung around its exhibit. What's the difference? Now the skunk can use its sensitive nose to sniff out the hanging fruit and find that loose dirt in the box. It will use its behavior to dig through and find the insects. The skunk used its behavior to earn its food, just as it would in the wild.

### SUMMER GUIDED DISCOVERIES DAY CAMPS

Week-long outdoor natural adventure day camps for children ages 4 to 14.

Space is limited. Register online and learn about health and safety guidelines at [nhnature.org](http://nhnature.org)



### WISH LIST

- For Animal Care** - handheld tablet computers, newspapers, Little Tykes or Playskool jungle gym, PVC pipe, heavy-duty storage tubs, limb cutters, gift cards to local hardware and grocery stores
- For new Songbird Observation** - 2 highbush blueberries, 2 winterberry shrubs, 2 gray dogwood
- For Blue Heron School** - bird feeders, milk crates, 10x10-foot tarp
- For Education** - large (size 11) waders
- For Facilities** - chain saw vice, loppers and pruners for invasive species removal
- For Kirkwood Gardens** - garden wagons or carts, 1-quart, 2-quart, and gallon pots
- For Marketing** - GoPro camera and accessories; microphone
- For Offices** - small folding or card table, push wheelchair



### PROGRAMS FOR SCHOOLS

Our expert naturalists can bring live animal programs to your classroom virtually, or we can accommodate small groups for limited outdoor programs at the Science Center.

Visit [nhnature.org/teachers](http://nhnature.org/teachers) for information.



# KIRKWOOD GARDENS PLANT SPOTLIGHT

By Brenda Erler

## Twinleaf *Jeffersonia diphylla*

**Culture:** Best grown in moist, humusy, limey soil in partial to full shade.

**Bloom:** April

**Height:** 8 to 18 inches

This beautiful U.S. native wildflower is a great addition to woodland gardens and naturalized areas. When massed, the kidney-shaped leaves form an effective ground cover for shady areas. Named in honor of Thomas Jefferson to highlight his deep interest in botany and horticulture.

**Kirkwood location:** lower garden to the left of the pergola.



flickr/Judy Gallagher, CC BY 2.0

## Siberian Squill *Scilla siberica*

**Culture:** Easy to grow in average, well-drained soil in full sun to part shade.

**Bloom:** April

**Height:** 3 to 6 inches

This lovely bulb provides early spring color in the rock garden, border front, or when massed in woodland, wild, or naturalized areas. It may also be naturalized in the lawn. It is very cold hardy and self-seeds readily.

**Kirkwood location:** on bank along Science Center entrance driveway.



Image by Klaudia Cinner from Pixabay



Plant Spotlight and Kirkwood Gardens are sponsored by Belknap Landscape Company, Inc.  
[www.belknaplandscape.com](http://www.belknaplandscape.com)



## FROM THE HERON'S NEST

By Laura Mammarelli

The first snowfall of 2021 provided wonderful, sticky snow. It was fort-building season at Blue Heron School, with children constructing forts in the pine grove. Each creation had its own style and provided many fun opportunities.



Blue Heron School is a nature-based Montessori school for children ages three to six. For more information please visit [www.nhnature.org/programs](http://www.nhnature.org/programs) or contact Laura Mammarelli, Blue Heron School Director, at 603-968-7036 or [blueheron@nhnature.org](mailto:blueheron@nhnature.org).



# CALENDAR OF PROGRAMS & EVENTS

**MARCH** See the calendar at [nhnature.org/programs/calendar.php](http://nhnature.org/programs/calendar.php) for March programs.

