



The Almanac

A newsletter of Wolf Ridge Environmental Learning Center

February 2016 Volume 43 Number 1

BIG NEWS FROM WOLF RIDGE We're Making Waves

by Wolf Ridge Capital Campaign Team



**View from the Wolf Ridge's
Lake Superior property.**



Seasonal naturalist house.

Wolf Ridge is thrilled to announce to the Wolf Ridge community that two long-standing dreams are rapidly becoming a reality. After years of imagining and planning, the addition of 65 acres of land, including over 1,600 feet of magnificent shoreline on Lake Superior, is now a part of our outdoor classroom. The second milestone in progress is a plan for new housing for our seasonal naturalists, a complete remodel of our West Dormitory, a new maintenance building - all on our main campus, and the possibility of a small classroom on the Lake Superior property.

Thanks to a generous landowner, Wolf Ridge now has one of the most inspirational platforms in America from which to learn about the natural world and experience sunrises, starry skies, ice shows, and crashing waves. This land is just a 10-minute drive down County Road 6 and east on Highway 1 from Wolf Ridge. The shoreline has rocky cliffs and outcrops that are iconic of the North Shore of Lake Superior. The property hosts two creeks and a waterfall, contains significant evidence of wildlife, and is home to a flourishing lichen community as well as many birch, spruce, and cedar trees. Adding this new land to our existing 2,000 acres of forest, our farm, climbing walls, rope courses, wetlands, lakes, and streams, gives Wolf Ridge the raw materials to complete a facility that is in the vanguard of environmental education in the United States. The potential teaching opportunities with this new land allow an expansion of our efforts for many things, including stewardship and scientific research. (See page 7, *Educating on the Edge*.)

At a special meeting of the Wolf Ridge Board of Trustees on December 18, 2015, architectural drawings were approved for all the construction. All the new buildings will be teaching tools for sustainable buildings. Specifically, the remodeled

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ENVIRONMENTAL LEARNING CENTER

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VIEW FROM THE RIDGE

by Peter Smerud, Executive Director



BIG NEWS FROM WOLF RIDGE

Making dreams reality is a huge job. With the acquisition of the Lake Superior Land and the construction plans, Wolf Ridge is on the crest of a new wave. To bring these intentions to fruition, Wolf Ridge Board and staff have worked hard to develop and implement an effective capital campaign called Making Waves and a facility plan for the main campus and the Lake Superior property. As a result of school year commitments and the short construction season in northern Minnesota, construction will be taking place this summer and on a fast track. Consequently, the process of hiring a general contractor has begun, with construction scheduled to begin in late May of this year, with possible completion by November.

The Dollar Cents

The costs for our plan beginning in May are estimated to be \$7,700,000, as shown in the box below. If we wait until the spring of 2017, costs are estimated to rise substantially -- thus urgent fundraising work is already well underway. The **Making Waves**

campaign is off to an amazing start. Major funding from several generous donors has already been secured. A lead donation in the amount of \$2,500,000 (with an additional \$250,000 match if Wolf Ridge fundraising reaches \$6,450,000 by March of 2017), substantial donations from our generous Board of Trustees of over \$770,000, and donations from other committed foundations and individuals means we have reached over 50% of our goal. A public announcement of Making Waves is scheduled this spring.

Key reasons cited by donors for agreeing to "stretch" to increase the amounts donated to **Making Waves** include the 46 year history of successfully teaching thousands of children, our dedicated group of naturalist alumni, now numbering over 800, and increased public awareness of the need for environmental actions on issues such as fresh water, energy usage, and food. We found that public awareness has been increased by the December worldwide conference on cli-

	COST ESTIMATE
West Dormitory	\$3,200,000
Student Naturalist Center	\$2,200,000
Lake Superior Site	\$1,000,000
Sustainability Features	\$800,000
Infrastructure Improvements and Maintenance Building	\$500,000
TOTAL	\$7,700,000

■ WE'RE MAKING WAVES *continued from page 1*

West Dorm is scheduled to conform to the highest international standard - the Living Building Challenge (LBC). As of 2014 there were only 230 LBC buildings in the world. The standard is very tough; a few requirements are net zero energy, water recycling, and sustainably sourced construction materials. As our architects say, "There's a reason they call it a challenge." Wolf Ridge intends that this building will be a national model. This will complement our existing central biomass heating system, our LED outdoor lighting, and our 18.5kW solar array to make our campus a showcase for environmental stewardship.

