

[View this email in your browser](#)



AN EARLY GLIMPSE OF WINTER

WHAT A VIEW!! A few weeks ago as James was trying out our new drone purchased with funds from the Grand Traverse Regional Community Foundation, a morning blanket of snow created a wonderland to photograph at GRNA. Look at how the Grass River Center stands out against the snow and how beautiful the river is in late autumn light. A few days earlier, James captured autumn in all its glory. In every season, GRNA is glorious!



This new drone allows us to photograph and video GRNA from unique vantage points, and it may even let us sneak a peek at our shy otters.



The staff at Grass River Natural Area wants to remind you during this season of giving thanks that we are thankful for you every day. Our volunteers give selflessly all year and make GRNA a welcoming place for everyone who visits. And our program participants and day visitors make it possible for us to fulfill the part of our mission *to increase knowledge, appreciation, and community-wide stewardship of the natural environment*. We are thankful to be able to provide that opportunity in such a magical place.

We wish all of you a Happy Thanksgiving!

Our trails will be open from dawn to dusk as usual on Thanksgiving Day.

But the Grass River Center will be closed
so that our staff can enjoy the day with their families

UNDER A BLANKET OF SNOW

by

Arlene Westhoven

GRNA naturalist

*Wee mouse, tiny seed
Under a blanket of snow
Await spring's thawing.*

For most of us here in the north, snow means shoveling, plowing, slipping, frostbite, and the end of warmer weather. Many of us humans, like some migrating birds, travel to warmer climates during the winter to escape the snow.

Here at Grass River Natural Area, we look at the snow a bit differently. We enjoy snowshoeing, cross-country skiing, and a week of winter camp for kids. But the miracle of snow

here at Grass River is that it is necessary for the survival of the organisms that live here through the winter season.



The study of the subnivean (beneath the snow) environment is an important component of winter ecology. Snow is nature's igloo. We learned this from our brothers in the far north, who learned it from the organisms around them. Snow is an excellent insulator, and both plants and animals benefit from it.

The area under the snow becomes an 'igloo' for animals because their body heat combined with the residual heat from the ground forms an ice crust on the underside and light fluffy snow acts as the roof.

The Inuit of Northern Alaska, Northern Canada, and Greenland have terms for the different types of snow that protect mammals and birds.

PUKAK, the layer at the bottom of the snowbank, is critical for small mammals, like mice, that don't migrate. They spend their winters under the snow and travel in snow tunnels hidden from predators. Owls, predators that don't depend on sight, can hear the movement of mice under their snow cover as they hunt.



QALI snow collects on the branches of trees and creates a shelter for birds such as the Golden-Crowned Kinglets, who can huddle under QALI on conifer branches.

QAMANIQ leaves hollows as it drifts around the bases of trees. It offers shelters to birds like Ruffed Grouse and to mammals like Snowshoe Hares.

Winter winds may eventually compact snow into a crusty surface, **UPSİK**, that offers a hard surface for animals like deer to move without wading through deep snow.

As spring arrives, it brings **SIQQQTOAQ**, 'the sun crust' - a surface layer of snow that melts by day and freezes at night. Microbes called "snow algae" bloom bright red and green as they come out of dormancy.*

Biennial and perennial plants also benefit from a blanket of snow that covers them throughout the cold of the winter. It protects them from wind and its drying effects. In most cases, the

surface leaves die down on plants, leaving the crown and the roots. If the ground is barren during very cold weather, the plant freezes or winter burns. A layer of snow acts as insulation, forming a 'plant igloo'. Plants such as primroses retain a rosette of leaves under the snow. They are ready to photosynthesize as soon as there is enough light or warmth. That's why we even see primroses blooming in the snow. In fact, the name primrose comes from the Latin *prima rosa*, the first rose.



