

Greenleaves

Newsletter of the Bruce Grey Woodlands Association

SPRING 2017



www.bgwa.ca

President's Message

Chris VanderHout

Members,

Wow, is it time to share a message with you already? Spring just flew by me and what a beautiful spring it was! My favourite part was the amazing flower show that sugar maples put on, and with the cool weather the show went on for some time. I treasure the seemingly randomness of this occurrence when it happens. It seems to me about 3 years ago when it last occurred. As we don't know exactly how all sugar maples decide which year to flower and produce offspring, it is one of those forest mysteries that we get to observe and ponder. (The article on German forester Peter Wohlleben may provide some clues, Ed.)

Certainly there are many types of these occurrences and one of the intriguing elements of being a forest caretaker, is that we never stop learning. Ultimately then, our work is never really done, and so is it with the work we do together as an association.

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ATTENTION BGWA WOODWORKERS!

INVITATION TO TENDER: The BGWA Board is seeking a wood worker to produce and supply 10 cutting boards, which will subsequently be engraved or laser-etched with our logo and used as gifts for guests and volunteers who contribute their time or make special contributions to BGWA at no charge. The total per-unit cost, including taxes if applicable, may be no more than (but ideally less than) \$35, and they must be fabricated from local wood, inclusive of delivery to either Saugeen Conservation or Grey-Sauble Conservation.

Please submit a description including wood type(s), detailed dimensions, cost, sample photo, and lead time required from order to delivery. First preference will be given to current BGWA members for submissions received prior to July 8. If no acceptable tenders have been received from current members it will be opened up to others after that date.

For questions or to submit your proposal contact: bgwa-board@naturemail.ca 519-369-4661

*How about hosting a
member tour of your
woodlands?!?*

Contact Kevin Predon
519-270-0748

*Save the Date!
Members' b-b-q
Sep 16th*

*First-ever BGWA
Tree-via Night!
Maclean's Brewery
Aug 19th*

(President's Message, from page 1)

Since our last newsletter the board of directors have now had 3 productive meetings. Outcomes as follows. Executive roles and committees set up. While committee members are responsible for defined tasks, all the rest of us on the board also chip in as required!

Through our meetings we have been working on various items and some highlights are:

- Coordinated the purchase of a prize donation for the Envirothon competition on April 25th
- Reviewing and updating our award of merit criteria
- Working through a program of events and exhibits about which you will see more details.
- Coordinating the recent tour of Gord Edwards property
- Following discussion at the last AGM, confirm moving our library to a private one at the

residence of Hunter Dixon and Alison Stewart.

I want to record special thanks to Gord Edwards for offering his property to show members the work he has been engaged in over the past 25 years. I thoroughly enjoyed the tour and it strengthened my understanding of the important role our organization plays in maintaining and creating healthy forests that contribute to the rest of our communities and ultimately the world.

In this I invite each of you to continue to share the work that you may be involved in as it relates to our woodlands, and please reach out to us via the website if you are interested in offering your property for a tour in the future.

So stay tuned for updates on upcoming events this summer and into the fall and I hope to see you at them.

Wishing you all well,

Sincerely,
Chris

GREENLEAVES

is the member newsletter of the Bruce Grey Woodlands Association, published quarterly and distributed to current BGWA members. Submissions are always welcomed on any topic related to BGWA's vision:

Promoting healthy forests and ecosystems in Bruce and Grey Counties through education, recreation and sustainable management practices.

Information, opinions, and directions in this publication are those of the authors and do not necessarily reflect BGWA advice or policy.

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NEW!! ADVERTISE with BGWA

NEWSLETTER

Current Members may place one non-commercial (e.g., announcement, private sale item, etc.) text-only ad (max 35 words) per membership year for FREE, subject to available space on a first-come first-served basis.

Commercial Ads can be text-only or graphical if camera-ready content is supplied (BGWA does not do ad layout). Business Card size \$20 members/ \$40 non-members, or quarter-page: \$40 members/ \$60 non-members (per issue).

WEB SITE

Text listing under heading "Sponsored Links" with live link to external site: \$30 members/ \$50 non-members, or including logo (up to 300x300 pixels) \$75 members/ \$95 non-members (per year). BGWA reserves the right to remove the link at any time for any reason at its sole discretion by refunding the ad cost.

