

## Paradise

By Pamela and Howard Newman, BGWA members

Publisher's Note: This article was originally published in our last edition of 2024. Within that edition, I forgot to include the photo that was provided. Sorry to the Newmans for my mistake. Below is the original article and photo.

A book of verses underneath the bough,
A jug of wine, a loaf of bread, - and thou
Beside me singing in the wilderness Oh, wilderness were Paradise enow!
Verse XII of the Rubayyat of Omar Khayyam



Perhaps it is because Pamela grew-up on a 'Coronation Street' in post-war Manchester, with not a huggable tree in sight, that she has always been passionate about her objective of someday living in rural-land. That dream was finally realised when we entered our Paradise in Grey in 2000.

After having lived and worked in the cities of London (England), Toronto and Mississauga for more than twenty-five years, we started to consider where we might wish to live in our retirement years. Following two years of researching, and refining our requirements to 'interesting vacant land of not more than ten acres', we purchased a plot of 86 acres – with wet-lands, hard-wood lot, bank-barn, creek, etc..

That was thirty-three years ago and we were a lot younger and fitter then. Consequently we were willing and able to take on major projects while still holding full-time jobs down in the city - planting 16,000 white pine and Norway Spruce seedlings (MNR program) - excavating pond - creating extensive trail network - building timber-frame house.

But now that we are 'ancient' (our grandchildren's assessment) the maintenance of the property has become a challenge and we are having to employ assistance and use labour saving, battery-powered, equipment - whatever it takes to extend our living in Paradise.

Would you like to host a member tour of your woodland property?

Contact Jim Coles jcoles@gbtel.ca 519-477-4539

### **Upcoming Board Meetings**

May 13 @ 6 PM

Members Welcome!

Contact secretary@bgwa.ca to confirm format (virtual, in-person, hybrid) and location or zoom link.

Greenleaves is published by Bruce Grey Woodlands Association (BGWA) and distributed to members to provide information, guidance, instruction, ideas and opinions related to trees, woodland ecosystems, forest management, and recreation in forest settings in or relevant to Bruce and Grey counties.

Content of articles is the sole responsibility of the authors and does not necessarily represent the views of BGWA. Images accompanying articles are provided by the author unless indicated otherwise.

BGWA's vision: Promoting healthy forests and ecosystems in Bruce and Grey Counties through education, recreation and sustainable management practices.

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## President's Message

By Jim White

Dear BGWA members

It is hard to write any Winter message without the typical Canadian conversation starter, all about the weather. La Nina delivered! We took advantage of all the snow and cross country skied very regularly. I snowshoed in our woodlot a few times. Each time I was out I was increasingly amazed at the depth of snow. Aside from one fox or coyote track there were no other tracks in the forest. Cutting trees for firewood will have to wait a while before I can walk around without snowshoes. I've included a picture of my bee hives buried in the snow. Great insulation from the cold. My son and I tapped a few maples for syrup making this week. I had to dig about 4 feet of snow off the evaporator and firewood piles before we get started. What a difference from last year.

We held a winter walk in January, led by Kevin Predon, Dufferin County Forest Manager. We had a small group of members in attendance and enjoyed a three-hour hike followed by lunch in Mansfield. There is an article in the body of the newsletter with more details. Lots to learn and discuss along the hike!! Since a group of members that were unable to join us still want to have the experience, we will organize a similar hike in the spring.

It was rewarding to see members at the BGWA's AGM at Grey Roots Museum and Archives. Our guest speaker, Beth Gilhespy took us on a slide tour of the geology of the Niagara Escarpment specifically in the Beaver Valley and Sydenham sections (Owen Sound) with a few side tours. Beth knows the Escarpment and Bruce Trail intimately from her time as CEO of the Escarpment Biosphere Conservancy and then The Bruce Trail Conservancy. Thanks, Beth, for all the work you put in creating and delivering your presentation for us. The photography was excellent. Our audience questions and comments created a venue for a healthy Q&A discussion period at the AGM. Beth also brought an array of fossils from various sections of the escarpment as well as copies of her recent book Walking Through Time.

