Greenleaves

Newsletter of the Bruce Grey Woodlands Association

AUTUMN 2017

www.bgwa.ca

SPECIAL YEAR-END EDITION

12 PAGES!

President's Message

Chris VanderHout

Members,

As I get to my duty of writing this message I have just finished sawing logs on my Norwood sawmill; these I harvested from my improvement cutting this year, as part of my management plan. Some larger trees at the end of their days, or crowded ones cut to free healthier trees became candidates for boards instead of firewood. This year some really large black cherry trees (about 2' in diameter) were part of this process and I had the pleasure of milling them. Some became 1 and 2" boards and some 3" thick live edge slabs.

I am really looking forward to turning the thick ones into potentially spectacular harvest tables or single-piece coffee tables. I also used one log that had quite a few knots to make some 5" thick steps for our back deck. The sweet smell of working with black cherry is one of my favorites and I never tire of the beautiful grains that present as the wood is cut and finished. Being out in the forest cutting and then creating beautiful products from the logs is definitely a labor of love.

And for association activity, we have had some interesting events. First was the Aldo Leopold event that we hosted at the Bruce County Museum theatre in Southampton. I give special thanks to Doug Larson for his entertaining and though-provoking musical talents and to Eric

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KEEP YOUR NEWSLETTER COMING… RENEW FOR 2018!

It's been a great year for BGWA events—be sure you are part of the next one! Please save our volunteer board's time for better things than tracking you down ☺ go to bgwa.ca/renew TODAY

Renew now and be entered into early renewal prize draw. NEW! Member sign—see back page.

SAVE TIME ◆ GUARANTEE YOUR RATE ◆ RENEW FOR UP TO 3 YEARS ONLINE

Bruce Grey Woodlands Association Member

Annual General Mtg

Watch email/postal mail for notice of our AGM, lto take place sometime late-Feb or early-Mar.

Next Board Meeting
Dec 13, 7-9pm
Grey Sauble CA bldg
Inglis Falls Rd

Coming on short notice when conditions are right:
WOODLAND OWL PROWL
check BGWA.CA for notice

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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(President's Message, from page 1)

Davies for his informative presentation on non-native invasive trees and their impact and the lack of bio-diversity in the natural areas of the GTA. The film *Green Fire* was extremely inspirational and expanded my own vision about what Forest Stewardship can really look like. This event gave members and some attendees from our joint associations a great opportunity to learn and socialize, as well as enjoying some entertainment. I am so pleased to see our group getting together and enjoying each other's company. To cap things, some members went to the local Outlaw Brewery and pub to enjoy some refreshments and more socializing.

Seemed that was the primer for our next event at McLean's Brewery… (Boy I am really enjoying these events!) The *Treevia* event was a huge success. Again a great opportunity to socialize and through the lens of trivia questions that, Kevin Predon brilliantly put- together attendees had e chance to learn more about trees, forests and how they are a part of many aspects of our lives. Thanks Kevin for both this and the Aldo Leopold event. All who attended them are richer from your efforts.

From the educational standpoint, Gord Edwards and I spent an afternoon in the hub of Hanover talking to people about our Association and the importance of privately owned forests and their being cared for. As well ,Ron Stewart was out speaking the good word to the people of Paisley at the Paisley Fair. Our vice president Neil Baldwin did a presentation about our Association to members of the Beaver Valley Bruce Trail Club, as part of our outreach to joint associations. Thank-you Ron, Neil and Gord for volunteering on this front.

At our recent meetings we were working on getting roadside signs for association members (more information to come) and preparations for the upcoming AGM. Between now and the AGM Donna Lacey will lead an Owl Prowl for interested members. As always, looking forward to seeing you at the upcoming events!

Wishing you all well,

Your Travelling Editor

by Malcolm Silver

During my recent visit to Australia (Sydney, south of Brisbane/Cairns areas) I saw some magnificent forests.

Cumberland State Forest, within Sydney's North West suburbs, contains 40 acres of eucalyptus forest. Originally the land was privately owned and cleared in 1908. In 1938 the then NSW Forestry Commission assumed management and one third was planted as an arboretum while the rest was allowed to regenerate naturally. What is seen today is more than 50 years of forest growth. I followed a well sign-posted sensory trail through this tall eucalypt forest. It urged you to touch, hear and smell your way along amongst soaring blue gums (*Eucalyptus globulus* 30–55 m) & blackbutt (*Eucalyptus pilaris*, so called because their trunks blacken in fires with most between 20 and 45 m; one had a trunk diameter of 4 m). The aroma from these trees is something engrained in every Australian's soul. Some damp valleys contained palms & tree ferns.

