



ENERGY, FOOD, AND FRESH WATER

by Pete Smerud, Executive Director and Tom Berg, Chair of Wolf Ridge Board of Trustees

Recent pronouncements from the Pope, presidential contenders, and world leaders have made it clear that energy, food, and fresh water are critical environmental topics for discussion and action. These topics have long been the subjects of popular courses developed and taught by Wolf Ridge educators. We are pleased to report that Wolf Ridge is now planning an additional initiative to make Wolf Ridge and its classes even more relevant and meaningful to current problems. The classes offered, the facility improvements discussed elsewhere in this Almanac, and the new initiative will enable Wolf Ridge to become a national leader in teaching and motivating students, campers, and teachers to deal with these worldwide topics.

At Wolf Ridge it has been common for over 40 years for visiting teachers and parents to be the primary driving

force for curriculum changes. These true experts in understanding children will often highlight environmental issues society must address, and then ask Wolf Ridge to respond with appropriate and interesting classes. Parents and teachers want to make sure children learn the facts needed to understand that there are environmental concerns in everyday living and to be aware of options to address these concerns. A few of the themes in recent conversations have been declining biodiversity, youth who lack connection to the natural world, climate change, and the increasing demand for natural resources. Environmental educators at Wolf Ridge are frequently asked to place how all of us live, what we need, and what we want in context with the resulting impact on the world around us.

Wolf Ridge has responded in part by addressing energy conservation and renewable energy in its course offerings. With the entry in the mid-90s of its first energy class offering, *Conservation Lifestyles*, Wolf Ridge continued to pursue its goal of a more sustainable world. Over the years class offerings evolved and now students in the *Renewable Energy* class use a variety of solar, biomass, and wind instal-



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VIEW FROM THE RIDGE

by Peter Smerud, Executive Director

“Housing that supports learning.”

“A home for the week that feels like home.”

“A building that teaches.”

“A model of what buildings of the future should be.”

“Buildings that model achievement of our mission.”



These are the main themes that Wolf Ridge staff and HGA Architects and Engineers of Minneapolis are using to renovate our original dorm into a state of the art building that will not simply be better housing but also a model and learning experience in sustainability.

We have learned from our schoolteachers and parents where the shortcomings of our dorm lie. We've seen the negative impact upon our operation, noting that our capacity in the West Dorm is 18% less than that of the East Dorm yet the same size. The training and learning experience of the seasonal naturalists that reside upstairs will be improved greatly by not living above 180 middle school students. We know very well how important the need to update the West Dorm is for those we serve. We have our basic designs and the process is beginning.

Addressing the needs of an upgraded design that better addresses the needs of those who manage school students and campers will require all the square footage of the existing dorm. Consequently a new housing structure will be created for the seasonal naturalists. Both the remodeled West Dorm and new grad student housing will include state of art design in environmental performance and promote community interaction of the cohort of students that reside within. These are exciting times at Wolf Ridge and later this winter we'll be rolling out the plans for these upgrades and new additions at the Ridge.

To help us assess our environmental performance on this project, we've chosen to pursue a standard of design that is

the highest possible, that of the Living Building Challenge of Environmental Performance. A comment was made as we entered our process that was quickly embraced, “If Wolf Ridge doesn't do something like this, who will?” We will be assessing our performance in obvious areas such as water, energy and materials, but also in areas such as beauty and equity. As the Challenge states, it will be “A Visionary Path to a Restorative Future”.

It takes a great deal of hard work and a tremendous community of people to make Wolf Ridge experiences happen each week. As Executive Director, I'm often asked, “What's the greatest asset of Wolf Ridge?” The answer is easy and quick, “The people.” The last few months my focus has turned toward implementing this exciting facilities upgrade and again the greatest asset is the people. In this case, these people are seldom seen here. It is the Wolf Ridge Board of Trustees. We are so blessed to have this outstanding group of individuals who work very hard for Wolf Ridge. The current board has a diverse background, a tremendous set of skills and they're putting it all together to make this facilities upgrade project happen for Wolf Ridge. For those that come to Wolf Ridge for learning or even the staff who work here, it can be easy to forget about those who lead the organization as a collective, and do so as volunteers using their time and talents to advance our mission, the Wolf Ridge Board of Trustees.