For more info or to arrange an ad contact: bgwa@naturemail.ca

Tree Secrets Revealed

By Gary Kenny, BGWA Member

In his recent book, *The Hidden Life of Trees: What they Feel, How They Communicate – Discoveries from a Secret World* (David Suzuki Institute-Greystone Books, 2016), German forester Peter Wohlleben draws on new research to make a compelling case that forests are social networks. He explains how trees demonstrate intelligence, how they communicate with one another, and why they have rights. Readers of Wohlleben's book may never look at trees and forests the same way again.

Wohlleben believes trees possess a form of intelligence and can "talk" among themselves, above and below ground. "Yes, trees have intelligence, but not like we humans would describe it," Wohlleben told me in a recent interview by Skype. "At the end of their roots are tiny brain-like structures where brain-like processes are going on, even electrical processes. As a result of this intelligence trees are able to learn, remember and make decisions." For example, Wohlleben continued, "If there's a drought that damages a tree, the tree will remember this for the rest of its life. It will learn how to better conserve water."

Also, he added, trees are social and form family groupings, and can suckle their offspring. A mother tree, through its roots, can pump a sugar solution to its seedlings to ensure they receive adequate nutrition. Trees can also warn one another of impending attack explained Wohlleben, "When an insect attacks a tree, it can produce a poisonous substance to get rid of the insect. In the meantime, it warns its surrounding companion trees by [emitting] a biochemical scent that is spread by wind so the other trees know what sort of attack is coming and can prepare themselves. Also, when a certain caterpillar attacks, say, an elm tree the tree can taste the caterpillar's saliva, and [by discharging] a scent can 'call in' predators to eat the caterpillars."

Wohlleben's vision of life among the trees has been developed during his decades-long stewardship of an area of forest dominated by beech in the Eifel, a mountain range straddling Germany and Belgium. He wants woodlands to return to a state in which the slow life cycles of trees are allowed to run without interference — a regrowth of the European

"wildwood" that grew up as the climate recovered after the retreat of the last Ice Age.

He likes to use the term "wood wide web" to describe how trees are able to communicate with one other beneath the forest floor. "The wood wide web is a dense network of fungi [consisting of hyphae, microscopic thread-like structures in the forest soil]," he explained. There is more than a mile of hyphae in a teaspoon of earth. If a tree can't be warned of a predator by wind-borne scent, Wohlleben added, and then the fungi network can transport the news chemically and electrically to the roots of trees, much like our internet. Mushrooms are the fruit of this fungi network which works in symbiosis with tree roots. Fungi are not able to feed themselves, so they receive sugar from tree roots which they then use to grow mushrooms.

Wohlleben believes that trees feel pain when they are damaged or cut down – not likely pain as humans feel pain, but a form of discomfort and distress. "We don't know if trees feel pain as humans do," he says. "But when a deer bites off a tree branch, electrical signals run through the tree's tissue, and the tree will first bring in poisonous substances to [repel] a deer, and afterwards bring in substances to heal the wound. So, a tree is able to 'feel' the difference. This reaction is similar to how humans react to pain," Wohlleben said.

Asked if he has any hesitation about attributing human-like attributes to trees, Wohlleben chuckled as one who is used to fending off accusations of pseudoscience. Much of the information contained in his book is backed up by research carried out at some of Europe's leading universities such as the University of Leipzig. Wohlleben also says anthropomorphism can be an effective educational tool. Just to talk about biochemical processes like a biologist might, "would bore my audience," he says. "When I say that mother trees suckle their children, everyone can understand what I'm talking about. It's a more effective way of educating people about the complexity of trees and forests."

Asked if he thinks trees, indeed all plants, have rights, Wohlleben replied in the affirmative. He explains why with an analogy. Forest plantations can be

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(Tree Secrets Revealed, from page 3)

likened to industrial animal farming which is criticized nowadays, he says. "I think we will soon see the same discussion on trees and other plants." In Switzerland, legislation [Gene Technology Act, 2017] extends rights and dignity to plants and is similar to what we see now for animal rights. But if trees can interact socially with one another and communicate, and if they have rights, does this raise moral and ethical issues for us humans who use wood so extensively? I asked him. "It's okay to use wood for heating, furniture, and so on because we also have our rights and needs," Wohlleben asserts. It's a question of balance, he adds. Forests can and should be managed and utilized, but vast areas also need to be set aside and protected.

While Wohlleben supports harvesting timber, he is adamant that it should be done in an eco-friendly manner. "Big machines used to harvest trees damage the forest by compressing the soil," he points out. "In my forest," he adds, "I use horses which are forest friendly and the long-term ecosystem and economic benefits are better."