Jack Pichotta's intent when starting Wolf Ridge over 40 years ago as a week-long environmental awareness event for his students grew into a dream of an experience at an environmental center for all Minnesotan students. Today, Wolf Ridge continues to support that dream by improving its facilities and programs with the mission to develop a citizenry that has the knowledge, skills, motivation and commitment to act together for a quality environment. ♦



Learning on the Lake Superior property.



BIG NEWS FROM WOLF RIDGE *continued from page 2*

→ mate change in Paris (attended by one of our Board members, Kate Knuth). We hope the Wolf Ridge community will enthusiastically join in this important effort to help raise the remaining funds to ensure that our dream becomes a reality.

Now is the Hour

In coming months, letters, emails, text messages, and calls will be on their way to all Wolf Ridge friends and supporters asking for financial help with these dreams. We have momentum, but we

need additional help to get to the finish line in a timely manner. We ask that readers please contact any Wolf Ridge staff or Board member with questions, ideas for events or parties, and names of persons you think may be willing to help in **Making Waves**. As described in the website linked below, donations are tax deductible, may be spread out over multiple years, and recognition programs are available. Together, we can **Make Waves**. ♦



Making waves and charging into the future at Wolf Ridge.

Visit:

<http://wolf-ridge.org/donate/making-waves/>

ON THE NATURE OF LEARNING:

The Light Bulb Moment

by Joe Walewski, Wolf Ridge Naturalist

You're certainly familiar with the "light bulb moment" often defined as a moment of sudden realization, inspiration, and enlightenment. Truly inspiring and enlightening "light bulb moments" don't actually happen suddenly. Important "light bulb moments" require great effort and contributions from many, many people. Consider Thomas Edison's "light bulb moment".

Edison patented the first commercially successful light bulb in 1880. This "light bulb moment" began many years earlier – in 1809, actually. Humphrey Davy invented the electric arc lamp. Between 1878 and 1880, Edison's team of 14 or so researchers (collectively called "muckers") tested more than 3,000 designs and more than 6,000 plant fibers as potential filaments. Carbonized cotton thread produced light for 13 hours and served as the filament for his first patent. Bamboo filaments were later found to produce over 1200 hours of continuous light.

William David Coolidge further contributed to the light bulb in 1910 by improving on the method of manufacture for a tungsten filament. Today we still use incandescent tungsten filament light bulbs based on a product that took over 100 years and hundreds of people to develop. Incandescent bulbs replaced candles. Fluorescent bulbs

and LED bulbs are replacing incandescent bulbs. Bright ideas are invented to replace other bright ideas.

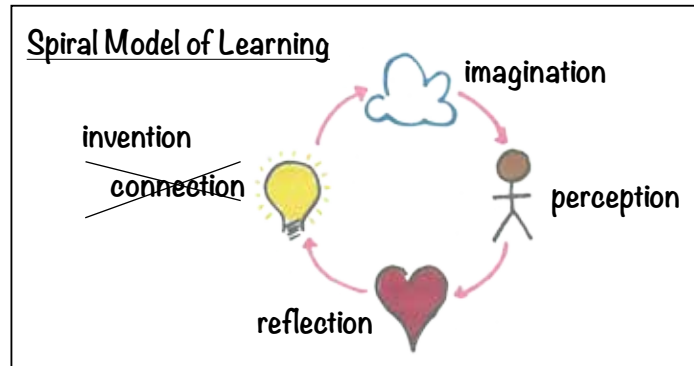
Thomas Edison neither invented the light bulb, nor did he do any of the work alone. Shocking? As our perspectives change, so do our unfolding stories about reality. All of our ideas about

replaced with something your brain invents as a plausible "reality". Light entering your eye stimulates light and color receptors (rods and cones). These receptors are literally wired to your brain. The bundled wires (nerves) exit your eye at one spot where no receptors exist resulting in a blind spot.