With all these great people hard at work for this new project, we're moving quickly and change will soon be upon us. Look to the future at Wolf Ridge. ♦

2015-16 SEASONAL NATURALISTS



Julia Luger
Hometown: Prior Lake, MN
 BA Biology
 U of MN - Duluth

Kalina Pavlisich
Hometown: Duluth, MN
 BS Elementary Education
 College of St Scholastica

Emily Richey
Hometown: Duluth, MN
 BA Envir. Studies & Globalization & Devel.
 Hamline University

Sonja Smerud
Hometown: Finland, MN
 BA Biology & Political Science
 St Olaf College

Morgan Soulantikas
Hometown: Florence, SC
 BS Biology
 Francis Marion University

Danielle Tikalsky
Hometown: New Prague, MN
 BS Envir. Geosciences Geology
 Northland College

Caitlin Coghlan
Hometown: Allen, TX
 BS Environmental Science & Policy
 St Edward's University

Sarah Bransford
Hometown: Plymouth, MN
 BA Biology & Psychology
 St Olaf College

Colleen Bumford
Hometown: Livonia, MI
 BS Fisheries & Wildlife Biology
 Michigan State University

Rachel Enwright
Hometown: New Ulm, MN
 BA Spanish
 St Olaf College

Elizabeth Gerrits
Hometown: Port Washington, WI
 BS Envir. Geoscience Geology
 Northland College

Megan Gibbs
Hometown: Mendota Hts, MN
 BA Ind. Studies, Envir. Science,
 Urban Studies & Communications
 U of MN - Twin Cities

Serena Hixson
Hometown: Kingston, NY
 BA Zoo Science & Field Biology
 Friends University

Abby Howell-Dinger
Hometown: Salt Lake City, UT
 BS Anthropology & Envir. Studies
 University of Utah

Norraine Langer
Hometown: Minneapolis, MN
 BA Psychology
 St Olaf College

Adrienne Falcon-Geist (93) was awarded a Fulbright Fellowship. She and her family are living/teaching in Ecuador for a year. **Shannon (Gilles) Walz (05)** and her husband are the happy parents of Leo, born Sept. 4. **Nick Sacco (09)** married Emma Rieck. **Jo Swanson (09)** is the new volunteer & outreach coordinator for the Superior Hiking Trail Association. **Katie Fritz (09)** is now the aquatic education coordinator for northern MN DNR. **Rhea Mehrkens (10)** got married. **Will Tanner (12)** got married and is teaching at The Works Museum in the Cities. **Nicki Swenson (12)** is the director at Camp Esquagama in Gilbert, MN. **MJ Bach (12)** is working at St. John's and towards her teaching license through St. Scholastica. **Mary Beth Factor (13)** landed a job at Trees for Tomorrow in Eagle River, WI as the school program coordinator/env. science teacher. **Milo Anderson (14)** can be found in SC at Riverbanks Zoo & Garden working as the coordinator of interpretive programs. **Emma Pardini (14)** is working at the Great Lakes Aquarium. **Danielle Hefferan (14)** was the naturalist supervisor at WR, worked the fall harvest at Round River Farm in Finland, MN and is now a farm laborer in VT. **Mike Krussow (14)** was WR's specialty camps director and is now a naturalist at Deep Portage Learning Center. **Meredith Lorig (14)** was a trip leader at WR and continues teaching here. **Ryan Pennesi (14)** is a forestry technician for the USFS in Grand Marais, MN. **Class of 2015: Nils Anderson** worked as a WR trip leader this summer and is substitute teaching in Lake City now. **Brent Burton** is working at U of WI – Stevens Point with a graduate program. **Caitlyn Cleary** is at Bradley U in a nurse practitioner program. **Marie Fargo** was a WR summer naturalist and is now at River Bend Nature Ctr in Faribault, MN. **Larissa Giebner** ran summer camps for the Great Lakes Aquarium and joined other WR-ers on full-time staff there. **Cian Gill** was an Academic Program Naturalist at WR and joins Marie at River Bend. **Hannah Hemmelgarn** began a grad research assistantship at U of MO Ctr for Agroforestry designing educational food forests with high schoolers. **Megan Johnson** worked at Swift Nature Camp and is now the scientist in residence at Riveredge and West Bend School district. **Dylan Kelly** was WR's director of counselors and joins Marie and Cian at River Bend. **Haley Marks** remains at WR for a 2nd yr as a mentor naturalist. **Fiona O'Halloran-Johnson** is working at Northern Waters Smokehaus. **Luciana Ranelli** and **Shane Steele** were also at WR for the summer and are here as mentor naturalists. **Sydney Stock** is coaching college swimming. **Grace Theisen** is the pre-K float staff at Kinderberry Hill Development Ctr in Edina, MN. **Sarah Waddle** is the 4th mentor naturalist this year and was also at WR this summer. ♦