We have had a couple of changes on our board of directors with the elections from the AGM. First, I would like to thank the outgoing director, Mike McMorris for his contributions to the operation of our association. Mike will continue his involvement with the BGWA as editor for GreenLeaves in 2025. We have new directors joining the board with a purposeful balance between professional forestry training / experience and woodland advocates with a strong interest to contribute and continue to learn, share knowledge and network. Welcome, Becky Bouwmeester and Heather Zurbrigg. Both new directors Becky and Heather have shared a brief bio that you can read in the newsletter. At our first meeting of the newly elected board, I am pleased to announce that our Executive for 2025-6 is comprised of Mike Fry, Secretary, Larry Cluchey, Treasurer, Kevin Predon, Vice President and Jim White as President.

cont'd

### President's Message (cont'd)

Committee chairs for 2025-6 are: Lloyd Holbrook will chair the Events and Education Committee, Jim White will chair the Membership Committee, and Ben Sharpe will chair the Communications Committee. We have a couple of members that have volunteered to join a committee where they can contribute. If you have an interest and would like to sit as an ex-officio on a committee, please let me know or contact the chair directly. We are only as strong as our volunteers. Mike Fry will act as publisher of GreenLeaves in 2025.



Prior to our AGM, Mike Fry and I prepared a brief market research questionnaire to learn more about challenges that our members face with their woodland properties, what topics of interest we should consider in developing learning experiences and opportunities, where members look for information on topics of interest, why members would recommend BGWA to a friend or neighbour, and some relevant demographics. Over the course of 2025 I'll be reporting on insights and perspectives that we learned. First, I would like to express our sincere appreciation to each of you that participated in the survey. We had 30 percent of our membership that engaged and shared feedback. An engaged membership is critical for a healthy association. Ninety-two percent of our members own a forest property. Forty-one percent

of the members own a farm that is associated with forest property. Thirty-four percent of respondents own forest property in Bruce County. 100 percent would recommend the BGWA to a friend or neighbour. More nuggets in future GreenLeaves issues!

Last year we held eight educational events. Depending on the event we had members that had joined us for more than two other events in the year and for some members this was their first experience in participating in an educational event. Based on feedback received the level of satisfaction was consistently high, the event was well organized, informative and they had a chance to ask questions and gained useful information.

The one-day Chainsaw Safety Awareness Course will be offered again this spring. After talking with members, a more advanced two-day Chainsaw Safety Certification Course will be planned for 2025. Thanks to Becky Bouwmeester's initiative we will be offering a <u>Women's Only Chainsaw Safety Awareness Course</u> on April 12<sup>th</sup>. Pre-register for the course is required, please contact either myself or Jim Coles. Our contact info is listed on the last page of GreenLeaves. Spaces are limited.

If it has been a while since you joined us for an event, I encourage you to come and learn and make new friends. Bring a friend and join us for some of the spring events we have planned. Watch our bgwa.ca website and your email for more details.

I trust that you see the thread of the importance of volunteers in my message. Please give it some serious thought and reach out if you have even a small amount of time to volunteer.

I truly hope that you enjoy reading this edition and some memorable pictures of the winter of 2025. Every aspect of this production hinges on the skills and capabilities of volunteers. The number of articles and photographs and variety of topics relies on our local members for contributions. Longer newsletters reflect more contributions received from you, our members. We had several new contributors join the "authors" list last year. Pamela and Howard Newman won the draw for Contributor for GreenLeaves in 2024. They received a copy of the book, Our Green Heart – The Soul and Science of Forests written by Diana Beresford-Kroeger in recognition of their contribution.

We hope you will find time to contribute this year. For our regular contributors – simply thank you for taking the time and energy to share your knowledge and perspectives with us. Please send your contributions to: newsletter@bgwa.ca.

I hope to see many of you out enjoying the learning experiences offered with our BGWA-sponsored events.