Your brain won't allow you to wander through life with an empty space in your field of view, so it fills that void with the most probable colors and patterns that are present within some part of your field of view. In this case, your brain will "see" a blank page where a circle exists – one of the many inventions of your mind.

The biological reality of vision serves as a powerful metaphor for understanding. When we understand a thing, we "see it clearly". But do we see reality? How are our blind spots filled? How can teachers help learners with the dilemma?

Let's recall the Spiral Learning Model. Teaching begins with clear goals in the Imagination Phase (cloud). Learning begins with a personal sensory experience in the Perception Phase (body). Thoughtful teachers guide learners through the Reflection Phase (heart) as learners attach emotional tags to the experience and begin to notice "blind spots" in understanding.



reality are just that – ideas. Human brains receive input from the senses and then create an idea of what reality might be. Our brains invent a plausible story that we accept as reality.

Our constructed reality is never completely accurate. Try this. Hold this page in front of you at arm's length. Focus on the X below. Close your left eye and continue to focus without shifting your right eye. Slowly move the page closer to your face until you notice something happening to the O.

What do you notice? The O should disappear. More precisely, it should be

X

O

This brings us to the Light Bulb Moment. During the writing of this article, I experienced a “light bulb moment” myself. It occurred to me that this portion of the Spiral Model of Learning (the light bulb) might be more appropriately labeled the Invention Phase. I can thank Thomas Edison for this inspiration and enlightenment. The very structure of the Spiral Model of Learning is about “connection” and that is already communicated by the connecting arrows.

At one point I looked back at the previous four articles. I found that the concept of invention had been with us since the very beginning. In the opening article I included a quote from Ursula K. LeGuin: “*Story is the most basic of tools invented by the human mind for the purpose of understanding.*” I have now replaced “connection” with “invention” as it should be. The ability to change is certainly a part of the nature of learning.

This brings us to the Invention Phase – our Light Bulb Moment! Unlike a tangible light bulb, the Invention Phase is all about abstract thought and stories. At its core, learning is the act of creating abstract memories of experiences so that we can behave in the future in ways favorable to our goals. When I learn anything, it is as if I have a multitude of miniature muckers magically making meaningful metaphors for my mind.

How do teachers help learners muck about in order to create that moment when a connection is made to previous learning and they “see it clearly”? Let’s shed some light on the nature of learning by looking at a few of Edison’s thoughts on invention and learning.

“I haven’t failed. I’ve just found 10,000 ways that won’t work.” Too often learners (and teachers, too) strive to avoid failures. Learning is more than simply getting it right. In fact, deep understanding might best be achieved by multiple failures. Don’t give up. Don’t allow your learners to give up. The best teachers celebrate failures as simply part of the process of narrowing in on success.



A teacher and student examine the tiny barbs on a bird’s feather. The introduction in 1917 of the “Separable Fastener” (zipper) owes its inspiration to bird feathers.

“There are no rules here. We are trying to accomplish something.” Life is never predictable. We already know that we are incapable of forming a completely accurate image of reality and that reality is always changing. Rules have a place and should be a part of the learning environment, but we need to recognize that the rules can and should change on occasion. The best teachers know how to work in a world of improvisation.

“I never did a day’s work in my life; it was all fun.” Teachers need to role model the fun, help learners identify their personal connection to the learning, and make it all meaningful. We can see that play is a vital part of the learning process. The best teachers help learners find the joy in learning.