Plants that grow from bulbs exhibit an added strategy. The bulbs are deep enough that it is less likely that the soil will freeze. In very cold areas, however, it is suggested that bulbs be mulched or covered with a layer of loose organic material such as leaves. Fluffy snow does the same thing, and when the snow melts it starts the growth of the shoot. You will see Spring Beauties blooming in snow patches. Ramps (at left) or wild leeks grow from bulbs, and their slender, paired leaves appear early, just after the snow melts.

Annuals produce seeds that become dormant during winter, and a blanket of snow helps to ensure those seeds will germinate in the spring. They are protected by a hard shell and can survive under the snow. As the snow melts in the spring, the water induces growth in the seeds. A wildflower mix can be sown in the fall and the seeds will overwinter under the snow covering.

"The champion of snow adaptation is the Skunk Cabbage. The plant grows in habitats with rich, wet soils. Poking up through the snow, the Skunk Cabbage plant has a dark crimson hood called a spathe. This surrounds the flower which resembles a knobby club. Seeing the dark color of the plant, one assumes that it has absorbed the heat from the sun and melted the snow around it. Not so! The surprising thing is that Skunk Cabbage is its own furnace. It increases its metabolism or digestion of stored starch to produce heat. A field study conducted in March found that when the air temperature was 37 degrees, the temperature inside the spathe was 61 degrees, warm enough to begin the production of pollen. This not only gives the plant a head start but also a source of pollen for very early pollinators."

** It's "Blooming Heat", indeed!



*(Pauli, J. and Zuckerberg, B., National Science Foundation, 2016)

** (Caduto, M. "The Outside Story" 10 March 2014)

*See winter's wonders
Under a blanket of snow
At GRNA!*

The opening and closing poems in this article are called Haikus, and they are written by our multi-talented Arlene. A Haiku is of Japanese origin and is always three lines long. The first line is comprised of five syllables, the second line has seven syllables, and the closing line has five syllables. They are fun to write. Try writing your own Haiku about winter or snow and tag us on [Facebook](#) at @GrassRiverNaturalArea just for fun.

GRNA 2021 PHOTO CONTEST NOW OPEN FOR SUBMISSIONS



2020 Judges' Choice Award
by Mark Harder

If you took photos on a visit to GRNA in the past year, and you think they should be recognized for an award, or you just want to share them with the GRNA community, now is your chance. The 2021 photo contest is now taking submissions. Here is what you need to know.

Photo Contest Guidelines:

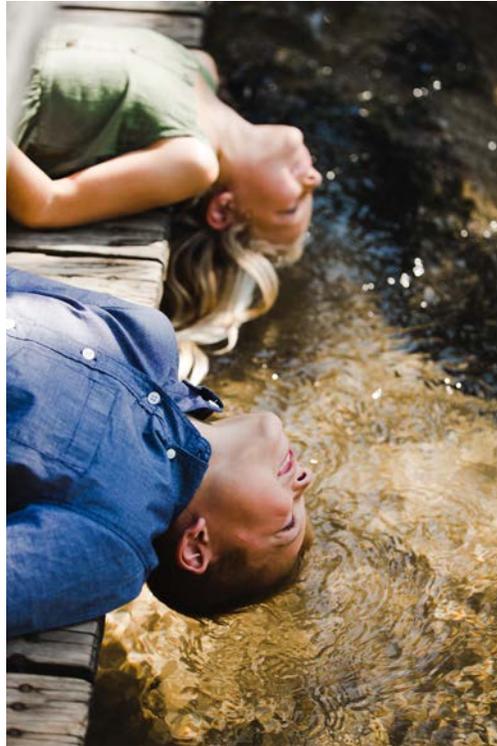
1. Submit your photos [online](#) no later than **Sunday, December 19, 2021**.
2. One person may enter up to 3 photographs.
3. Photos must be taken in the Grass River Natural Area or on the Grass River.
4. Photographs may be used by GRNA, Inc. in online and print materials. The staff makes a point of using many of these photos in promotional materials over the coming year.
5. Judging will be done by a panel of judges, as well as a public vote through "likes" on the GRNA Facebook page.

6. Winners will be announced at the **Grass River Center** at a later date. Participants do not have to be present to win.