## APRIL


<p><b>APRIL 1 AND 8 THURSDAY</b> 10:00 to 10:45 a.m. For ages 4 to 10</p>	<p><b>Virtual Homeschool Series: Observe, Discover, and Explore</b> Observe, discover, and explore phenomena in the natural world as a scientist does, through this virtual series for homeschooled students. In the first session, we introduce a seasonal topic and students are given an outdoor investigation to complete at home. The investigations use materials readily available at home and are suitable for different age groups. At the second session a week later, students share their observations and discoveries and meet a live animal related to the topic. <i>Advance registration is required by purchasing tickets at <a href="http://www.nhnature.org">www.nhnature.org</a>. An adult must participate with each child or children at no extra cost. The virtual sessions are held via Zoom, with links provided upon registration.</i> <i>Cost: \$9/member child; \$11/non-member child; or \$18/member family; \$22/non-member family</i></p>
<p><b>APRIL 13 TUESDAY</b> 6:00 p.m. For adults</p>	<p><b>Virtual Science Pub: The Secret World of Squam</b> <i>Our Nocturnal Neighbors: New Hampshire's Bats</i> <i>Haley Andreozzi, Wildlife Outreach Program Manager, University of New Hampshire Cooperative Extension; and Sandra Houghton, Wildlife Diversity Biologist, NH Fish &amp; Game</i> Join us for a Virtual Science Pub as we dive into the rare and largely unknown inhabitants of the Squam Watershed. Offered in partnership with Squam Lakes Association and Squam Lakes Conservation Society. Bats in New Hampshire have seen significant population declines in recent years. Learn more about what is causing the decline and how you can help conserve bats. <i>Cost: No charge to attend but advance registration is required. Zoom link is available at <a href="http://nhnature.org/programs/calendar.php">nhnature.org/programs/calendar.php</a></i></p>

## MAY

<p><b>MAY 8 SATURDAY</b> 9:30 a.m. to 5:00 p.m. For all ages</p>	<p><b>New Hampshire Day</b> Live animal popup encounters throughout the day. \$5 admission for New Hampshire residents. Advance ticket purchase required. Limited spaces available. <i>Sponsored by:</i> </p>
<p><b>MAY 11 TUESDAY</b> 6:00 p.m. For adults</p>	<p><b>Virtual Science Pub: The Secret World of Squam</b> <i>Zooplankton: Free-ranging Lake Cattle and Defenders of Water Quality</i> <i>by James F. Haney, Professor, Center for Freshwater Biology &amp; Ecotoxicology, Department of Biological Sciences, University of New Hampshire</i> Join us for a Virtual Science Pub as we dive into the rare and largely unknown inhabitants of the Squam Watershed. Offered in partnership with Squam Lakes Association and Squam Lakes Conservation Society. Be transported to the miniature world of zooplankton, where experiences are altered and unexpected from a human perspective, where water turns to molasses, species live in an upside-down world, and predators "talk" with their prey using a language of chemicals. <i>Cost: No charge to attend but advance registration is required. Zoom link is available at <a href="http://nhnature.org/programs/calendar.php">nhnature.org/programs/calendar.php</a></i></p>
<p><b>MAY 15 SATURDAY</b> 10:00 to 11:30 a.m. For ages 5+</p>	<p><b>Fairy Shrimp to Caddisflies: Vernal Pool Exploration</b> Spring is an exciting time to be out and about. It's when vernal pools are coming to life. Venture with a naturalist to two different vernal pools at the Science Center to learn about the animals dependent on these predator-free, ephemeral pools. Waterproof boots and bug spray are highly recommended. Be prepared to walk off trail through uneven and rough terrain. <i>Cost: \$9/member; \$11/non-member</i></p>
<p><b>BEGINNING MAY 24 MONDAY</b></p>	<p><b>Kirkwood Gardens Plant Sale</b> Plants will be available until sold out. Covid has again put Kirkwood Gardens Day on hold. But this year, there will still be perennials for sale on the bluestone terrace in the garden beginning in late May. Come stroll through Kirkwood Gardens for inspiration and find beautiful new plants for your own garden. <i>Sponsored by:</i> </p>
<p><b>MAY 29 SATURDAY</b></p>	<p><b>Fairy Shrimp to Caddisflies: Vernal Pool Exploration</b> 10:00 to 11:30 a.m.   For ages 5+ <i>Cost: \$9/member; \$11/non-member</i> See description for May 15.</p>