“To invent, you need a good imagination and a pile of junk.” Learning is not simple, nor is it neat and tidy. Our ideas serve as the pile of junk in this metaphor. Without some meaningful order and connection, those ideas remain a chaotic, useless pile of junk. Imaginative, meaningful stories bring the pile of junk to order. The best teachers collaborate with learners to invent meaningful stories that help bring order to chaos.

As learners circle around to the “light

bulb moment” in the Spiral Learning Model, teachers can help them succeed in the learning process. Teachers can help learners to understand that 1) failures are a part of realizing success, 2) reality is always changing, 3) learning is a joyful process, and 4) all learning is ultimately about inventing meaningful stories.

Consider one final Edison quote. *“The most necessary task of civilization is to teach people how to think. It should be the primary purpose of our public schools. The mind of a child is naturally active, it develops through exercise. Give a child plenty of exercise, for body and brain. The trouble with our way of educating is that it does not give elasticity to the mind. It casts the brain into a mold. It insists that the child must accept. It does not encourage original thought or reasoning, and it lays more stress on memory than observation.”*

How many people have thought that they “invented” this idea? How often will humans continue to “re-invent” it? Meaningful, lasting inventions require the efforts of hundreds of people continually spiraling around the “same” ideas as time moves forward. Together, we are much smarter and more creative as we build upon invented stories of the past. Invention is the central product of the nature of learning.♦

WOLF RIDGE NEWS BRIEFS

Skyview Ropes Course has a **new zipline**. The ziplines get replaced about every five years averaging about 81,250 trips in that time.

- Joe Walewski traveled to VT for “Pop-Clock Sensor” **citizen science training** at the U of VT to help monitor phenological change in Balsam Poplar trees. The sensors record changes in tree mass as it increases in spring (due to emerging leaves) and decreases in the autumn (due to falling leaves). In March Joe and Peter Harris will attach the sensors to Balsam Poplar trees and will make visual observations of bud burst and fall senescence, which later will be compared to the sensor data.

- Jenny Bushmaker and Lindsey Klemmer attended a training in Toronto on **CampBrain**, the computer program that we use to manage our databases and program registrations. They learned all sorts of new CampBrain functions and are looking forward to increased efficiency with camp registrations and data management.

- On December 15, the last of the **carrots** were harvested from the Wolf Ridge farm and enjoyed in the dining hall.

- The Freshwater Society made a huge **donation** of office and miscellaneous equipment that was quickly put to use.



Zip line ride #4,062.

- Hats off to our food service and custodial staff. In our most recent **health inspection** the inspector named Wolf Ridge as one of the cleanest facilities in Lake County.

- While looking at the staff photoboard at Wolf Ridge, students from Churchhill Elementary School discovered they had sold fundraising product to Wolf Ridge’s founder, **Jack Pichotta**. Upon returning from their trip, they went back to Jack to thank him for making Wolf Ridge.

- Due to warm weather we were not able to get all the **dark** houses out for Frozen Lake Study class until January 20th which is about a month later than normal.



“New” office chairs.

- Yahoo! Staff and adult visitors to Wolf Ridge are all celebrating. You ask why? It is because **high speed internet** has finally arrived at Wolf Ridge! Thanks to a grant from the Blandin Foundation the signal is available throughout campus.

- Laura Stone, North Shore artist and friend of Wolf Ridge, recently offered a **workshop on watercolors** and nature observation for Wolf Ridge Naturalists. She offered a sketching workshop in the fall. Both were well received and serve our naturalists as they continue to add observations to their personal nature journals.♦

WOLF RIDGE ENVIRONMENTAL LEARNING CENTER **CALENDAR 2016**



PAUL SUNDBERG

The 2016 Wolf Ridge calendar features the photography of Paul Sundberg. For 28 years, Paul worked as the manager of Gooseberry Falls State Park before retiring. From his home in the Grand Marais, MN area, Paul continues to pursue his passion for photographing the North Shore, Lake Superior, and the Boundary Waters Canoe Area Wilderness. He has been taking photos since the early 1970’s. You can see more of Paul’s work on his website, PaulSundbergPhotography.com.