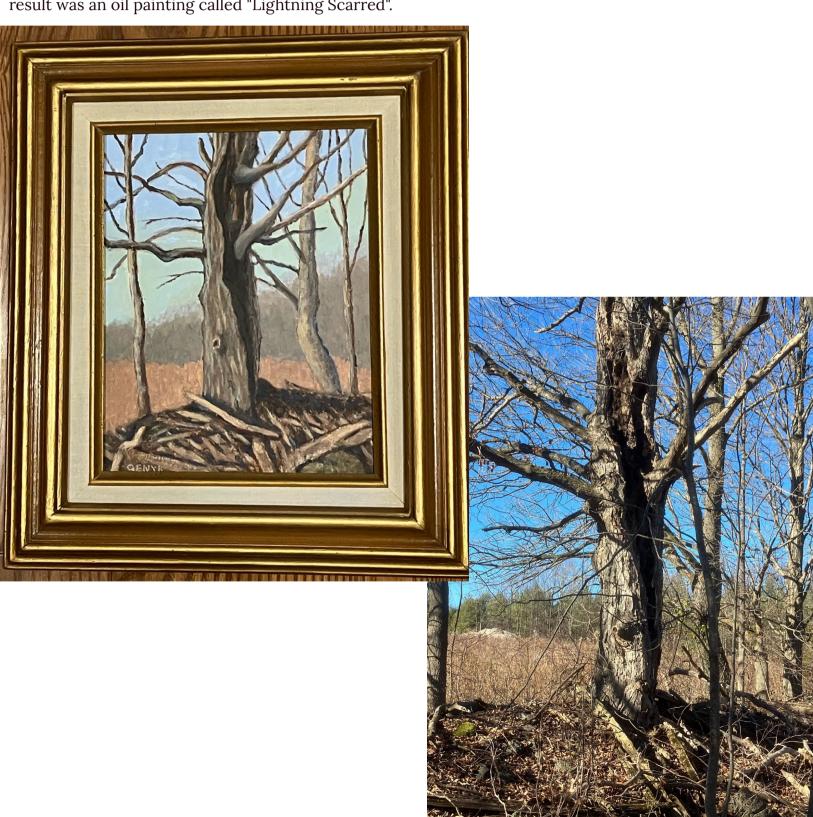
Warm regards, Jim

# Lightning Scarred

By George Genyk, BGWA member

For years I have been watching an old maple tree along the driveway on our 100 acre property in former Bentinck Township, Grey County. Obviously, it had encountered a lightning strike sometime in the past, and the gash has been increasing as the wood is rotting on the inside. We're waiting for a "seed year", as we haven't had one for a number of years, so that this tree, as well as many other maples along the driveway, can help in regeneration.

Last November I decided to paint this tree. Over two afternoons I set my easel up in the driveway. The result was an oil painting called "Lightning Scarred".



## Dendrochronology and Carbon-14

By David Hartley, BGWA member, director

About a 100 years ago, the astronomer A E Douglass, laid the groundwork for the science of dendrochronology, the scientific method of dating tree rings. His analysis attempted to demonstrate that tree growth rings reflect solar activity of the sun. His analysis of this connection, although inconclusive at the time, has now been established.

Tree growth rings are apparent in horizontal cross sections cut through the trunk of a tree. Growth rings are formed annually in the vascular cambium, a layer of cells under the bark. Each ring may exhibit an inner portion, known a "spring wood", formed in the spring when the growth is more rapid and the wood less dense, as well as an outer portion "summer wood" of denser wood formed during the slower growth period of summer into fall. Growth rings are more distinct in trees which grow in temperate zones with pronounced seasonal variation in weather. These trees lay down one ring per year with the youngest ring just under the bark. In addition, the width of each ring reflects the climatic conditions (rainfall, sunshine) of that season. The cross section of the trunk exhibits not only the age of the tree but also a history of the climate at the time. Dendrochronology, therefore, is useful for determining the precise age of sample, but to obtain an exact date, the sample must include the bark which dressed lumber will not provide.

