New Culvert

The water was raging through the culvert where Cranberry Road crosses Sawmill Creek at the Stream Study class site. The whitewater was so enticing that a few of the seasonal naturalists couldn’t resist body surfing through the culvert. In the process a newly acquired wedding band slipped unnoticed from a finger.

Two months later, students in mud boots are wading in the shallow water probing with nets in the now benign creek. They are searching for aquatic organisms as one aspect of their investigation to determine stream health. While walking through the relatively dry culvert a student picked a golden band from between the corrugations of the culvert bottom.

“It’s over the culvert top and rising,” came the report. Sawmill Creek eventually crested out about 2 feet over the culvert and below the road surface. All vehicles had been safely moved from the ridge top to the gravel pit/bus parking area. It wouldn’t have been a surprise if the creek had washed out the road cutting off access to the main Wolf Ridge campus. These three snapshots of the Sawmill Creek area along with observations by Al Anderson, Finland Fisheries Supervisor resulted in the replacement and habitat restoration of Cranberry Road culvert at Sawmill Creek.

This August, the Sawmill Creek Fish Passageway Project, as the culvert replacement was officially called, took place. Two steel culverts where replaced with one large concrete box culvert. The new box culvert was placed lower than the stream bottom then covered with native substrate. The continuous natural gravel/rock bottom allows for free upstream movement of fish and other organisms in all water levels and opens up 3.14 miles of stream and 372 acres of wetland. Since Sawmill Creek is a designated trout stream this is extremely important for allowing access to spawning grounds and deep water wintering pools. The old steel culvert contributed to a certain amount of erosion of the creek banks. The new culvert is larger and will not become a “velocity barrier” during heavy rain flows thus reducing erosion and stream sedimentation, which is detrimental to fish spawning.

An amazing amount of individuals and agencies worked together to make the Sawmill Creek Fish Passageway Project a success. "The culvert replacement on Sawmill Creek is a perfect example of

continued on page 3
While it may take a whole village to raise a child, at Wolf Ridge we are raising an environmentally informed citizenry—and that takes including more than just the middle school children that hundreds of school teachers work so hard to bring to Wolf Ridge each year. We continue to develop and enhance our programs for all ages but several efforts, some new, are serving the often under-served audiences in the field of environmental education, high schoolers, preschoolers, grandparents, educators and other adults.

High school students are one of the most underserved populations in the field of environmental education. In 2008, Wolf Ridge offered our first four-week summer science credit camp which met with great success and has continued to the present. With this financial support from donors we soon thereafter brought in a program to two Minneapolis high schools. A similar program was initiated this summer with Murray Junior High in St. Paul. An article on page 8 of this Almanac highlights the program. In these schools, Wolf Ridge is now teaching through environmental inquiry and immersion. Thank you to the Lloyd K Johnson, Medtronic, Leuthold Family, Prospect Creek, Boston Scientific and Cliffs Foundations, the U.S. Forest Service, the MN Office of Higher Education and Get Ready for joining us this past summer to create life changing experiences for dozens of students who earned a year of high school science credit at Wolf Ridge.

Many young people grow their outdoor ethic in the shadow of a parent or grandparent. The act of bonding between children and parents, while outdoors on an adventure is an investment in lifelong memories. It needs to begin at a very early age. The addition of preschooler environmental education curriculum dates back many years at Wolf Ridge yet remains an integral part of our all-inclusive family education vacation. These family experiences not only educate but they inspire a child with a role model to follow.

For the grandparents that attend our Grandparent Grand Child Adventure, in partnership with the Road Scholar organization, the value is often quite clear: a generation inexplicably linked to the outside world, striving to pass an environmental ethic to a generation that is challenged by lack of connection. The families become connected to nature and each other with tools such as a compass, tree ID book or a tracking guide instead of cell phones and computers. It’s also clear that doing the rope course with your grandchild elevates you to the status of “ultra super cool” grandma.

When Wolf Ridge has been educating the educators for decades in our naturalist training program, we have begun to reach further to bring environmental education skills and knowledge to formal classrooms and other educational settings. An on-going series for adulting the knowledge and skills for educators - Increasing Great Lakes Literacy Among Educators was rolled out last year at Wolf Ridge. The coming school year will continue this series, in partnership with several organizations, as part of the Science Institute for Educators. These opportunities provide training for local educators, from both formal and non-formal education settings, to learn from area researchers and scientists. This effort occurs because of the financial support of the MN DNR Lake Superior Coastal Program and the Leave No Trace Center for Outdoor Ethics. Participants learn how to minimize their impact while camping, paddling or hiking. And, finally our staff this summer worked with the Institute of Bird Populations to conduct three sessions of an Advanced Bird Banding workshop. Read more about these courses on page 9.