ON THE NATURE OF LEARNING:

Reflecting on Reflection

by Joe Walewski, Wolf Ridge Naturalist

I must have the best job in the world. Every day I am asked to observe some of the best teaching and learning imaginable. I provide feedback for our naturalists and often watch great things happen and I am in awe. I learn something new every day and they pay me for it!

As I gather new stories of success each day and process the experiences, I continually refine my story of what it takes to be a powerful educator. My greatest lesson to date? It's not about the education; it's about the learning.

Learning doesn't just happen. It takes focused effort. And though we all seem to learn and process in different ways, I have found that there are predictable patterns of action and thought leading to meaningful learning. In the Fall 2014 *Almanac*, I introduced the Spiral Learning Model. It's a model of how people learn organically. Wolf Ridge Naturalists can use it in development of curriculum and also as a tool for decisions that they make hundreds of times in any class they teach at Wolf Ridge and elsewhere.

The model represents the four phases learners navigate in any learning experience. In the imagination phase learners assess their current situation and set a plan of action. During the perception phase they engage in sensory perception of personal experience. In the reflection phase they process perceptions through filters of emotion. After acquiring an emotional tag, perceptions are then processed and connected to prior learning in the connection phase. The spiraling continues through each phase as they continue to learn.

Rather than crafting beautiful, efficient, award winning educational opportunities, powerful educators

respond to learners' needs and facilitate messy, effective, meaningful learning experiences. Think about your learning experiences. They are likely much like some of mine. Many of my educational opportunities

challenge for both the learner and the educator. There are 6 basic human emotions including fear, anger, surprise, sadness, disgust, and joy. Yes, you read that right – only one appears positive. Multiply whatever the response by 20 for the educator if there are 20 students in a class.

Each of our emotions is valid and worthy of acknowledgment. By leaving it to chance, educators allow learners to face the odds and they don't look so good. By asking the question and entering the conversations that might follow, educators might guide learners

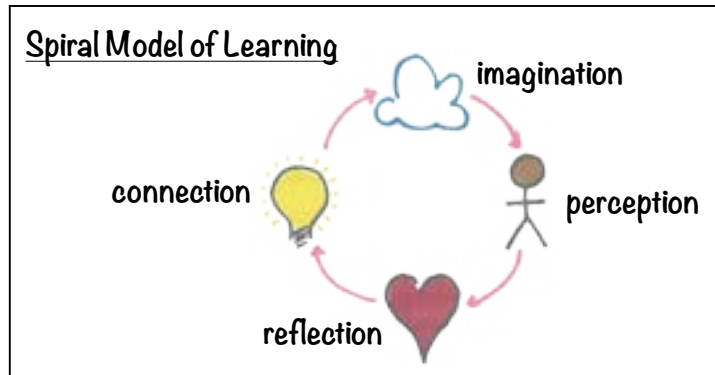
through a range of emotions possibly towards joy. The learner may even attain joy by simply understanding that their emotion is valid and they are not crazy. Often we simply want to know that others feel the same. Positive emotions at some point in the learning process are correlated with retention of information – more leads to more.

And, what does it remind you of now?

As learners complete the Reflection Phase and prepare for the Connection Phase, we can help them with a simple directive – think about the experience for a moment and note some of the first things that come to mind. It's much like the "ink blot test" relative to experience. The range of possibilities is clearly endless. Sometimes learners blurt out deep and surprising thoughts that can take you both to places in the mind that you've never been before. This is potentially the most creative moments in learning and not to be missed.

This all reminds me of a story I heard about a turtle and a scorpion.

Scorpion scurried across the desert only to reach an impassable river. Scorpion could not swim. Downriver, he saw Turtle



were little more than educational entertainment. My most memorable *learning* experiences, on the other hand, were emotionally charged.