Calendars for 2016 are still available for the discounted price of \$5.00 plus 5.95 for shipping.♦



EDUCATING ON THE EDGE: Wolf Ridge on Lake Superior

by Shannon Walz, Wolf Ridge Education Director

Lake Superior, also called Gichigami by Ojibwe, has some impressive statistics. It is the largest freshwater lake in the world by surface area and third largest by volume. It holds 10% of the earth's freshwater and has 1,862 miles of shoreline, which is the same distance as driving from Duluth to Miami. At its deepest spot it is over 1,300 feet and has an average temperature of 40°F. This great lake captures both the heart and mind of those who spend time on its rugged and beautiful shoreline.

Wolf Ridge is perched above this beautiful natural resource. With the acquisition of 65 acres on Lake Superior, we now have land on the shore of Lake Superior (not connected to our existing campus). This gem of a parcel has a unique history. Until it was sold in 2014, it was part of the School Trust lands, which means it has not been developed or heavily visited like many other areas along the North Shore. This has preserved the ecological integrity of the Lake Superior near shore environment in a way few other places on Minnesota's North Shore can boast.

The near shore environment has the highest ecological rating that the De-

partment of Natural Resources gives an ecosystem. It is home to a vibrant and flourishing lichen community, rare plant species and ephemeral water features. The shoreline is composed of rocky cliffs and outcrops that are iconic of the North Shore of Lake Superior. There is evidence of wildlife throughout the property and it hosts two creeks – one of which is a designated trout stream. Wolf Ridge has the unique opportunity to both protect and educate about this sensitive ecosystem.

Providing authentic experiences that engage learners on an intellectual and emotional level is what Wolf Ridge does on a daily basis. Now we will be extending those experiences to the shores of Lake Superior like we never have before. Over the next few years, we will be incorporating Lake Superior experiences into all areas of our programming from our school programs and summer camp to our graduate naturalist program and family programs.

We are hoping that the Lake Superior land will open the doors to new opportunities as well. The ecology and proximity to the lake open the door to both student driven and scientist driven re-

search. Programming geared towards adults and teachers is another avenue we are exploring. Most importantly, however, it will allow us to foster a stewardship ethic for our environment. We will continue the conversation that we have been having for over 45 years about our place in the natural world – sparking curiosity, wonder and respect.

As Minnesotans, we are so lucky to have this amazing natural resource in our backyard. Here at Wolf Ridge we have been teaching about Lake Superior for years. We are so excited for the expanded opportunity to be stewards and teachers on the shore of Lake Superior.

As John Muir said, "Everybody needs beauty as well as bread, places to play in and pray in, where nature may heal and give strength to body and soul alike." We invite you to join us in exploring the beauty of Lake Superior - feed your soul and gather your strength in this powerful and peaceful environment. ♦

Chel Anderson, Department of Natural Resources plant ecologist describes some of the unique characteristics of Wolf Ridge's Lake Superior property to some of the seasonal naturalists.

PROFILE: ROD KUEHN

*Wolf Ridge Science Project Coordinator Peter Harris, met Rod Kuehn at a Minnesota Science Teachers Conference. Rod had a booth demonstrating **Tracker**, a computer program that Rod was writing for recording phenology. Rod was willing to come up to Wolf Ridge and for over 10 years, Rod and Peter have been collaborating on the development of **Tracker**.*

What is your current occupation(s)? Retired. Before retiring, I was an engineer for Seagate. They manufacture computer hard drives. Before that, I worked at the U of MN where I ran the electron microscopy lab for the College of Biological Sciences. I taught two 4-credit lab classes, did some research for the profs, and developed the facility to accommodate a wide variety of techniques. My official MS degree is in Plant & Soil Science but is really more about botany. My research thesis was on tamarack mycorrhizae.