# JUNE

<p><b>JUNE 1 TUESDAY</b> 7:00 p.m. For adults</p>	<p><b>Kettle of One</b> Join Eric Masterson, Land Program Manager at the Harris Center, and birding expert, for his virtual presentation of “Kettle of One.” Ride with him on his ambitious 2016 bicycle trip from New Hampshire to Costa Rica as he followed the migration of Broad-winged Hawks. A flock of migrating hawks gaining altitude in a thermal of rising air is known as a “kettle,” so, wouldn’t a solo bicyclist following the migration on land be called a “Kettle of One”? <i>Cost: No charge to attend but advance registration is required. Zoom link is available at <a href="http://nhnature.org/programs/calendar.php">nhnature.org/programs/calendar.php</a></i></p>
<p><b>JUNE 5 SATURDAY</b> 10:00 to 11:30 a.m. For ages 5+</p>	<p><b>Giant Water Bugs to Copepods: Upper Pond Exploration</b> Scoop your net into the pond to discover the life teeming below the surface. From the giant water bug with its built in snorkel to the almost microscopic copepods supporting the food chain, the diversity of organisms that call the pond home will amaze you. Waterproof boots and bug spray are highly recommended. <i>Cost: \$9/member; \$11/non-member</i></p>
<p><b>JUNE 5 SATURDAY</b> 5:30 to 9:30 a.m. For adults and teens</p>	<p><b>Annual Breeding Bird Census</b> <b>Session 1 - 5:30 to 8:00 a.m.   Session 2 - 8:00 to 9:30 a.m.</b> For over three decades we have conducted a census in early June of bird species that nest on the Science Center campus. Done primarily by ear, we listen for the territorial songs of male birds, which indicates 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 or bring your own. <i>Cost: No charge but reservations are required.</i></p>
<p><b>JUNE 12 SATURDAY</b></p>	<p><b>Giant Water Bugs to Copepods: Upper Pond Exploration</b> <b>10:00 to 11:30 a.m.   For ages 5+</b> <i>Cost: \$9/member; \$11/non-member</i> <i>See description for June 5.</i></p>
<p><b>JUNE 25 THROUGH SEPTEMBER 6</b> For all ages</p>	<p><b>StoryWalk™</b> StoryWalk™ surrounds the Holderness Town Gazebo behind the Holderness Post Office at Curry Place. Stroll along the channel as you read a story about the natural world posted one page at a time on the trail. Presented in partnership with Holderness Library and Holderness Recreation Department. <i>Cost: No charge and no reservations required.</i> Sponsored by: </p>

***In compliance with health regulations, all programs have limited capacity and other restrictions. Facemasks and physical distancing are required.***

***Program tickets must be reserved online in advance for all events. Tickets at [nhnature.org](http://nhnature.org).***

**We're excited to welcome you back for the 2021 trail season (live animal exhibit trail and hiking trails) beginning May 1, 9:30 a.m. to 5:00 p.m. (last trail admission at 3:30 p.m.)**



# SQUAM LAKE CRUISES

## Bald Eagle Adventure

May 14 - June 4: Fridays at 3:00 p.m.

A naturalist discusses the recovery of Bald Eagles in the state and the route focuses on viewing the Bald Eagles that nest on Squam Lake.

## Discover Squam

May 15 - June 30: Daily at 1:00 p.m.

July 1 - August 30: Daily at 11:00 a.m. and 1:00 p.m.

A general overview of Squam Lake from natural history and wildlife to culture and people.

## Loon Cruise

June 11 - 25: Fridays at 3:00 p.m. | June 28 - August 27: Mondays and Fridays at 3:00 p.m.

See Common Loons as a Science Center naturalist and Loon Preservation Committee biologist discuss loon conservation, biology, and monitoring. The cruise route maximizes loon observations and changes weekly.

## Cruise with a Naturalist

July 1 - October 7: Tuesdays and Thursdays at 3:00 p.m.

See wildlife on every memorable trip with a Science Center naturalist. Cruise route changes to maximize wildlife observations.