I have already dug deeper into the Imagination Phase (Winter 2015 *Almanac*) and the Perception Phase (Spring 2015 *Almanac*). Imagination is about gaining focus. Perception is about participation and being present – learners won't retain what they don't perceive. It's time now to explore the treacherous social and emotional terrain of the reflection phase, which is guided by three simple questions:

What did you notice? Educators are obligated to help learners replay their perceptions. So much of what happens around us is missed. Twenty people at one scene will have noticed at least 20 different things. That's precisely why this question should be asked. As learners register varied perceptions from their peers, their personal perception is filled out with expanded depth and context of a messy reality.

How do you feel about it? Only the bravest of your teachers gave this a chance. Most often, you were left to fend for yourself. Fraught with emotion, it can be an exhausting

slowly approaching the water's edge and he raced to her side.

"Turtle, let me climb on your back and ride across this river with you." As Turtle struggled to process the question and develop an answer, Scorpion impatiently continued, "Turtle, hurry up." And then he climbed aboard. Turtle blinked while Scorpion pressured, "move along!"

As they entered the river, Scorpion clambered from Turtle's shell on to her head in order to avoid the rising water. Without thought, Scorpion's tail lashed out and stung Turtle on the head. The poison acted quickly. Both Turtle and Scorpion sunk below the surface never to be seen again.

The Turtle represents the logical prefrontal cortex of our brain. The scorpion is the emotional limbic system. Just as in the story, our prefrontal cortex moves slowly and deliberately. Our limbic system—driven by emotion—is impulsive, lightning fast, and a powerful influencer of the outcome of many of our stories and actions. More often than we might like to acknowledge, our logical prefrontal cortex is charged to deliver a coherent story about why we acted after our limbic system has already sent the message to run or sweat or shiver, for example.

What does this all look like in a class at Wolf Ridge? Imagine with me as

I play this series of questions out in a very plausible situation with a student in Lake Study. I wouldn't ask these questions rapid-fire one after the other, but slowly with time to think and respond in between. "What do you notice? How do you feel about it? And, what does it remind you of now?" The boy might respond: "I saw all kinds of animals...that dragonfly nymph was disgusting...I hope they aren't in my lake at our cabin...the lake is sorta like a jungle with all that stuff in there."

Actually, the presence of a variety of creatures in Wolf Lake demonstrates health in our lake system. High quality lakes statewide certainly serve as homes for dragonflies and many other insects that would rather avoid the boy just as he would want to avoid them. Jungles can serve as a great comparison with our complex lake ecosystem. I can only address these types of concerns and thoughts if I learn about them. Asking the questions helps me to uncover an emotional reflection. Then I can decide how best to reply to his comments.

Now, as I reflect on reflection, I am called



Students react to a dragonfly nymph.

to answer the three key questions: What do you notice? How do you feel about it? And, what does it remind you of now?

Reflection is a deeply emotional process. It's a challenge for both educators and learners. Though it would be easiest to simply bypass this phase, I recognize that it's vital to powerful and meaningful learning. And I am reminded that the limbic system, the portion of the brain that processes emotion, is a powerful machine and often has more influence on our actions than our logical prefrontal cortex. Learning is much like a natural ecosystem with everything connected to everything else. That's all part of the nature of learning. ♦

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 will be available in late spring for \$14.00 for donor members and \$18.95 for non-donor members, including shipping. They are also available at special prices, in lots of 25 for school fundraising and retail resale. Proceeds of all calendar sales directly support children attending Wolf Ridge school programs. Call Wolf Ridge at (218) 353-7414 and ask for Chris or e-mail wolf-ridge.org for more information and to order. ♦

ICE-CAPADES

by *Luciana Ranelli, Wolf Ridge Naturalist*

My first steps on a frozen lake were here, on Wolf Lake, in the dusky light of this past November. They were timid steps. It was hard to tell if the dark flat expanse was liquid or clear and solid. I also heard my mother's voice of caution. My last request to go out on ice was as a high school student in Duluth. I remember conditions were prime for ice-skating on Lake Superior. Friends were skating, people were playing hockey, and my younger sister and I pleaded. "No," was the answer, perhaps because early season ice can be unpredictable, especially on Lake Superior. At the time, all I heard was safety-conscious and fun scorching, "no."