Wolf Ridge is more important than ever because, no matter the age, the experience helps rekindle our relationship with the natural world. The learning experiences here help build an environmentally literate citizenry across the entire spectrum of the “village,” sharing the passion and information needed to translate fundamental environmental principles into environmentally responsible decisions made in our homes and communities.

New Culvert continued from page 1

Students that come to Wolf Ridge and participate in Stream Study and Fisheries Management classes will continue to monitor the many different species of creatures that call Sawmill Creek home. The new concrete box culvert will also serve as an educational site not only for the 1800 students that annually take Stream Study but also for the hundreds of trout stream road crossings needing to be replaced throughout Lake County and Minnesota. An interpretive sign will help document the value of the improvements.

To the betterment of the environment, no longer will Sawmill Creek culvert be body surfing central at Wolf Ridge. It will, however, continue to be a place where students can participate in citizen science and learn about our effects upon the land.

WOLF RIDGE CALENDAR 2014

The 2014 Wolf Ridge calendar features the North Shore photography of Paul Sundberg. He has been taking photos since the early 1970’s. He purchased his first 35 mm SLR camera while serving in the military at Fort Bliss, Texas. For 28 years Paul worked as the manager of Goosberry Falls State Park before retiring in 2010. Paul and his wife currently reside outside of Grand Marais where Paul continues his passion for photographing Lake Superior and The Boundary Waters Canoe Area Wilderness. You can contact Paul’s work on his website, PaulSundbergPhotography.com. Calendars are available 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 for more information and to order.
What is your connection to Wolf Ridge ELC? I spent two wonderful years at Wolf Ridge from 2003-2005 as a 1st and 2nd year naturalist. The two years that I spent here taught me so much about teaching and learning – especially in an outdoor classroom – that it has become my passion and I have been working in residential environmental education ever since. I spent 3 years working in the Oregon Museum of Science and Industry (OMSI) as a coordinator for the Marine Science Outdoor School. I got to explore all up and down the West Coast from Monterey Bay and the Redwoods to the San Juan Islands in Washington. I then spent 5 years working for NatureBridge in Olympic National Park in Washington. NatureBridge is a nonprofit partner of the National Park service that provides schools and families with residential field science experiences. It was always a life goal of mine to work in a National Park!

Tell us about yourself. In moving here, I first drove a U-Haul with a 26-foot sailboat attached across the country over two big mountain ranges! I feel quite proud that we made it in one piece without any major (or minor) incidents. I am married to a lovely man, Randall, who is originally from Kansas. He has done a lot of traveling and even lived in Fiji for 2.5 years in the Peace Corps. Most recently he has been working for a marine life center in Port Angeles, Washington. While he has visited Minnesota, he has never lived here and I am excited to share the North Shore with him in all seasons. We have two big, happy dogs – Stuka, a shepherd/chron mix and Skuna, a newfoundlab mix. In my free time I like to be on or near water. You might find me hiking or on our sailboat. I also love to read and share meals with friends and family. Most recently I have delved into cheese making which is so much fun and very satisfying when you take your first bite and think – I made this!

What book would you recommend others read. Switch by Chip and Dan Heath. It is a great book on change.

If you could visit with any conservationist/naturalist/environmentalist, living or dead, who would it be and what would you say? I went to Guyana for graduate school two summers ago and met an Amerindian woman who grew up and still lives on the edge of the tropical rainforest and the grass savannah. She has such an interesting worldview and knows so much about her local ecosystem and community’s culture. I would love to go back and spend a few weeks just getting to know her and learning all that she knows about the plants in the area and their uses as well as try to understand the unique relationship that she has with the place that she lives.

If you could visit with any conservationist/naturalist/environmentalist, living or dead, who would it be and what would you say?