Rainforests were encountered elsewhere. They are broadly grouped by climate (tropical, subtropical, dry, warm temperate and cool temperate) if scientists prefer to classify them on the basis of leaf size of canopy trees and complexity of the forest's structure. Not being a scientist in this sphere I will use general terms with the main ones seen being subtropical or tropical forests. Some vegetative species they contain have ancient lineage and arose on Gowandaland, before continental shift. Once they likely covered most of Australia but with time and northward movement of its continent climatic warming and drying produced the dry-adapted Australian flora dominated by acacias and eucalypts.

These rainforests consist of largely evergreen trees 30-60 m tall, if some are semi deciduous. They have dense crowns that shade large areas and feature several vegetation layers (storeys) and a light understorey of shrubs and herbs. Many trees have unusual stem and trunk forms with buttressed bases, and include giant strangling fig trees which start from a seed dropped in humus high in a tree's canopy then send-down prop roots which thicken, interlace, join and gradually strangle the host tree. Vines, palms, tree ferns and epiphytes are common. Tree trunks are often encrusted & mottled with lichens.

In the area visited south of Brisbane (Lamington National Park) the rainforests had two tree layers and less species variety in the canopy. Here were hoop pine (*Araucaria cunninghamii*); bunya pine (*Araucaria bidwillii*) and brush box (*Lophostemon confertus)* with some of the latter radiocarbon dated at 1500 years. This is also one of the few places where the Antarctic beech (*Nothofagus moorei*) is found in its most northerly location. Nothofagus forests were once widespread across the continent and provided a habitat for many animals that have long since disappeared.

In the area around Cairns and nearby Atherton tablelands tropical rainforests, either evergreen or semi-deciduous, prevailed. A list of trees found in this area can be found in *Great timber trees of the Wet Tropics*.

Of particular interest were remnants of Mabi forest listed as a critically endangered ecological community. Only 1050 ha remain as small, isolated, patches that are being invaded by exotic smothering vines and feral and domestic animals. It bears the aboriginal name of Lumholtz tree kangaroo which it supports. It was amazing to see one, with joey in pouch, climbing a tree. This forest is found on the Atherton Tablelands and is otherwise known as complex notophyll vine forest. It grows on highly fertile basalt-derived soils with annual rainfalls between 1300 – 1600 mm and experiences a severe dry season around October each year. Its canopy is uneven (25–45 m) with many tree layers, scattered deciduous and semi-evergreen trees, and a dense shrub and vine layer. The latter distinguishes Mabi forest from similar rainforests. Its plant species are listed below.

On this trip I also visited Papua New Guinea where, climbing a hill at 3000 m in the central highlands, to find the blue bird of paradise (a beauty), I suddenly realized I'm 84 & determined that future birdwatching expeditions should be at lesser elevations & on flatter ground!

And, for Christmas, scientists have sequenced the genome of the reindeer. Many thanks to contributors in this issue; may we all have a happy Festive Season & wonderful New Year.

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The great timber trees of the Wet Tropics: www.skyrail.com.au/about/news/1279-the-great-timber-trees-of-the-wet-tropics

Mabi Forest - Trees for the Evelyn and Atherton Tablelands: treat.net.au/mabi/index.html Apr 12, 2015

Mabi Forest Plant Species List www.treat.net.au/mabi/mabiplants.html Apr 12, 2015

An early Christmas present: Scientists have unwrapped the reindeer genome: www.sciencedaily.com/releases/2017/11/171101122421.htm

Firewood: Mysteries of BTU and Cord Measurements

by Gerald Guenkel

Anyone with a wood heating device, be it a woodlot owner or an urban dweller has come across the terms cords and BTU. While leaning on a pickup truck tailgate, these terms get tossed around along with a touch of firewood myths. In this article, I'll provide the reader with a practical synopsis on these terms and touch on some fun firewood myths.

A cord of firewood is defined as a stacked pile 4' wide X 4' high X 8' long. This equals 128 cubic feet; a measure of wood volume. This volume is 70% of actual wood and 30% air! How do you measure your firewood? My pile is 16" wide (1.3ft) X 5ft high X 7ft long = 45.5ft3 = .35 cords (45.5/128).

Your turn: How many cords in a firewood pile 16"wide X 4.5 high X 12ft long? (answer at end of article)

A few cord comments:

- How many cords go into a pickup? Short box – ¼ cord, long box ½ cord
- Face/stove cord is only 1/3 of an actual cord (know what you're buying)
- If buying seasoned firewood, check its MC (see below)

BTU: British Thermal Unit is defined as the amount of thermal energy required to raise one pound of water by one degree Fahrenheit. The BTU of firewood is usually close to the same 'per pound of wood' between all species. Any tree species, be it dense hardwood or light softwood has the same energy 'per pound'. A cord of more dense wood will have more energy than a cord of less dense softwood. Why should you care? The denser the wood, the higher the BTUs and less firewood will be needed for heating. However, (there's always a 'however') the denser the wood, the longer to dry, the heavier the wood for hoisting and higher the cost to purchase.