Softwood species in temperate climates clearly display visible tree rings due to the abrupt change of cell wall thickness between the spring and fall wood. In hardwoods, dendrochronologists prefer species with ring porous growth, as the pores in the spring wood are larger than those of the summer wood making the rings easier to see. In this area, ash, elm and oak are examples of ring porous trees. The rings in diffuse porous hardwoods such as birch, cherry, maple and poplar are more difficult to observe. New techniques of preparing the sample with sanding or florescence have enhanced the visibility of the rings with the aid of a microscope. For a thorough discussion of the vascular system and ring porous/diffuse trees please see the article by Jim Coles in the winter 2021 edition of this newsletter (Editor's note - link to newsletter bawa 2021 winter.pdf).

Essential to dendrochronology, trees in the same region develop the same pattern of tree rings, reflecting the local climate. Dendrochronologists match tree ring patterns across successive trees from the same area to build a chronology. In parts of Europe, Great Britain, Japan, the southwestern United States and elsewhere, dendrochronologies have been pieced together extending back thousands of years. To obtain a date of a sample of unknown date, the tree ring pattern can be cross dated by matching it to the chronology.

There are limitations to this science. Primarily, it is only applicable to samples taken from trees which grew in the same climatic zone. In addition, the sample needs to be compared to a chronological record of the same species. Different species may thrive under different environments. Even if the sample to be dated is of the same species and region of the chronological record, it's growth history may differ. A tree starting in an established forest may exhibit narrow growth rings until it breaks through the forest canopy. Conversely, a tree that starts in an open area might exhibit wide rings until the surrounding canopy begins to crowd it. The growth rings of an individual tree may also be altered by disease, insects or storm damage.

### CARBON-14 DATING

Carbon-14 (C-14) is the rarest carbon isotope on earth. It is created through in interaction of cosmic rays with the earth's atmosphere. Cosmic rays are particles formed from stars and black holes from outer space that traverse the universe. Normally, the solar wind emitted by our sun shield and deflect most of the solar radiation from interstellar space. However, cosmic rays do enter the earth's atmosphere daily, creating a very small but fairly constant number of C-14 isotopes which are absorbed by all living organisms at a fairly consistent rate of one part per billion. Trees though are unique in that each annual growth ring has captured the C-14 in the atmosphere in that year and is not affected by the C-14 levels of prior or subsequent years. The ratio of C-12 to C-14 is standard in all living organisms. Whereas C-12 is stable, C-14

### Dendrochronology and Carbon-14 (cont'd)

decays with a half life of 5730 years. Once an organism dies, or in the case of trees in earlier tree rings, the C-14 starts to decay. By measuring the C-12 to C-14 ratio, the age of the sample can be determined, a process known as radiocarbon dating.

So, before 2013, if a wood sample was recovered from an archaeological site where there was no local dendrochronology, it could only be roughly dated with Carbon-14. Some of these limitations have now been overcome.

In 2012, Fusa Miyake, a Japanese doctoral student was studying the C-14 levels in the tree rings of Japanese cedar trees that were 1000 to 2000 years old. Through the use of an accelerator mass spectrometer, she was able to measure the C-14 levels of individual tree rings. She found a marked increase in C-14 in the 774/775CE tree rings.

Upon occasion, cosmic rays are emitted by the sun in great numbers through solar flares and coronal mass ejection resulting in a significant increase in the number of C-14 isotopes created. What Fusa Miyake observed and has subsequently been named for, was a sharply increased level of radiocarbon production caused by a solar eruption event. These "Miyake events" have been confirmed by beryllium-10 and chlorine-36 isotopes measured in glacial cores from Greenland and Antarctica.

Scientists have now confirmed 6 Miyake events have taken place in the years 12450BCE, 7176BCE, 5259BCE, 660BCE, 774-775CE and 993CE. Other events have been proposed and wait confirmation. If a wood sample is recovered from an archaeological site where there was no local dendrochronological reference, it can now be dated if the tree it was alive during a Miyake event. Such a sample has been obtained in Canada.