What is your favorite place at Wolf Ridge and why? Wolf Lake. I love being out in a canoe on the water. You never know what you might see and it is always so peaceful.
**“2013 - Best Summer Ever”**
by Mary Beth Factor, Wolf Ridge Naturalist

Leaving to fish? Check. Love archery and hunting? Check. Interested in gaining academic credits while NOT in a classroom? Check. This past summer all these opportunities could be fulfilled at Wolf Ridge.

Summer camp at Wolf Ridge is gaining more popularity and the interest for diverse types of camp programs is increasing. Wolf Ridge heard the call and three new camps made their debut this summer - Camp Fish, Angling to Archery, and an academic camp for the students of Murray Jr. High of St. Paul, MN called Ecology Inquiry Immersion (EI).

With nine boys in attendance for the first Camp Fish during mid-July, and seven girls from the Boys and Girls Club of St. Paul, MN a week later, the debut was successful. Focusing on the techniques of fishing, testing the quality of lakes and streams, and a hands-on experience with the different species that roam not only Wolf Ridge’s water ways, but Superior National Forest as well, this camp was jammed packed with a plethora of experiences to take home. Midweek, the campers were exposed to a two-night camping trip on Lake 29 of Superior National Forest, where they only put their skills to the test, but learned to filet their catch as well. One quote from a parent states, “My son feels more confident to filet their catch as well. One quote from a parent states, “My son feels more confident

Angling to Archery also caused quite a stir among participants. Murray Jr. High’s stay at Wolf Ridge was the climax of that year-long elective. The students focused on forestry management as a basis for their research projects. Teachers at Wolf Ridge exposed them to topics varying from small mammals to bird research to forest ecology, providing them with inspiration to create a capstone project. The night before departing, students presented their projects to a forum of people, stating their methods, data, and conclusions. It was quite a feat for many of them! All in all, the students took away more than they expected. A student commented, “Coming to Wolf Ridge is a great program... the thing you would get out of it would be credits for high school, courage, friends, knowledge, and many dreams you want to achieve and make happen.”

Between all of the camps and programs offered at Wolf Ridge, countless campers and students walked away with memories to savor. As one student states, “2013 - Best summer ever!”

---

**Leave No Trace**
by David Butcher, Wolf Ridge Naturalist

Every day, more and more people are getting out and enjoying natural places, from state parks and waterways to national monuments and parks. The National Park Service reported just fewer than 283 million visits last year. Visitation in the Superior National Forest near Wolf Ridge continues to hover in the hundreds of thousands annually. As use of natural areas increases, so does the need for education on land preservation and outdoor ethics. Since its inception, Wolf Ridge taught about the value and importance of outdoor spaces. This August Wolf Ridge continued that mission by collaborating with the National Outdoor Leadership School (NOLS) and the Leave No Trace Center for Outdoor Ethics (LNT) to host a Leave No Trace Master Educator Course.

The Master Educator course is the highest level of leave no trace training offered and when NOLS representatives approached Wolf Ridge about hosting a course we jumped at the opportunity. The course attracted people from different backgrounds and places. Some of the participants’ backgrounds included Boy Scout troop leaders and administrators, an outdoor recreation specialist from North Tennessee Community College, and a few alums of past NOLS courses. Though the participants’ backgrounds were unique from each other, they all had a unifying passion for taking care of natural places and protecting them for future generations.

The course lasted for five days and focused on the specifics of teaching the seven principles of Leave No Trace outdoor ethics. Some examples being traveling and camping on durable surfaces, minimizing campfire impacts, respecting wildlife, and disposing of human waste properly. All the master educator candidates got the chance to teach on an aspect of each principle. The week also included multiple hikes in the surrounding area, observing trail building techniques, evaluating human impacts at campsites, and even breaking down a couple of makeshift campfire rings along the way.

Overall the course was a great success and course participants came away with a greater knowledge of outdoor ethics as well as the qualification to teach advanced LNT workshops. Wolf Ridge is dedicated to continuing with its LNT practices, now has its own LNT Master Educator, and is excited about the collaboration with NOLS and LNT for this coming summer when the next master educator course returns to Wolf Ridge!

---

**Advanced Bird Class**
by Lori Walewski, Wolf Ridge Naturalist

This summer Wolf Ridge hosted three sessions of the Advanced Bird BANDING Class, offered by the Institute for Bird Populations (IBP). The four-day class is designed for experienced bird banders wishing to improve their banding knowledge. Mornings were spent hands-on with live birds refining sexing and aging skills, advancing comprehension of molt strategies, and understanding and identifying the differences between specific adult age classes while using the Identification Guide to North American Birds by Peter Pyle. Afternoon lectures covered details of feather morphology, plumages and molt limits as well as the roll of banding in research and monitoring. The classes were tailored to the skill level of participants.