The surface of Wolf Lake had to be frozen; there were whoops and hollers and dull sounds of metal blades crunching ice coming from the dark abyss. I eased my feet off the voyageur dock and tottered away on borrowed skates. Over the next couple weeks, with every free chance I called through the halls to gather friends, slung skates over my shoulder, and hiked down to the lake for striding, carving, and spinning. Each time, I was more comfortable, and noticed new cracks, bubbles, and layers in the ice. Little did I know, the smooth ice would not last. Once snow and wind collaborated, the picturesque ice skating days were over. Good thing I ate it up while

it lasted. Those moments on Wolf Lake remain some of my fondest memories from last year.

With its sheer size and wave action, Lake Superior does not invite the same magical surface travel. Most years, ice covers 40-95% of the Lake. Peak ice cover is usually not until late February or early March. Smaller lakes like Wolf Lake have ice that forms in a solid sheet extending from shore to shore. Alternatively, the ice on Lake Superior is in chunks or floes that move with the wind, never in one big sheet.

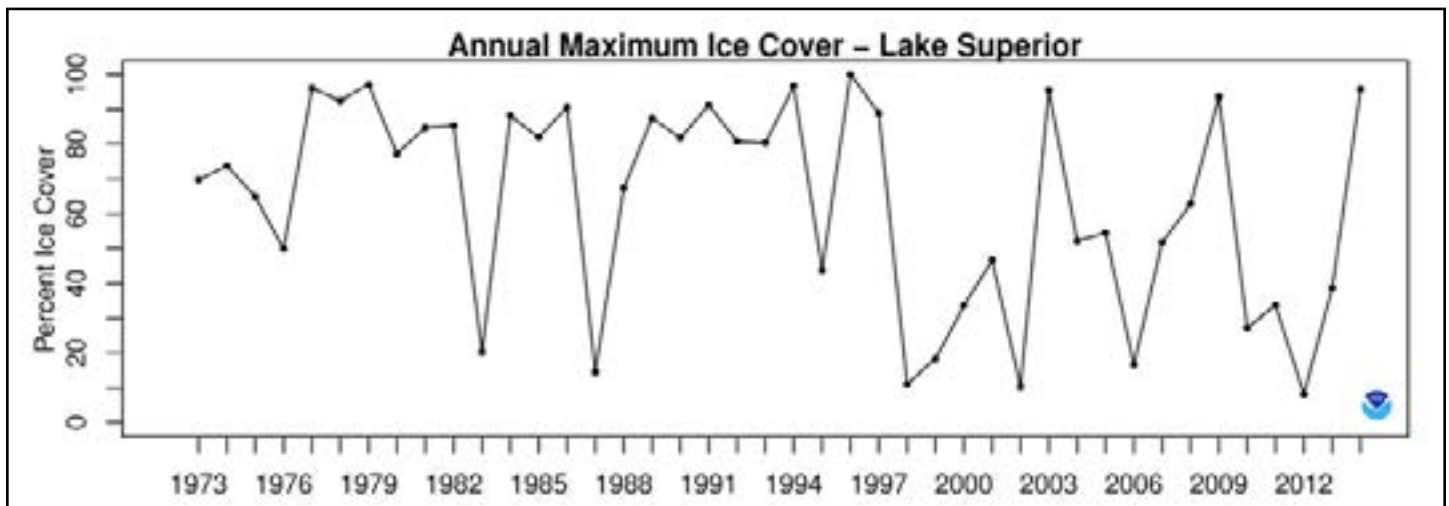
Some years, ice cover nudges totality. Researchers at the NOAA Great Lakes Environmental Research Laboratory track the ice. Their graph shows that Lake Superior was officially 100% covered by ice in 1996, though we recently have had winters that made it close. Last winter is not yet shown on NOAA's annual maximum ice cover graph; maximum cover was 95.7% at the end of February.

What does 100% ice cover really mean for Lake Superior? That is a good question, and I think we have to study ice like the folks at the National Ice Center or Large Lakes Observatory to truly know. From these places I learned that ice cover percentages originate from sources like satellite imagery and ship reports, and are translated to a map



photo by Megan Johnson

Skating on black ice, Luciana (in blue) and other naturalists discover their inner ice skater.



showing ice locations. Even if the Lake is reported as completely covered by ice, there are probably some ice-free sections by power plant outflows, for example.