The remains of a Norse settlement at L'Anse aux Meadows, Newfoundland were discovered in 1960 by Norwegian archaeologists Helge and Anne Stine Ingstad. It was the first definitive evidence of the Viking exploration of eastern North America. The radiocarbon dates from the site placed it between 990 and 1050 CE.

Fortunately, when the site was excavated in the 1960s, much of the wood associated with the dwellings was stored and preserved. In 2021 Margot Kuitems an archaeologist from the University of Groningen studied 4 fir and juniper logs found at the site. These trees had been cut with metal tools consistent with Norse technology. At the time metal tools were not used by the Indigenous people in that area.

The logs which were studied, still had bark which defined when the trees were cut. The rings of these logs were individually analyzed to determine the C-12 to C-14 ratio. Three of the 4 samples had a marked increase in the level of C-14 absorbed during the 993CE cosmic storm. It was then simply a matter of counting the 28 rings to the outer edge to determine the date that the Norse harvested the trees. This firmly established the date of the settlement at 1021CE. The fourth sample tested was less than 28 years of age, so it did not demonstrate the increased level of C-14.

Trees, through their growth rings, are recording and storing not only the local weather and climate but also the history of the sun in the universe. The study of dendrochronology and it's use in dating archaeological sites may yet be in its infancy.

## **Dufferin County Forest Tour**

By Jim White, BGWA member, director

Saturday Jan 18th a group of 7 BGWA members were joined by recently retired Dufferin County Forester, Carolyn Mach at the Dufferin Tract north of Mansfield. The tour was hosted by BGWA Director Kevin Predon the Dufferin County Forester. We have not had a winter tour for a number of years and the

temperature was mild.

The first tract we walked is six hundred hectares. Adjoining tracts, while not completely continuous, cover the sand hills characteristic of Mulmur township and Airport Road. The tour provided us with a number of new experiences. Several of our group donned snowshoes which made trail breaking for the rest of us a simple walk. Our first stop was to see an American Chestnut nursery. The Chestnut whips were protected by a wire cage staked to the group to protect against deer browse, A smaller mesh encircled the bottom of the cage to reduce the threat of rabbits and mice girdling the trees. The trees were sourced from a mix of stock that had been selected for blight resistance and some hybrids. Dufferin County is north of the traditional climatic zone that chestnuts grow. The open area of the nursery is located on the sandy soil which is also host to a healthy poison ivy patch. Snow cover was a welcome ground cover for us.





We passed through a demonstration red pine plantation that has been thinned to varying rates of 50%, 35%, 20% and no treatment. It provided visual proof of the need for thinning to generate a healthy plantation. We moved into an area where the transition from a red pine plantation was almost complete with maple, beech and red oaks were competing with the remaining few pines. The size of these pines made them valuable candidates for utility poles. Further along our walk we crossed into areas where red pine harvests had been conducted every 15-20 years, lots more telephone pole candidates. Patches of 70+ year old white pines were neighbours to red oaks with DBH of 14-20 inches. Eventually we reached a red oak forest that had been marked for harvest a few years prior and was not harvested. Kevin Predon our tour leader discussed possible options for the future of this plot. Next we made a short drive to Little Tract which is 100 acres and is home to a 30 year old planting of American Chestnuts.

### Dufferin County cont'd

These Chestnut trees were about 6" DBH. The Little Tract is being managed for the evolution of an old growth forest. Downed trees and debris are building up as the forest ages past a century. The trail system is well marked and includes name markers identifying the various species. It is a climax hardwood forest. One of our group recognized a species that requires a mature forest habitat, Leatherwood (Dirca palustris).

Against the backdrop of the snow the leatherwood bark has a warm gold colouring. These specimens were knee to head height. On the last half of the hike we crossed through a large grouping of white pines with DBH of about 24". They towered over the maples and oaks. The trail skirted a small wetland announced by the immediate change in tree species that are adapted to wet feet.

Hungry after our 10,000- step hike we reconvened for lunch and conversation at the Noisy River Café in Mansfield.

Thanks to both Carolyn Mach and BGWA Director Kevin Predon for a very informative talk and tour.