All three sessions of the class filled to capacity. Positive comments about the class abounded. “I gained so much from the course and expect as I continue to band and exercise what I have learned. Pieces of the puzzle will make sense.” “The course was excellent. Worked a lot on molts and the progression from hatching to ASY. That’s what I needed.” “I feel more competent in my banding knowledge.” “Would enroll again in a heartbeat, just to reinforce valuable lessons.”

Look for more classes of this nature to be offered at Wolf Ridge!
Upcoming Programs

Visit our website at www.wolf-ridge.org to learn more about these and other Wolf Ridge programs.

Winter Family Vacation
Dec 27, 2013-Jan 1, 2014
Fee: $325 adult to 5yrs, $162.50 4-2yrs, under 2 free.
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.

Winter Camp
(4-10th grade)
Dec 27-31, 2013
Fee: $360 includes round trip Wolf Ridge bus service from Twin Cities or Duluth. Have you ever wondered what happens at Wolf Ridge during the winter? Experience your best 5 days of the year. Learn how to keep warm outside while skiing, snowshoeing, building snow sculptures and dogsledding. Share new adventures with old and new camp friends.

Donor Member Candlelight Ski & Snowshoe Weekend
Feb 7-9, 2014
Fee: Members $85 adult to 5yrs, $42.50 4-2yrs. Non-members $130 adult to 5 yrs, $65 4-2 yrs
Under 2 free.
Imagine exploring the Wolf Lake area on snowshoes by day, investigating a beaver lodge beneath Mystical Mountain and then relaxing in the East Dorm. After dinner swoodch along the luminary lined ski trails of Raven Lake. Winding your way through the woods you hear the hoot of an owl. Back at the chalet share snacks and laughs with friends. Join us.

2014 Summer Programs for Everyone
Day Camp: (1st-7th gr) June 23-27
Summer Sampler: (2nd-5th gr) June 25-28, Aug 13-16
Canoe the BWCAW: Adventurers: (8th-9th gr) July 13-26
Backpack Isle Royale, Adventurers: (8th-9th gr) July 20-Aug 2
Canoe the Quetico, Jr. Naturalists: (4th-12th gr) July 13-26
Kayak the Apostle Islands, Jr. Naturalists: (10th-12th gr) Aug 3-16
Outdoor Explorers: Angling to Archery: (6th-7th gr) Aug 10-16
Camp Fish: (7th-8th gr) July 13-19
Canoe the BWCAW: (7th-8th gr) July 6-12
Kayak the Apostle Islands: (9th-10th gr) July 27-Aug 2
Grand Portage Expedition: (10th-12th gr) Aug 3-16
Ecology Credit Camp: (10th-12th gr) July 13-Aug 9
Family Camp: July 27-Aug 2, Aug 3-9
Road Scholar Intergenerational: July 6-11, July 20-25, Aug 10-15
Family & Group Trips: Call Wolf Ridge to arrange your canoe, hiking or kayaking trip

2014 Donor Memberships

WOLF RIDGE ENVIRONMENTAL LEARNING CENTER
6282 Cranberry Rd
Finland, MN 55603

For more information about Wolf Ridge programs:
1-800-523-2733 (WI, MN, ND)
or
218-353-7414
www.wolf-ridge.org

Winter Camp
Dec 27-31, 2013
(4-10th grade)
Fee: $360 includes round trip Wolf Ridge bus service from Twin Cities or Duluth. Have you ever wondered what happens at Wolf Ridge during the winter? Experience your best 5 days of the year. Learn how to keep warm outside while skiing, snowshoeing, building snow sculptures and dogsledding. Share new adventures with old and new camp friends.