The **Winning Photographers** will be awarded:

1. A printed photo on display at the Grass River Center.
2. A Grass River Care Package from the Grass River Gift Shop.

Questions? Contact James Dake at james@grassriver.org.



2020 People's Choice Award
by Allison Ferris

Looking forward to the 2022 contest

As you prepare for taking photographs in 2022, we want to let you know we will be having seasonal winners as well as yearly winners. Please get out on the trails every season and send us your entries. Details will be found in future newsletters and on our website after the 2021 contest is complete. We look forward to seeing more of GRNA's magic and beauty in every season!

We look forward to receiving your 2021 entries soon!

 **WE ARE PUTTING OUR
"STAMP" OF APPROVAL
ON *GIVING TUESDAY*
NOVEMBER 30, 2021**



We are asking for something very different for Giving Tuesday this year. The postal service recently issued books of stamps featuring Otters in Snow pictures. With the otter featuring prominently in the branding of GRNA, we would like to use these stamps for as many of our mailings as we can for as long as we can. We spend upwards of \$500 on stamps every year, and one book of stamps is \$11.60. Please buy us one or more books of otter stamps this Giving Tuesday. You may purchase the stamps and drop them off at the Grass River Center or

at our business offices on the second floor of the Antrim County building. Or you can go [online to make a donation](#) towards the purchase of these iconic stamps.

WCMU is providing another way for you to demonstrate your stamp of approval for GRNA. "This GivingTuesday, WCMU Public Media wants to hear about and celebrate other charitable organizations based in the WCMU coverage area. Listeners that donate to WCMU Public Media on GivingTuesday will be able to nominate and "vote" for their favorite area non-profit organization – and the winning organizations will receive radio airtime valued at \$3,000 for first place, \$2,000 for second place, and \$1,000 for third place. The organizations will be able to note the important work they do. Donations will be accepted on November 30 by calling 800-999-5656 or giving online at [WCMU.org/GivingTuesday](https://www.wcmu.org/GivingTuesday)." You could double your Giving Tuesday gift this year - a donation to WCMU now that may result in a substantial gift to GRNA in the coming year! It's a win/win!

PROGRAMS ON THE HORIZON

Be sure to visit the Grass River Natural Area Gift Shop at the Grass River Center this holiday season! We have books, puzzles, games, stocking stuffers,

shirts, and more! And we can guarantee the crowds will be smaller on **Black Friday!**



Holiday Crafts for Families

Saturday, Dec 11

10:00 am - 12:00 pm,

\$5 for kids' crafts, \$10 for wreath making, or \$15 for both

Join us for a crafting day to get in the holiday spirit! Activities will include wreath making and decorating for the older kids and adults, as well as a bevy of nature crafts for younger kids. We will have hot cocoa and hot spiced cider to warm you while you create.

This will be an indoor activity and masks will be required.



Winter Day Camp

Tuesday, December 28 - Thursday, December 30

9:30 am to 3:00 pm

\$120 per camper for full 3 days

Ages 7 to 12, limited space

Must pre-register!

Grass River Natural Area is hosting a 3-day winter camp for children 7 to 12 years old. Your children can spend their winter break building a snow shelter, tracking animals along the boardwalks, building a campfire, or enjoying the view along Grass River - perfect for the child that loves the outdoors in winter. [Register here.](#)

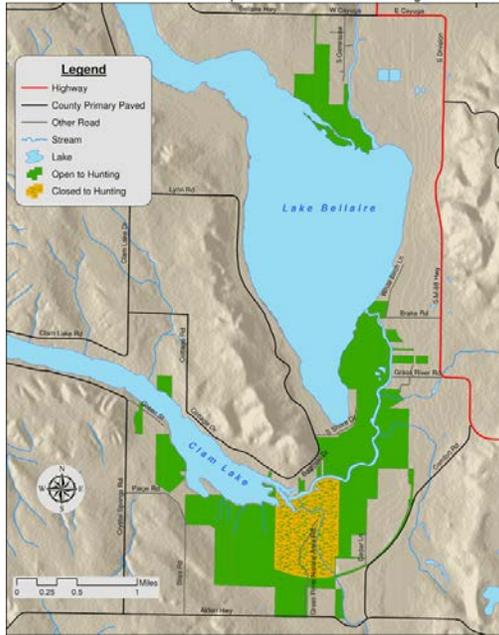
GRASS RIVER CENTER HOURS NOVEMBER AND DECEMBER 2021