## Then and Now

By Pamela and Howard Newman, BGWA member



The best time to plant a tree was twenty years ago.

The second best time is now.

Chinese Proverb

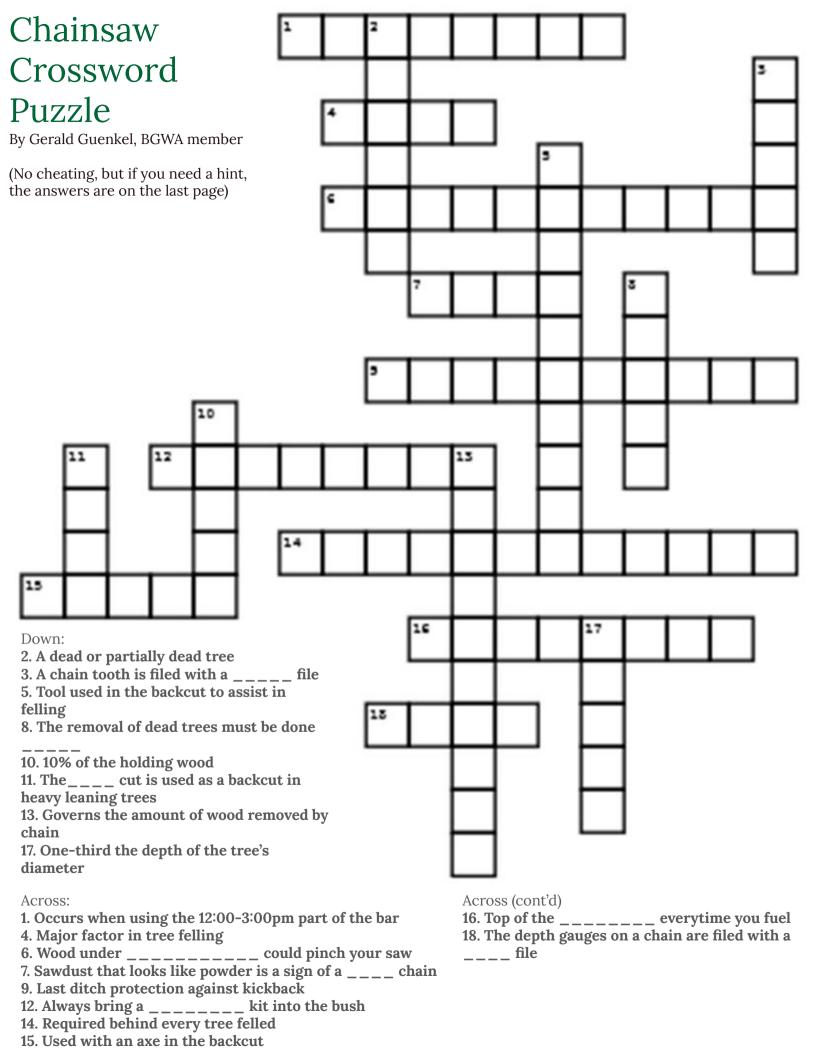
Having rashly purchased eighty-six acres of land in the Spring of ninety-one, we embarked on a program of re-forestation and sought advice from the Ministry of Natural Resources. The subsequent inspection and recommendation resulted in us agreeing to the planting of 16,000 seedlings – 12,000 White Pine and 4,000 Norway Spruce – for a total cost of \$1,616.

But our efforts were not restricted to The Ministry's ten cent per seedling program, which came to an end with our planting in 1992, and we purchased additional seedlings from The Ministry's Midhurst Nursery in each of the next few years.

These additional seedlings, which included White Spruce, Tamarack, Red Oak and White Ash, required planting by hand, and spade, but fortunately we had two sons who had worked for The Ministry in the Junior Ranger Program - now Stewardship Youth Ranger Program.

After thirty years, the barren bank is flourishing and, apart from the ancient maple to the left of the photographs, the landscape is unrecognisable.





## Meet your BGWA Director - Becky Bouwmeester

By Becky Bouwmeester, BGWA member, director

In 2014 my family made the tremendous jump from a semi-rural area outside of Hamilton, Ontario to the very rural area of Williamsford, Ontario.