Does ice cover on the Lake affect other natural phenomena? With the liquid water less exposed, there is less evaporation and there can be less lake-effect snowfall. More light and radiation is reflected off white ice than dark water and that can change warming patterns. With more ice floes on the Lake, we might see increased ice jams, like the ice floes that caught ships this past spring on the eastern side of Lake Superior.

Even though stepping onto Lake Superior ice is not as common as inland

lakes, recent winters have shown that it is possible. Reliable ice on the Lake near Bayfield, Wisconsin enabled people to visit sea caves that are normally accessible only via boat or for a limited time in winter. Eight weeks of low risk ice in 2014 inspired about 138,000 people to traverse the Lake and visit the caves laden with icicles! On Minnesota's North Shore near Wolf Ridge, we have some spectacular shore ice as well. Last winter, I was let in on the secret of seeking out a "frozen forest" along the tops of cliffs. I checked out the ice situation along various rocky shorelines and it was almost as magical as ice-skating on black ice.

We are in the center of autumn now. The cold and hopefully snowy season is just around the corner. This winter,



A Lake Superior "frozen forest".

I look forward to honing my skating skills and seeing what icy delights the lakes have in store. If you see me out on Lake Superior, please don't tell my mom.♦

■ ENERGY, FOOD, AND FRESH WATER *continued from page 1*

lations on campus as models to create a future with fewer fossil fuels. Similarly in the *Energy in the Home* class, students examine choices and learn about new behaviors from conducting mini energy audits to the hierarchy of choices available to reduce one's energy footprint. Both of these classes complement the *Climate Change* class, where understanding energy use and student behaviors are linked to the changing climate and the resulting impact on our planet.

In 2000, Wolf Ridge added *Seeds of Change*, the first class addressing the challenges of feeding the world's growing population in an environmentally sustainable manner. In 2012 Wolf Ridge broke ground on an organic farm on its 2000-acre campus to allow students to help plant, cultivate, harvest, and eat what they have grown. This has proven to be very popular as a teaching tool and, as parents have noted, to broaden healthier eating habits. Our farm is now regularly hosting classes as well producing a regular flow of healthy produce for the Wolf Ridge kitchen.

The number one issue in the most recent discussions and surveys with par-



Exploring Lake Superior.

ents and teachers has been fresh water. Wolf Ridge has been located "on the North Shore" for nearly thirty years. Throughout this period Wolf Ridge educators have talked about Lake Superior, engaged students with activities where they role play living along its shore, and hiked the Superior Hiking Trail with students to look at the largest freshwater lake in the world. But Wolf Ridge hasn't had a facility,

which consistently allows students to feel the cold water, hear the wave's crash, and sense the majesty of this spectacular example of nature's bounty. The Wolf Ridge board and staff have continued to look at Lake Superior as an underused resource for not only teaching fresh water facts, but also as a source of inspiration about fresh water and its impact on every living thing on earth. While final plans are not yet complete, we expect that Lake Superior and fresh water education will soon become an even greater part of the Wolf Ridge experience. We want students to not just sense that Superior is a mighty lake, but to learn about it, take pride in it, and help take care of it.

Please watch for more details about this major initiative in upcoming issues of the *Almanac* as Wolf Ridge moves forward in its never ending effort to meet its mission of "developing a citizenry that has the knowledge, skills, motivation, and commitment to act together for a quality environment." We thank you for your ongoing interest in the work of Wolf Ridge and look forward to reader comments and dialogue on our plans.♦

PROFILE: ELIZABETH WILLIAMS



What is your connection to Wolf Ridge? After years of hearing about Wolf Ridge from my older siblings, it was finally my turn to attend as a sixth grader with Minnetonka East. I remember the crisp winter air biting at my nose as I conquered the ropes course, and all of the female naturalists who did things I thought were “just for boys”. After high school I had the opportunity to travel and teach English in Ecuador. I graduated from the U of MN with a degree in Spanish/Portuguese. I then moved to NM as a Corps member with Teach for America where I taught 5th grade for two years on the Navajo reservation. During this time, I developed a passion for the outdoors and holistic teaching philosophy. Upon returning to MN, I taught 4th grade in S Mpls before accepting my current position as the Education Outreach Coordinator at Wolf Ridge.