2014 Summer Programs for Everyone
Day Camp: (1st-7th gr) June 23-27
Summer Sampler: (2nd-5th gr) June 25-28, Aug 13-16
Canoe the BWCAW, Adventurers: (8th-9th gr) July 13-26
Backpack Isle Royale, Adventurers: (8th-9th gr) July 20-Aug 2
Canoe the Quetico, Jr. Naturalists: (4th-12th gr) July 13-26
Kayak the Apostle Islands, Jr. Naturalists: (10th-12th gr) Aug 3-16
Outdoor Explorers: Angling to Archery: (6th-7th gr) Aug 10-16
Camp Fish: (7th-8th gr) July 13-19
Canoe the BWCAW: (7th-8th gr) July 6-12
Kayak the Apostle Islands: (9th-10th gr) July 27-Aug 2
Grand Portage Expedition: (10th-12th gr) Aug 3-16
Ecology Credit Camp: (10th-12th gr) July 13-Aug 9
Family Camp: July 27-Aug 2, Aug 3-9
Road Scholar Intergenerational: July 6-11, July 20-25, Aug 10-15
Family & Group Trips: Call Wolf Ridge to arrange your canoe, hiking or kayaking trip

Donor Member Candlelight Ski & Snowshoe Weekend
Feb 7-9, 2014
Fee: Members $85 adult to 5yrs, $42.50 4-2yrs. Non-members $130 adult to 5 yrs, $65 4-2 yrs
Under 2 free.
Imagine exploring the Wolf Lake area on snowshoes by day, investigating a beaver lodge beneath Mystical Mountain and then relaxing in the East Dorm. After dinner swoodch along the luminary lined ski trails of Raven Lake. Winding your way through the woods you hear the hoot of an owl. Back at the chalet share snacks and laughs with friends. Join us.

Wolf Ridge FUNdraising Event
December 6, 2013
6:00-9:00 pm
at the Great Lakes Aquarium, Duluth, MN
Tickets are $35 in advance ($45 at the door)
Join us in this tasty event to raise money for the Wolf Ridge School Scholarship Fund and the general operation of Wolf Ridge. Last year’s event raised over $42,000 and was a key source of the more than $38,000 we gave away in school scholarship support.
The hors d’oeuvres will be provided by Splashing Rock Restaurant, Fitger’s Brewhouse, Carmody’s Irish Brewpub and the Canal Park Brewing Company will supply us with a bevy of brews to sample. Once again expect some great live jazz. The raffle boxes are back along with the silent and live auctions, which featured all kinds of great getaways and outdoor gear.

Tickets are available online at www.wolf-ridge.org or by calling the Wolf Ridge office.

Shop on-line at the Wolf Ridge store: www.wolf-ridge.org

Wolf Ridge FUNdraising Event
December 6, 2013
6:00-9:00 pm
at the Great Lakes Aquarium, Duluth, MN
Tickets are $35 in advance ($45 at the door)
Join us in this tasty event to raise money for the Wolf Ridge School Scholarship Fund and the general operation of Wolf Ridge. Last year’s event raised over $42,000 and was a key source of the more than $38,000 we gave away in school scholarship support.
The hors d’oeuvres will be provided by Splashing Rock Restaurant, Fitger’s Brewhouse, Carmody’s Irish Brewpub and the Canal Park Brewing Company will supply us with a bevy of brews to sample. Once again expect some great live jazz. The raffle boxes are back along with the silent and live auctions, which featured all kinds of great getaways and outdoor gear.

Tickets are available online at www.wolf-ridge.org or by calling the Wolf Ridge office.
In This Issue:

New Culvert
1 & 3

View from the Ridge
2 & 3

2014 Wolf Ridge Calendar
3

Wolf Ridge Donor Members
4 & 5

Profile:
Shannon Walz
6

Welcome Season Staff 2013-14
7

Wolf Ridge Staff Update
7

“2013 - Best Summer Ever
8

Leave No Trace
9

Advanced Bird Class
9

Upcoming Programs
10 & 11

Wolf Ridge thanks these generous donors:

- Margaret D. Anderson - $10,000
- Martha & Bruce Atwater - $1,000
- Blue Cross & Blue Shield of MN - $8,000
- Ann ffolliott - $2,508.34
- Kirk & Kelly Geadelmann - $1,000
- Steven & PJ Harris - $1,050
- Lavonne Michaud - $1,000
- Shakopee Mdewankanton Sioux Cmty, Mdewankanton LIFE Program - 2 AEDs & wall cabinets
- Organic Consumers Association - $10,000
- St Anthony Park Cmty Foundation - $6,000
- The Minneapolis Foundation - $5,000
- MN Dept of Agriculture - $50,000

Wolf Ridge offered Fish Camp for the first time this summer. It was clearly a success.

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.