What is your favorite place at Wolf Ridge and why? The north end of Raven Lake. I remember photographing dragonflies from a tripod set up in a canoe on the Lake. The dragonflies were resting on lily pads and other emergent vegetation. There were also a variety of eggs in the water. I grew up on Lake Minnetonka and spent most of my time in the shallows and lagoons amongst the lily pads and reeds. I love the sound of the canoe gliding over and between the emergents. There's a wonderful diversity of life in these areas: ducks, dragonsflies, damselsflies, spiders, flies, frogs, and shore birds, and all that's necessary is to sit and be patient. The wind and waves relax me.

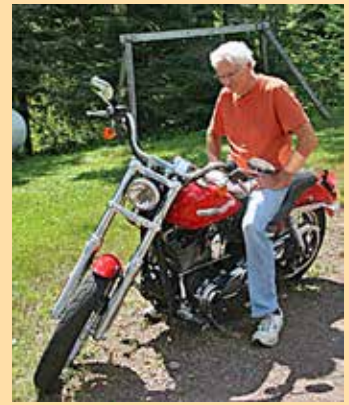
Tell our readers about something that you have learned as the result of your time or association with Wolf Ridge ELC. Large projects, such as *Tracker* development, can flourish only in rare soils. It requires a variety of skill sets, patience, and on-going support from the top and a visionary commitment from those doing the field-testing. Our goal has been to create an intuitively simple tool for gathering phenological information, and then using that information to identify trends related to both life cycle and climate change. In other words, we have endeavored to enable *Tracker* to both collect and enable students to use the information to develop a scientific perspective. My appreciation and respect goes out to Wolf Ridge for combining an emphasis on science, field biology, climate change and a sustainable future.

What are your hobbies? Aside from *Tracker*, I follow local letters to the editor and often reply to those with a civil liberties or political slant. After retirement, I was physically decrepit. I joined a gym and have been aggressively pursuing a body that comfortably does the kinds of things I like to do. Invasive plants have been a concern for the last ~15 years. I volunteered at Three Rivers Park Reserve District to monitor and control buckthorn, garlic mustard, wild parsnip and oriental bittersweet. I'm currently trying to develop better techniques for eradicating garlic mustard and buckthorn at Springbrook Nature Center. Photography has been a continuing interest and a motivator for *Tracker* development.

What is your family/pet status? Married, with two adult male offspring and one cat.

Tell us an item of interest about yourself. Most people don't find me interesting. (Wolf Ridgers' disagree.)

If you were a tree or animal what kind of tree or animal would you be? Either a burr oak or a turkey vulture. ♦



Ruth Opendahl (84) executive director of the Natural Resources Foundation of WI, kayaked the WI River in September to raise money and awareness about the state's cherished outdoors. **Amy Workman (00)** got married. **Josh Hordoff (08)** has been on many exciting adventures. Several months were spent in Central America exploring, followed by a stunt in CO and now he is off to HI. **Shannon (Giles) Walz (04)** had a boy, Leo in Sept. **Nick Sacco (09)** got a Three Rivers park job at the North Mississippi site. **Ali (Schafer) Vos (09)** and **Joel Vos (10)** relocated from Homer, AK to Savannah, GA. Joel is the new education coordinator for the Savannah Coastal Refuges Complex in Hardeeville, SC. Ali landed a job as the guest services specialist at The Massie Heritage Center. **Rachel Zacher (13)** is at the Walking Mts Science Center, CO. She is the summer camp coordinator. **Tessa Olson (13)** has joined 4 other Wolf Ridge alumni **Dan Blessing (06)** and **Greta (Arnquist) Blessing (07)** and **Andrea (Doerr) Minor (10)** and **Brian Minor (11)** at Voyageur Outward Bound. **Eleva Potter (14)** is teaching at the Conserve School in Land O'Lakes, WI. This is a college prep boarding school for high school students emphasizing environmental stewardship, ethics, and leadership. ♦



WATCHFUL EYES IN THE NORTH WOODS

Ground Nesting Long-eared Owl

by Ryan Pennesi, Forestry Technician, Grand Marais, MN

Wildlife Biologist, Dave Grosshuesch and I walked slowly through patches of black spruce and spongy sphagnum moss. Our destination, a point on a handheld GPS unit, was deep in the Superior National Forest. We traveled intentionally

in a wide arc around a small clump of trees. Dave whispered to me, "The nest is now about 15 feet away." He motioned with his finger, "Do you see her in there sitting with the chicks?"