Please share a Wolf Ridge memory. Being an employee of Wolf Ridge based in the Twin Cities means I get to hear a lot of stories from students when they return from Wolf Ridge. Recently, a student remarked to me, “I was like a different person when I came home. I stopped eating junk food. I didn’t even want it. We put up a clothesline and now I monitor my family’s electricity use!”

Tell our readers about something that you have learned from Wolf Ridge. All students connect to a different piece of their Wolf Ridge experience, but they all gain an irreplaceable connection with the environment. Oh, and teenagers CAN survive two weeks without technology.

Tell us about yourself. I live in Minneapolis where I try to take advantage of our awesome trail systems by running or biking whenever I can. I love traveling, learning new languages and cultures and reading. I absolutely love sending and receiving mail. I have lived in Ecuador, Venezuela, New Mexico, and Arizona. Living away from friends and family made me appreciate the value of hand written letter and the importance of expressing gratitude for the people in my life.

Can you give us a travel tip? Do as little planning as possible! As far as a location goes...Chaco Canyon in New Mexico, where you will find ancient Puebloan ruins surrounded by nearly 100 miles of Navajo land. The history of the land is vibrant and the stargazing is unreal. There is truly no other place like this on earth.



Camping in Yosemite.

What is your favorite place at Wolf Ridge and why? The top of Marshall Mountain. When you reach the top and take in the view you get the feeling you are part of something bigger than yourself. For students who have lived in cities their entire lives they notice the absence of noises, smells, roads and people. It’s a very special moment.

If you could visit with any conservationist/naturalist/environmentalist, living or dead, who would it be and what would you say. I would be humbled to meet Cesar Chavez, whose life was dedicated to farm worker’s rights and less notably environmentally sound farming practices. Although he is not primarily known as an environmentalist, Chavez felt that there is no greater connection we have with the earth than through the food we eat, and that the people who plant and harvest the food that sustains us, are among the most unappreciated and exploited.

What book and/or movie would you recommend others read. I think all young people and adults should read *A Long Walk to Water*. It tells the story of natural resources, war, and resilience in the face of tragedy.

Anything else you would like to share with our readers? Wolf Ridge runs programs in the Cities. This past year we have worked with Patrick Henry High School, Washington Technology Magnet, Bancroft Elementary and South High School. If you’re interested in learning more contact me!♦

WOLF RIDGE NEW BRIEFS

This spring Wolf Ridge underwent its **accreditation** review by the North Central Association Commission on Accreditation and School Improvement. We passed with flying colors and are accredited through 2020.

- The **Wolf Ridge Organic Farm** was highlighted as one of the Most Significant Change Projects awarded by the Northeast MN Sustainable Development Partnership, of the University of MN Extension Service. David Abazs was interviewed for his regional work and leadership with the focus on our Wolf Ridge farm projects and curriculum. The story is entitled "Cultivating Minds, Cultivating Soil".

- Our annual **fundraising event** in Minneapolis was enjoyed by all those in attendance. Silent auction items such as lodging and dinner packages on the North Shore, a North Shore photography workshop, and guided BWCAW adventures were popular items. Donations for the event exceeded \$12,000.

- Our annual **June Open House** had outstanding weather and record attendance with over 275 people visiting.

- This spring and summer our participants reported many **bear sightings**. Because of good practices with trail trash, bird feeders, and garbage dumpsters these peeks at our ursidae forest neighbors provided numerous cool encounters without the bears becoming nuisances.

- Our new specialty camps, **Ultimate Survival** and **Camp Rock Climbing** were "amazing" by all reports. The "survivalists" explored various methods of starting fires without matches and traditional crafts including flint knapping. A night was spent sleeping in shelters of their own making. The climbers tested their mettle at various North Shore climbing hot spots including Shovel Point and our own Mystical Mountain as well as learning about area geology, climbing knots and setting anchors.



- Wolf Ridge has a new 18.5kW **solar array** with reflective panels that increase their efficiency. The panels were made in Bloomington, MN by Ten K Solar and produce enough energy to supply 3.2 average MN homes with the electricity they need. The energy made by the solar array meets the domestic needs of the Science Center.

- The **Wolf Ridge paver** pathways continue to grow. This summer the main entrance to Dayroom B was constructed.