Wohlleben is critical of how cities tend to integrate trees into their urban environments. Cities tend to create parks by transplanting different tree species into specific areas, he says. "They think [what they create]

is a forest but it's really a 'tree zoo.' When trees are transplanted, the root tips with their brain-like structures are often cut off. The trees won't recover for the rest of their lives. They grow up like orphans, street kids, because they have no family connections."

Wohlleben adds that it's better to grow trees from seeds so they can develop family relationships. But, he adds, "this takes a long time, and we humans are impatient and want quick results."

Present and future research will uncover many fantastic secrets about trees and forests, Wohlleben believes. His biggest wish is for the development of a kind of chemical detector, maybe in the form of a cell phone that can link tree language with human language. With such a tool, Wohlleben says, "when you walk through a forest, you will know what the trees are talking about, whether they feel well, or what they think when danger approaches - like a human with a chainsaw!"

An engaging audio interview of Wohlleben by CBC Radio One Sunday Morning's host Michael Enright can be found at:

<http://www.cbc.ca/radio/thesundayedition/may-14-2017-the-sunday-edition-with-michael-enright-1.4110476/it-sounds-like-a-fairytale-but-forester-peter-wohlleben-believes-trees-really-do-talk-to-each-other-1.4110492>

Property Tour Report:

GORD EDWARDS' WOODLANDS, JUNE 11, 2017

By Sandy Bunker, BGWA Director

Bordering the Niagara Escarpment, between Owen Sound and Wiarton, Gord Edwards has a laboratory of tree plantations. Tree species, plantation maturities, and methodologies, gave members and guests of Bruce-Grey Woodlands much to discuss on a summery June 11th afternoon.

Beginning in 1992, Gord had much of his property, with access from Lindenwood Road, reforested. Half was planted in a stand of White Pine, with the balance being Norway spruce plantations. Four years later, oak, walnut, and cherry were interspersed in the pine plantation. Tubex was used to identify seedling locations, and support early growth, but ants calling them home and deer browsing any emerging top growth, limited the tubes' long term potential.

Two years later when Gord introduced some oak into the spruce plantation he planted the seedlings into the center of a two foot square of plastic. The tree blankets required less management and gave longer benefits to the young hardwoods.

The spruce plantation management consisted of primarily establishing and monitoring the hardwoods. In the pine plantation, Gord pruned up 6 feet at about the 10 year mark to reduce the potential for "blister rust". Starting at the 20 year mark Gord is attempting to remove every fourth pine and prune the branches on remaining pine up to 18". Many of these trees will be culled as time and conditions allow, to encourage the more vigorous pine to flourish and provide open areas for the many various hardwood seedlings are now evident. In hindsight Gord suggested that he would have selected which pines would never be removed, and only have pruned them, up to 16' or 20'

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of trunk height. To date all culled material has been left on the forest floor.

After acquiring an adjoining property, Gord expanded his plantations and tried new techniques to establish hardwoods. In 2004, several hayfields were given different treatments. Rows of hybrid poplars were planted with maple interspersed in them. This was not successful for the maple. Another treatment was to plant clumps of white pine and spruce with some red oak. The "clumps" appeared to sacrifice height for bushiness, although this may have been exaggerated due to the infestation of pine weevil. The majority of oak did not flourish. Another treatment to establish hardwoods was three rows of pine and then one row of black walnut. In all of these treatments the coniferous plantings were evident, and the hardwood populations were challenged in the established grassland that they were planted into, whether it was due to predation, abundant sunshine, vegetative competition or other causes is unknown.

Of great concern to Gord is the appearance of wild chervil in the county. It is an aggressive competitor and can take-over in areas where it has gained a foothold because it is both difficult to control and expensive to eradicate.

Even with the challenges in regenerating hardwoods in coniferous plantations, it seems that this is a more successful method than natural regeneration. In areas which may have been long abandoned farmland, hardwood regeneration is lagging. There are some gnarly apple trees, small dying elms, bushes, and much undergrowth. While it provides diversity for wildlife, it does not generate optimism for re-establishing a hardwood forest in any of the visitors' lifetimes!

Although many plantations are in place Gord is continually introducing various trees onto the property. Oaks may be red or white, and some may be Royal Oaks, from acorns thrown by trees planted in Owen Sound to commemorate a British Coronation. Most of the new introductions are from seedlings Gord has grown at home and could be any from this list: American Elm, Black cherry, Black walnut, Butternut, Mountain ash, Horse chestnut, Sugar maple, Weeping willow, Highbush cranberry, or Elderberry.