### Squam Lake Cruise Rates:

Adult: \$27

Senior (65+): \$25

Youth (up to age 15): \$23

Members receive a \$4 discount per person.

Not recommended for children under age 3.

Tickets at [nhnature.org](http://nhnature.org)

## Squam Lake Charters

Host your own cocktail party or other unique gathering on Squam Lake. Transport wedding guests to Church Island. Charter a private cruise customized to fit your occasion. Five canopied pontoon boats and experienced tour guides are ready to help with your special outing. Contact Paul Brochu at 603-968-7194 x110 or [paul.brochu@nhnature.org](mailto:paul.brochu@nhnature.org) for reservations.

\$250 per hour per boat

## THIRTY-SEVEN YEARS OF SCIENCE CENTER LAKE CRUISES

BY PAUL BROCHU

It's just after one o'clock on a sunny summer afternoon and a large pontoon boat emerges from the channel onto Squam Lake. The boat's green canopy and trim mark it as one of the five boats in the Science Center fleet. The boat is filled with eager passengers, some young, some older, but all interested in learning about the ecology of Squam Lake and enjoying the lake on this beautiful day. As the boat exits the channel, the passengers are presented with a panoramic view of the Squam Lake watershed with its surrounding mountains and there are some quiet gasps and acknowledgement of the magnificent vista that many are seeing for the first time. The Science Center's boats have been a fixture on the lake for many years but the evolution of the Science Center lake cruises is perhaps not well known by some of our readers.

The Science Center purchased its first pontoon boat in 1984 and began offering lake ecology classes for schools. In 1996, a second boat was added, allowing additional cruise offerings. The "Golden Pond Tours" business became available in 2000 and the Science Center was able to take that opportunity to grow the operation by purchasing that business with its three pontoon boats. Lake cruises continued to be increasingly popular and after the addition of two more pontoon boats from "Squam Lake Tours" in 2007, the Science Center saw a major increase in cruise attendance through numerous group motor coach tours, particularly during the autumn months.

In 2009, the Science Center teamed with the Loon Preservation Committee (LPC), a non-profit dedicated to the protection and enhancement of the loon population in New Hampshire, to offer regular Loon Cruises narrated by a

LPC biologist along with a Science Center naturalist. These cruises continue to be popular with our guests.

The Science Center currently offers a variety of cruises - Discover Squam, Cruise with a Naturalist, Loon Cruise, and Bald Eagle Adventure, as well as Private Charters and Group Tours for motor coach travel groups. We also provide a weekly summer shuttle service to Church Island each Sunday morning, as well as single or multi-boat Wedding Charters to transport wedding parties and guests to and from Church Island or other points on the lake.

Our licensed, experienced Tour Captains are a lively and knowledgeable group, with a wide variety of backgrounds and work experiences. All share a love of Squam Lake and of entertaining and educating their passengers about New Hampshire wildlife, the natural and human history of the lake, and its watershed. Current Tour Captains are Mike Bartlett, Fred Huntress, Mike Hurley, Dave Katz, Bev Lapham, Dale Lary, Dave Martin, Harry McCall, Tony Sabutis, and Tom Thomas.





# VOLUNTEER TRAINING DOCENTS AND FIRST GUIDES

Volunteer docents are trained to be an educational presence on the exhibit trail. Docents will often have a live animal with them and engage in dialog with visitors about New Hampshire ecology. Docents may also assist Naturalists in off-site programs, as representatives of the Science Center at off-site events, and other opportunities; some require additional training. Docents must be 18 years and older.

First Guides are teen volunteers between the ages of 14 and 17 and receive training similar to docents. First Guides who are 14 and 15 years old will accompany a docent mentor with a live animal and artifacts. First Guides who are 16 and 17 may be independent after training is completed and may handle certain animals. First Guides are trained to engage visitors in discussion about animals and their importance in New Hampshire ecology.

First Guides and docents are invited to participate in Community Science projects.

Space for each training is limited to 10 participants and will be a combination of in-person and virtual sessions.