- A first generation hybrid Golden-winged Warbler x Blue-winged Warbler showing the characteristics of what researchers are calling a **Brewster's Warbler** was caught in our advanced bird banding class. Read a concise article at braddockbaybirdobservatory.wordpress.com titled Comparing our Blue-winged, Golden-winged and Brewster's Warblers to learn more about this bird.

- Wolf Ridge has a new inflatable **planetarium** because of a grant from the Donald Weesner Foundation. No longer do students have to crawl through the entrance. Now they squeeze through a double door opening to be enlightened about night sky objects.

- If you visit our **Ojibwe sites** you will notice new coverings on the na-saogaan and waaginogaan.

- Wolf Ridge **science immersion credit programs** students presented their research project "Effects of Outdoor Time on Urban Residents" on the Eco Experience Stage at the Minnesota State Fair. They found a correlation between teens who spent more than 5 hours of time outside each week and their overall happiness. The students made recommendations to their communities that kids get more outside time and that green spaces are more accessible and safe. ♦

Winter Grand Adventure Road Scholar Intergenerational

Dec 27, 2015-Jan 1, 2016

Fee: Starting at \$579

Give your 8-12 year old grandchild the priceless gift of your time as you explore Minnesota's northwoods in winter with them. Through hands-on activities and outdoor discovery, you'll ice fish and explore winter lake ecology, snowshoe to an Ojibwe site, hop on a dogsled, climb our indoor rock wall, try new crafts and many more activities. Call Road Scholar at 1-800-454-5768 or roadscholar.org to register.



Winter Family Camp

Dec 27, 2015-Jan 1, 2016

Fee: \$325/person ages 5-adult, \$162.50/person ages 2-4, free for children under 2. Reflects one room per family/group.

Discover the joys of winter while skiing through the crisp snow, peering into a frozen lake through a dark house, snowshoeing to a spectacular view of Lake Superior and dog sledding through fresh fallen snow. Ring in the New Year with new friends at the family folk dance and celebration.

SUMMER 2016

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

Discoverers: (4th-5thgr) June 19-25, July 10-16, July 17-23, July 24-30, July 31-Aug 6, Aug 7-13, Aug 14-20: \$580

Voyageurs: (6th-7thgr) June 19-25, 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: (7th-8thgr) July 31-Aug 6: \$630

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

NEW

Camp Fish: (5th-6thgr) July 10-16: \$630

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

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

Ecology Credit Camp 3-wk: (10th-12thgr) July 10-30: \$1910

Ecology Credit Camp 2-wk: (10th-12thgr) July 31-Aug 13: \$1590

BWCAW Canoe: (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: (9th-10thgr) Aug 7-13: \$700

Isle Royale Kayak: (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

Family & Group Wilderness Trips: Call for ages, dates, & prices

Summer Family Camp: (all ages) July 17-23, July 31-Aug 6: Starting at \$765

Road Scholar Intergenerational: (8-12yrs) June 26-July 1, July 10-15, Aug 7-12: Starting at \$579



LEAVE A LEGACY. Include Wolf Ridge as a beneficiary of your will, trust, retirement account plan, or life insurance policy. Your planned gift sustains Wolf Ridge's excellence by supporting our endowment and ensures we can educate future generations about the importance of the natural world. Become part of the Wolf Ridge Heritage Circle.



Visit our website at:
WOLF-RIDGE.ORG

to learn more about these and other Wolf Ridge programs.

Facebook, Twitter, YouTube, blog, & shop on-line at wolf-ridge.org.

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

BECOME A DONOR MEMBER

\$35 \$50 \$120 \$250 \$1000 \$ _____

Your gift supports the Wolf Ridge mission.

WOLF RIDGE CALENDARS

\$14 donor members/\$18.95 non-donor members per calendar (includes postage).

PAYMENT

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.

Payment Enclosed: Donor Member	\$ _____
Program Deposit	\$ _____
Program Fee	\$ _____
Calendar	\$ _____
Total Enclosed	\$ _____

MasterCard Discover Visa American Express
 Check (payable to Wolf Ridge ELC)

Card # _____ - _____ - _____ - _____
 Exp. Date. ____ / ____
 c v v

Name on card - please print

Mail to:



WOLF RIDGE
ENVIRONMENTAL LEARNING CENTER

6282 Cranberry Road
Finland, MN 55603

*Complimentary Issue
Please consider becoming a
donor member*

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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.