Gord has partnered with Grey Sauble Conservation for guidance and professional services throughout his

projects. Through the use of MFTIP and CLTIP, and a Conservation Easement in favor of the Escarpment Biosphere Conservancy Inc, Gord has managed to get his property tax cost down to almost \$1 per acre annually!

The diversity of plantations generated much discussion and thoughtfulness and many queries, making for a very pleasant Sunday afternoon. Thanks Gord!



Oak with tree blanket in the spruce plantation



Looking for maple in the hybrid poplar



Where are the rows of walnut?

MORE PICTURES, visit the Event Gallery in Members Area of the web site.

Azorean Forest

by Malcolm Silver, BGWA Newsletter Editor

Recently, during a transatlantic repositioning cruise between Ft. Lauderdale & Southampton my liner stopped at Ponta Delgada, the capital, on the island of San Miguel in the eastern part of the Azores archipelago. The latter stretches across part of the North Atlantic, 1500 km west of Portugal and 3900 km from the east coast of North America and, like the Hawaiian islands, was formed by volcanic action over a moving geological *hot spot* at the intersection of European, African, and American tectonic plates. The islands are dotted with volcanic formations and their geologic nature is unstable so that they experience earthquakes and volcanic activity.

Discovered by the Portuguese in the early 15th century, the islands now have their own parliament and government. San Miguel is the largest of the 6 inhabited islands that have a combined population of 230,000; the other 3 in the chain are uninhabited. The climate here is heavily influenced by the Gulf Stream with no frost below elevations of 500 m. Average temperatures are 21° C in summer and 14.5° C in winter. The soil is fertile in some areas, while in those covered by recent lava the crust is thinner. Prior to discovery, the archipelago was covered in *Laurel Forest*, a remnant from the Tertiary meaning it co-existed with dinosaurs. That forest once existed on the European and North African continents but vanished there due to glaciations. It is now restricted to this archipelago and some other Macronesian Islands.

Approaching the island it rose steeply from the sea (maximum altitude 1,105 m), to present, behind the town, treeless rolling green hills given to agriculture and pasture. In this they reminded me of those in the Mt Lofty Ranges south of Adelaide, my home town in South Australia. Before leaving Toronto I had read that only small areas of native forest persist in some highland areas. Thus, to see some of these species and introduce you to them I prepared with their names & illustrations and visited the city's António Borges Garden, original-

Ontario Professional Foresters Association (OPFA) Conference

By Kevin Predon, BGWA Director

The Ontario Professional Foresters Association's annual conference occurred from the 16th-18th of May at the Delta Hotel in Guelph. This year marked the organization's sixtieth anniversary with a theme of "The OPFA at 60: Foresters in Changing Climates". I am unable to attend every year; however, with it being so close, (as opposed to last year's in North Bay), I made the effort, and I am glad that I went.

Similar to any other forestry conference, there was an abundance of learning opportunities including local forest tours, workshops, and keynote addresses. One of the high-

lights for me was to hear Dianne Saxe, the Environmental Commissioner of Ontario speak about the realities of climate change, which was scary and eye opening. Please check out the report on climate change here: <http://docs.assets.eco.on.ca/reports/climate-change/2016/2016-Annual-GHG-Report-EN.pdf>

Another highlight for me was to see Dr. Steve Newmaster, a professor from the University of Guelph, speak about his research into "Molecular Diagnostic DNA-based Tools". According to Dr. Newmaster, DNA can be read and filed like a book. This has led to the creation of an international DNA barcode library, which contains over 5 million specimens from 5 hundred thousand different species. DNA barcoding is a better tool for biological surveys, because it provides

greater accuracy at cheaper costs over traditional survey methods.

Eventually, this will lead to DNA probes for real time in the field sampling and surveys. What they are talking about is Star Trek type stuff, but is actually happening, right now. Imagine a device that will connect to your smartphone, and tell you that "Yes, that is Poison Ivy" or "No, that is not a real Butternut" or "Your orange juice is not 100% pure". You can check out the Biodiversity Institute of Ontario's web site here: <https://biodiversity.uoguelph.ca/>.

The annual OPFA conference is a great opportunity for learning and professional networking. I enjoyed my time in Guelph, and I think I will plan my holidays for next year's conference in Timmins.

ly a private one founded in the 19th century by a pineapple cultivator of that name and now a public space that covers just over 2.5 hectares.

Above 500 m, the native fragments of vegetation present a dense, dark green, shrub forest composed of *Laurus azorica*, *Juniperus brevifolia*, and *Erica azorica*. Associated species are shrubs such as *Ilex*, *Viburnum*, *Clethra*, and a tall bilberry (*Vaccinium cylindraceum*) that has showy, dark pink flowers.