I certainly did not. After several moments of focusing all of my attention, I finally saw her. The female long-eared owl was almost invisible - in and amongst the spruce branches and other vegetation that concealed her nest.



© Ryan Pennesi

We were there to document a very exciting circumstance; the ground nest of a long-eared owl. This is only the second documented instance in the state. Typically, Long-eared owls will select a stick nest in a tree that has been previously constructed and abandoned by another bird species like hawks, ravens, or crows.

"Let's be quick about this," Dave advised quietly. The intent of our visit was to install several remote cameras near the nest, in order to gain information about the owl family's behaviors. We drove two stakes into the ground by the nest, and I mounted and programmed two cameras. We hoped the resulting photos would reveal valuable information about feeding times, nest behavior, and when the chicks finally fledge. Without delay, Dave and I made our exit—taking a different

route out. We didn't want to linger or backtrack, leaving more human scent that necessary which may draw predators to the nest site.

During the following weeks, the mother owl would surely be providing food and protection for the chicks. Long-eared owls will hunt on the wing, soaring in search of small mammals including voles, mice, shrews, rabbits, and sometimes even small birds. They hunt in open and sparsely forested areas coursing back and forth, flying low above the

ground. Prey are captured and killed with a swift bite to the back of the skull—then swallowed, whole.

About a month after placing the cameras, I recovered them from the site. Mom and chicks were gone. Their

nestling period is only 21 days, at which point they leave the nest. Dave believes that the fledging may have been accelerated by the nest's ground location—the chicks could practice flight sooner because there was no risk of falling from height. All that remained in the nest were a few owl feathers and some old regurgitated pellets.

To my bewilderment, neither of the cameras had a single image of an owl. Somehow, the adult and her chicks had completely evaded the sensors. We theorized that they may have climbed up the trunk before flying away; it was the only logical answer to evading the sensors.

Some studies suggest that long-eared owls may reuse a nest in subsequent years...Maybe we'll get another shot!♦



© Ryan Pennesi

Two, big, yellowish eyes were watching us closely. As far as owls go, she was a medium-sized, slender bird and had dark brown, buff, and black feathers on her body. Her head was somewhat squar-ish, and she wore a surprised expression, her two "ear tufts" raised in a semi-vertical position. Tucked beneath her wings were four little white fluff balls—the chicks! Clutch size can vary between 2-10 eggs that have an incubation period of 25-30 days. Grosshuesch estimated them to be less than a two weeks old.



© Ryan Pennesi

PROGRAMS

ADULTS

LNT Master Educator: May 18-22: \$450 register through NOLS at nols.edu/Int

Advanced Bird Banding Class: June 20-24: \$834

Beginning Bird Banding Class: June 26-July 2: \$2020

Owl Banding: Sept 29-Oct 2: \$355

Fall Phenology Adventure: Sept 30-Oct 2: \$325



ALL AGES



Open House: June 18, 2015 9:00-4:30 **Free**

Bird Banding Drop-in days: June 1, 15, 22, July 6, 13, 20, & Aug 3 7:00-11:00am **Free**

Family & Group Canoe & Kayak Trips: June 26-July 2, July 3-9, July 24-30: Starting at \$1,900

Summer Family Camp: (all ages) July 17-23, July 31-Aug 6: Starting at \$425/person

Winter Family Camp: (all ages) Dec 27, 2016-Jan 1, 2017: Starting at \$355/person

Road Scholar Intergenerational: (8-12 yrs) June 26-July 1, July 10-15, Aug 7-12, Dec 27-Jan 1: Starting at \$579. Register through Road Scholar at roadscholar.org or by calling 877-426-8057