### **Docent Training dates:**

**June 16 - 18, starting at 3:00 p.m., end times vary.**

**June 19, 9:00 a.m. to 2:00 p.m.**

### **First Guides Training dates:**

**Orientation: June 22, 1:00 to 3:00 p.m.**

**Training: June 23 - July 7, August 10.**

**Times vary, and some sessions will be virtual.**

Please contact Volunteer Manager Carol Raymond at x 122 or [carol.raymond@nhnature.org](mailto:carol.raymond@nhnature.org) for more information. To complete a Volunteer Application, please visit [www.nhnature.org/who/volunteer.php](http://www.nhnature.org/who/volunteer.php).

“

“Hi Carol,

*I hope that you are doing well. A few days ago I accepted a new job teaching Biology in Massachusetts. I just wanted to let you know that my experience as a First Guide, and later a Docent, had a huge impact on me becoming a science teacher. When people ask me what I want my classroom to look like, I tell them how I want to empower students to be scientists and leaders in their community from a young age, much like Squam Lakes Natural Science Center helped me do. Thank you for all of your support! I hope you and your family stay well and enjoy the rest of your summer.*

*Sincerely,*

*Sabrina Tedeschi”*

”



Volunteers showed animals during pop-up animal encounters on the trail in 2020. Docent Lisa Davis (L) with a box turtle and First Guide Cameron Strong (R) with a Blanding's turtle.

## GREEN TIP: FACEMASKS - THE NEW LITTER



While many of us love winter, we also love to see the snow melt and streams fill as spring slowly arrives. Unfortunately, along with green leaves and roaring brooks, roadside litter also reappears from under the snow.

These days, there's a new item showing up along our roads - disposable facemasks! We all wear facemasks to do our part to help slow the spread of Covid-19 (and they are required for Science Center visitors). But don't just throw them on the ground when you are done! Most disposable masks (along with gloves) are made from plastics that persist for decades or

hundreds of years. Plastics eventually end up in the water, where they adversely affect plants and animals worldwide. Wildlife also may get tangled up in masks and gloves or eat them and suffer illness as a result.

Masks and gloves may conceivably spread coronavirus to anyone who next picks them up. It is best to put a disposable facemask in a plastic bag in a covered trash bin when you are done wearing it. Don't put them in recycling bins. Don't flush them down the toilet where they will clog drains and wastewater plants. And don't litter them!

Plastic is a huge global problem and the more we can avoid it in our daily lives, the better. It's not always easy, but with facemasks, it can be. Reusable cloth facemasks are a great alternative to synthetic and you can wash them regularly and wear them over and over.

*Pixabay/ iXimus*

# OPENING A WINDOW TO THE NATURAL WORLD

## Joyful Giving: A Family Tradition



Mega jackpot lotteries have been in the news recently. Did you daydream about what you might do if you won millions?

You might gather your family and discuss the things that mean the most to you. Jackpots aside, no matter how much you have to give, talking about charitable giving and making decisions together is a great way for families to share values and traditions, especially now. Giving is taught by example and children who learn from their families may carry on a philanthropic habit as adults.

I hope the Science Center is a special place for your family; a place you care about, visit as often as possible, and want to

support. Your donations go to work immediately and help us to deliver inspirational nature moments for all ages, through trails visits, lake cruises, and programs. Your gifts also help to care for and feed the animals and to maintain buildings, trails, and exhibits.

Over the years, a number of children have made heartfelt donations. Tommy Roy is the latest. He made a contribution because he loves the animals (see page 3). Please consider starting a joyful family tradition by joining Tommy and others who believe in and support the Science Center.