Moving meant leaving our small, and somewhat dated first home, right into a classic Grey County red brick farmhouse. It came complete with a large barn, room for farm critters and acres for our two young kids to roam. The move was exciting, but leaving my dream job at the time was heart wrenching and difficult. I had spent 5 years working at NVK Nurseries, one of Ontario's largest landscape wholesalers, with some of the most amazingly wonderful and knowledgeable people, and not to mention, the most stunning plants and massive selection of trees. I questioned whether making the move was the right choice for me

professionally at the time.

Fast forward to the spring of 2015 and I was pining (sorry, bad tree pun) for the landscape and horticulture industry and getting my hands dirty beyond the manure and muck of our farm. I dove back into the land of employment with an opportunity at a local tree nursery where I continued to hone my skills as a horticulture consultant, salesperson and landscape designer. Working with numerous landscapers, I became aware that my skills and borderline obsession for all things green was lending itself to an opportunity. There was a niche to fill consulting to local landscapers who were not as confident and experienced with their tree knowledge & plant material.

A few small consulting and planting jobs turned into a part time small business, which in turn germinated (sorry) into the Williamsford Landscape Co. in 2019. Based out of, you guessed it, Williamsford, I offer design & installation, garden maintenance, garden makeovers and tree & plant consultations. My clientele area encompasses Grey & Bruce... from Durham, all the way to Saugeen Shores, Wiarton and Meaford. Occasionally a few special jobs will take me further North on the Bruce Peninsula or south to the cities.



Being your own boss, especially a female entrepreneur in a typically male dominated industry can be daunting, strenuous and exhausting some days. That being said, there is instant gratification in my line of work creating amazing outdoor spaces, as well as developing relationships with my clients and networking with supportive industry peers. It definitely makes it a labour of love and passion. It has given me confidence in myself, helping me to grow and expand my skill set while enjoying the opportunity to teach and educate employees, friends and clients alike. It has been especially handy in helping me conquer my fear of snakes! Somewhat...

# Meet your BGWA Director - Heather Zurbrigg

By Heather Zurbrigg, BGWA member, director

I grew up in Southwestern Ontario, in Goderich Ontario on a property with a large woodlot. From the beginning of my life, the woods meant a lot to me and it was where I spent much of my childhood. Hiking, cross country skiing and 'helping' the MNR plant trees in the 80's on my childhood property, were all formative and important facets to my youth.



A lot of my job choices in early life were in and around forests. I was a Junior Ranger in Thessalon Ontario as a teenager, and then helped put myself through a plant biology degree at the University of Guelph as a tree planter in Northern BC for three summers.

I started my career at the Ministry of Natural Resources in eastern Ontario as a forest health entomologist, then a species at risk biologist, planning ecologist and a forest health technical specialist. I have now been working at the Forest Gene Conservation Association for 8 years and although I work primarily on tree species recovery, I am also involved in our other program areas such as tree seed collection and management as well as climate change and assisted migration of forest species.

I have moved back to the Lake Huron area closer to where I grew up. I am excited to now be a part of the Bruce Grey Woodlands Association and to explore the woodlands in this area, help as I can, and learn from all of you!

## **BGWA Leadership & Support**

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Mike McMorris newsletter@bgwa.ca

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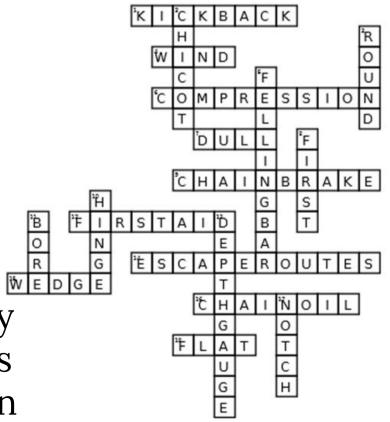
Ben Sharpe

### **Events & Education**

Lloyd Holbrook

### Membership

Jim White





Bruce Grey Woodlands Association