YOUTH

Summer Sampler: (2nd-5th gr) Aug 10-13: \$370

Discoverers: (4th-5thgr) July 10-16, July 17-23, July 24-30, July 31-Aug 6, Aug 7-13, Aug 14-20: \$580

Voyageurs: (6th-7thgr) July 10-16, July 17-23, July 24-30, July 31-Aug 6, Aug 7-13, Aug 14-20: \$580

Adventurers: (8th-9thgr) July 24-30, July 31-Aug 6, Aug 7-13: \$595

Day Camp: (1st-7thgr) June 27-July 1: \$185

Voyageurs 2-wk Ultimate Survival: (6th-7thgr) Aug 7-20: \$1260

Angling to Archery: (6th-7thgr) July 31-Aug 6: \$630

Wildlife Camp: (6th-7thgr) Aug 7-13: \$580

NEW

Camp Fish: (4th-5thgr) July 10-16: \$630

Voyageurs Harvesters Farm Camp: (6th-7thgr) Aug 14-20: \$580

NEW

Adventurers Farm Camp: (8th-9thgr) July 10-16: \$580

Camp Rock Climbing: (8th-9thgr) Aug 14-20: \$630

Counselor-in-Training: (10th-12thgr) July 31-Aug 13: \$1260

Credit Camp-Freshwater Ecology: (10th-12thgr) July 10-30: \$1910

NEW

Credit Camp-Wilderness Ethnics: (10th-12thgr) July 31-Aug 13: \$1590

BWCAW Canoe 5-day: (7th-8thgr) Aug 14-20: \$600

Adventurers 2-wk BWCAW Canoe: (8th-9thgr) July 24-Aug 6: \$1340

Adventurers 2-wk Isle Royale Backpack: (8th-9thgr) July 10-23: \$1340

Apostle Islands Kayak 5-day: (9th-10thgr) Aug 7-13: \$700

Isle Royale Kayak Expedition: (10th-12thgr) June 26-July 9: \$1470

Jr Naturalists 2-wk Quetico Canoe: (10th-12thgr) July 10-23: \$1410

Jr Naturalists 2-wk Apostle Islands Kayak: (10th-12thgr) July 24-Aug 6: \$1410



Visit our website at:
WOLF-RIDGE.ORG
 to learn more about these
 and other
Wolf Ridge programs.



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Program Title _____
 Program Dates _____
 Name _____ M / F
 Parent/Guardian Name _____
 Address _____
 City/State/Zip _____
 Phone (home) _____
 (cell) _____
 E-mail _____

FAMILY PROGRAM ATTENDEES

Names and ages

CAMPERS & YOUTH TRIPS

Birthdate _____ Grade entering _____
 T-shirt size: Child S M L Adult S M L XL
 Roommate request _____

Do we have permission to include your camper's name, age and primary phone number on a carpool list sent to other registered participants? YES NO

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Your gift supports the Wolf Ridge mission.

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Registrations must be accompanied by a \$150 non-refundable deposit, family programs \$150/person. Program fee minus deposit due two weeks prior to program start.

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Program Fee	\$ _____
Calendar	\$ _____
Total Enclosed	\$ _____

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ENVIRONMENTAL LEARNING CENTER

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*Complimentary Issue
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Wolf Ridge is an accredited residential environmental school for persons of all ages. We offer immersion programs which involve direct observation and participation in outdoor experiences. Wolf Ridge programs focus on environmental sciences, human culture and history, personal growth, team building, and outdoor recreation.

Our mission is to develop a citizenry that has the knowledge, skills, motivation, and commitment to act together for a quality environment.

We meet our mission by:

- Fostering awareness, curiosity, and sensitivity to the natural world.
- Providing lifelong learning experiences in nature.
- Developing social understanding, respect, and cooperation.
- Modeling values, behaviors, and technologies which lead to a sustainable lifestyle.
- Promoting the concepts of conservation and stewardship.