---

*Opening a Window to the Natural World is written by Development and Communications Director Janet Robertson. You may contact Janet at 603-968-7194 x 112 or [janet.robertson@nhnature.org](mailto:robertson@nhnature.org).*

### These generous donors made tribute gifts, which were received between October 1 and December 31, 2020:

*In memory of Anne and Jim Alvord*  
DeHaven Family

*In honor of Marc Bard*  
David and Joan Martin  
Bruce and Elizabeth Thomas

*In honor of Arpin and Wilx Biederman's birthdays*  
Scott and Patti Biederman

*In memory of Eleanor Boermeester*  
Melissa and Michael Draper

*In honor of Paula Brady*  
Kate Luczko

*In honor of Dennis Capodestria*  
Moe and Susan Lafreniere

*In memory of Dorothy Chekas*  
Larry and Betty Nilson

*In honor of Mary Deal*  
Esja, Ben, and Petra Lange

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## SPONSOR A SPECIES!



Your sponsorship helps provide food, health care, and housing for the animals. It's a unique way to learn about a particular species and help us to care for our live animals.

Visit [www.nhnature.org/support/sponsor\\_species.php](http://www.nhnature.org/support/sponsor_species.php).

### What will your legacy be?

**Become a member of the Naturalist's Legacy Society. Visit [nhnature.org/support](http://nhnature.org/support)**

## GIVE THE GIFT OF NATURE

If you enjoy the many benefits of membership to the Science Center, consider giving a gift membership for birthdays, holidays, or other special occasions.

Visit [nhnature.org/membership/gift\\_membership.php](http://nhnature.org/membership/gift_membership.php)



## HOWLING COYOTE GIFT SHOP

Shop online at [nhnature.org](http://nhnature.org)



# TRAIL'S END



If this winter is any indication, I suspect the demand for outdoor, nature-based offerings such as ours will be more popular than ever this upcoming season. Which is part of the reason we are so excited to be opening our completely new raptor and bird exhibits.

As you can imagine our first and most important priority in the creation of these new areas is the health and well-being of our avian charges. These new aviaries will provide better shade during the summer and will be able to handle a much higher snow load in the winter. They are also much better enclosures that will help keep our raptors safe from possible predation. Finally, they provide improved and easier access for our animal care staff to feed and care for the birds.

Additionally, these new exhibits offer a significantly improved viewing opportunity and more space around the viewing areas, which will help keep our visitors all Covid safe! These areas will ultimately feature over 25 new exhibits, providing a greater opportunity to learn about birds of prey and birds in general. Some of the more exciting exhibits will be a zip line that highlights the risks of migration (sure to be popular with all ages) and a really fun exhibit that allows visitors to better experience birds' remarkable sense of hearing. We also have a wonderfully talented specialized artist

who prepared many of our illustrations. Having seen samples of her work, I can say they are remarkably beautiful and technically accurate.

And finally, because it is the Science Center, everyone has done a remarkable job repurposing, reusing, and recycling the parts of our old raptor exhibits.

As you can tell, we are all very excited to share these new exhibits with you. They should be fun and exciting but also will offer all of our visitors a much better understanding of New Hampshire's avian world!

*Trail's End* is written by Justin Van Etten, Chair of Squam Lakes Natural Science Center's Board of Trustees. You may contact him at [justin.vanetten@gmail.com](mailto:justin.vanetten@gmail.com).

## SECRETS OF WILD SUCKERS *continued from page 1*

trout for dinner when she noticed an abundance of fish fighting their way up a tributary. It took only one scooping of the water to discover the downward pointing mouth and to convince her they would have to work harder for their ideal meal of grilled trout. All are winners in this story... she witnessed an unforgettable event, the suckers carried on with their mission, and a tasty trout will surely be waiting for her in another hillside stream.



*White sucker underside*  
flickr/Brian Wulker CC BY-NC 2.0

## WHITE SUCKER QUIZ

1. True or False? "White" in the white sucker's name comes from its white flesh.
2. What are three predators of white suckers?
3. True or False? Tiny white sucker fry hatch with downward pointing "sucker" mouths.
4. White suckers' eyes are located:  
A. dorsally B. ventrally C. laterally
5. Does white sucker spawning occur during the day or night?

Answers:

1. False
2. Otters, Brook Trout, Bald Eagles, and other predatory birds
3. False
4. A
5. Night



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