In the lowlands, most of which have been highly altered, the ever-green fire tree (*Myrica faya*) is the main species that regenerated on old lava flows but easily grows in any type of soil. It is native to the Azores and Madeira and has become an invasive problem in Hawaii, where it was introduced. It is an evergreen shrub or small tree 3–8 m tall and rarely up to 15 m. Its leaves are usually a dark, glossy green, 4–11 cm long and 1–3 cm broad, with an entire margin and a bluntly pointed apex. It is subdioecious, with male and female flowers produced largely on separate plants, but often with a few flowers of the other sex present. The fruit is an edible drupe 5–6 mm diameter, that is reddish purple, ripening dark purple to black. It is used as an astringent remedy for catarrh.

Laurus azorica (also called Azores laurel) is a vigorous, conical tree that can vary greatly in size and height, sometimes reaching 10–18 m. It is dioecious. Each flower is fragrant, creamy white, about 1 cm diameter, and borne in pairs beside a leaf. The leaves are large, shiny dark green, broadly ovoid, 7–14 cm long and 4–8 cm broad, with an entire margin. The fruit is a black drupe about 1–2 cm long. It makes a fine hedge & is used as a windbreak. The Azores laurel is classified as Near Threatened (NT) on the IUCN Red List.

Juniperus brevifolia, the Azores juniper, is a shrub or small tree growing to 6 m with a trunk diameter up to 50 cm. Leaves are evergreen, needle-like, in whorls of three, glaucous green, 4–10 mm long and 1–3 mm broad, with a double white stomatal band (split by a green midrib) on the inner surface. It is dioecious. Seeds are berry-like, green and ripen in 18 months to orange-red with a variable pink waxy coating; they are spherical, 6–9 mm diameter, and have three or six fused scales in one or two whorls of three, the three larger scales each with a single seed. The seeds are dispersed when birds eat the cones, digest the fleshy scales and pass the hard seeds in their droppings. The male cones are yellow, 2–3 mm long, and fall soon after shedding their pollen in early spring. This is a vulnerable species in its native range due to a combination of historical felling for its valuable wood and competition from invasive introduced plants.

The ship also stopped at Bilbao and Le Havre and here my interests took other directions. Frank Gehry's Guggenheim Museum architecture intrigued at the first mentioned port & there I had a double whammy of good luck. Its Belle Arts Gallery had an exhibition of 60 fabulous Renoir paintings collected from galleries or private collections all over the world, including one painting for the AGO; also admission was free that day. Le Havre's Musée Malraux contained the finest collection of French Impressionist painting outside Paris.



Myrica faya
Leaves with male flowers



Laurus azorica



Juniperus brevifolia

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* lead hand

You don't have to be a Board member to get involved. Contact any member of a committee you might like to help with or learn about!

Meet Your Board: KEVIN PREDON

Originally, I am from Cayuga, Ontario, which is the second-to-last stop on the Grand River before ending at Lake Erie. That is where it all started for me, and my path to becoming a professional forester is similar to the mighty Grand's: it is long and windy, has many rocky and turbulent parts, and it goes through a bunch of places you have never heard of. However, it has now been almost three full years since I started working for the County of Bruce as their Forestry Technician in August of 2014. At that time, I was new to the area, and was immediately welcomed into this recently amalgamated organization to act as a Resource Liaison. That has since evolved into a position on the board of Directors and Chair of the Events and Education Committee, and I am excited to be a part of the BGWA as it moves forward into the future.



Meet Your Board: GORD EDWARDS

I am a recently retired anesthesiologist, patriarch of a blended family of 6 adult children and husband to a beautiful wife. Thanks to my parents, not sure how that works, I acquired a deep respect for all things natural at an early age. In my opinion global warming is **The priority** for our very fragile planet Earth and I rationalize that growing trees is perhaps the most effective way for me to help address this. Besides, I am continuously intrigued by the magic of growing trees from seed. Years ago I took the course, and bought the book by Henry Kock. In the coming years I plan to spend a good portion of my new found time in my 2 woodlots (380 acres near Bass Lake) mothering trees and other things natural. By trial and error, with help from GSCA, and through memberships in Ont. Woodlot Assoc, Forests Ont, and BGWA, I have learned a few things about woodlands and hope to continue to be educated and inspired by the experts. Similarly, through BGWA, I hope many more members of our community will also be inspired to grow trees.