Open Thursdays through Sunday from 10:00 am - 4:00 pm
Closed Thanksgiving Day, Christmas Day, and New Year's Eve
Open New Year's Day

Winter hours will be 10:00 am - 4:00 pm, Saturdays and Sundays beginning January 1, 2022

REMINDER
HUNTING SEASON IS HERE
TAKE CARE AND PLEASE OBSERVE THE RULES

GRNA - Areas Open/Closed to Hunting



Many people enjoy hunting in the undisturbed areas in the Grass River Natural Area, and we welcome hunters as long as they observe the regulations set out by Antrim County.

Antrim County Ordinance Section 13, #1 of 1988 allows hunting on Grass River Natural Area property outside of the “Education Zone” during appropriate hunting seasons.

The Education Zone is shown in yellow on the map. An enlarged version can be viewed by [clicking here](#).

Please be considerate of the boundaries, as we educate the public in the Education Zone year-round. If these guidelines are not followed, hunting poses a risk to the public and our staff.

Also, please take care to stay off neighboring properties and observe a safe distance from permanent structures along GRNA's boundary.

If you are hiking at GRNA this fall, we ask that you consider wearing hunter orange, even when walking in the Education Zone, to make yourself highly visible.

GET READY FOR COLD TEMPERATURES

Purchase a shirt or hat for yourself or as a gift and GRNA benefits



Choose from any of the logos featured above, printed on a variety of styles, colors, & sizes from youth to adult. Order online by clicking on this box. A portion of the sale comes back to GRNA as a donation.

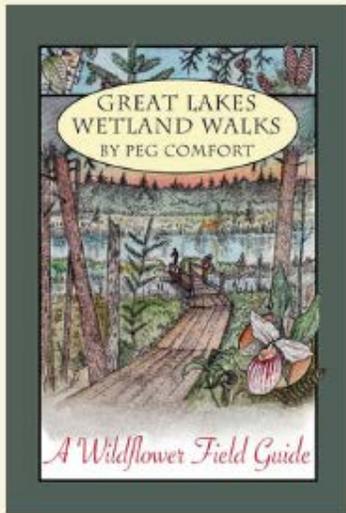
**The 2nd Edition of
Grass River Natural Area's
FIELD GUIDE
to Northwest Michigan
is now available.**



This guide is written and compiled by GRNA Education Director James Dake. It features several new and expanded sections and a new Foreword by Executive Director Jenn Wright.

Cost is \$18.87 plus tax

Order online by clicking on this box or available at the Grass River Center Gift Shop



**This beautiful and
informative book
is available online and in the
Grass River Center Gift Shop.**

**It is perfect for hikers, gardeners, and
nature enthusiasts.
Artistic illustrations and photographs
add to the book's appeal.**

[Click here to order](#)

Grass River Natural Area is a nonprofit organization that has flourished for fifty-two years because of the generous support of people who value our mission "to manage the Grass River Natural Area, conserve and protect its watershed, and provide opportunities that increase knowledge, appreciation, and community-wide stewardship of the natural environment".

If you believe in our mission and want to help us fulfill it for many years to come, please click on the Donate button below. Your support is greatly appreciated.

DONATE



Copyright © 2019 Grass River Natural Area, All rights reserved.

Our mailing address is:

PO Box 231

Bellaire, MI 49615

Natural area address:

6500 Alden Highway, Bellaire MI 49615

Want to change how you receive these emails?
You can [update your preferences](#) or [unsubscribe from this list](#).