Keep that BTU thought on fire, while we talk about wood and water. Water in wood is a reality and certainly has generated a range of firewood myths (eg dead standing trees are dry, some tree species burn better not dry, cut in the fall and burn in the winter …. And so on). When a tree is cut it has a moisture content (MC) from 65 to 120%. As an example: one cord of 'wet' or unseasoned hard maple has an initial MC of 80%. Your goal is to have 'dry' or seasoned hard maple having less than 20% MC.

What does this mean? One cord of wet hard maple has about 1000+ pounds of water in it! That's a lot to remove. For maple and most hardwoods it takes 1 good year of seasoning. Oak takes usually two years. So what does it mean with respect to BTU? Simply; patience is a virtue when drying firewood. If you don't properly season the firewood, you spend many BTUs drying the wood, rather than heating your palace. So, let wood season, not sizzle. How to measure MC? The best is to use a MC meter ($22-Amazon), of dubious value - sound of wood or cracks in it.

Last few things: 1) Look at the BTU table and understand that 'hardwood' firewood is not always high in BTUs, especially if the load includes species like soft maple, 2) If you have access to lots of pine and other softwoods, use them. Just make sure the wood is split and properly seasoned. My motto: free wood burns the best. The internet can elaborate further on the information provided in this article. Remember, wood is the only fuel that heats twice… once when you cut and pile it and again when you burn it!

("Your Turn" answer = 0.55)

Gerald Guenkel is a BGWA member and Registered Professional Forester (Woodlot Forestry Services), Certified Cutter/Skidder Trainer for Ontario.

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Species	MM BTUs
Ironwood	26.8
Apple	25.8
Beech	24.0
Red Oak	24.0
Sugar Maple	24.0
White Oak	23.6
White Ash	23.6
Yellow Birch	21.8
Tamarack	20.8
Birch	20.3
Black Walnut	20.0
Black Cherry	19.5
White Elm	19.5
Soft Maple	18.1
Red Pine	17.1
Hemlock	15.9
Spruce	15.9
Aspen	14.7
Balsam fir	14.3
White Pine	14.3
Basswood	13.5
White Cedar	12.2

Heating With Wood

by Marshall E. Byle

There have been a number of anti-wood heating news reports lately, and some municipalities such as part of Montreal have imposed anti wood heating legislation. In this case the by-law was based on misinformation and someone's experience with a wood burner using old technology with poor burning habits. Fortunately, through education about good burning practices and the availability of EPA rated clean burning appliances, the ban was scrapped.

Those of us that are advocates for wood heating often make provocative statements, like; heating with wood is renewable and carbon balanced. I can tell you that some very educated people will beg to differ. From my experience most of these people, even though well meaning, know little about energy or rural life. They look narrowly at wood smoke and assume it is inherent with wood heating, and ignore the cradle-to-grave comparisons of other energy sources. They typically have no technical context for their views, and their stance seems to be more ideological or political. Health agencies tend to show little interest in learning more about the subject, their minds having been made up in advance. Some of the numbers that are routinely released that measure particulate emissions that they say are from wood heating do not even consider the amount of smoke that was released from all the forest fires. That is likely more than wood heating will produce in the next millennia.

To be accurate, the statement about wood heat being renewable and carbon balanced must be qualified by using good woodlot practices. But I'm preaching to the choir since you readers likely know all about good woodlot practices.

Just in case, here are some tidbits you may not know:

- All wood has the same energy content per pound.
- Split blocks will dry about 3 or 4 times faster than un-split wood.
- A 7 acre mixed woodlot can supply a medium sized, well insulated home with firewood indefinitely.

Detractors often cannot understand this because it takes a tree 60 years or more to mature and it is burned in a few weeks. It's hard to explain that collectively, in the whole woodlot, each year as much or more carbon is captured in new growth. Each year enough trees will reach maturity to be harvested.

I'll use my own woodlot as an example that may surprise you. About 35 years ago I bought a 30 acre property that was basically a scruffy field. At that time with government planting programs we planted 20 or so acres in white pine (about 16,000) and then about 2000 trees of other varieties on my own. Now, a little over 30 years later, the pines need to be thinned-out, but are not big enough to get any usable lumber, so I'm using them for firewood. Yes, it burns quickly, but leaves very little ash in the firebox and throws lots of heat. If you think that it will gum up the chimney, the new clean burning stoves burn the pine tar completely. I can assure you that I will never run out of wood, and our little plantation is sequestering way more carbon each year than we are releasing heating our home. If you're interested in trying your hand at trimming the lower branches off pine trees, stop by and I'll put a saw in your hand.

So here are the strongest political statements that can be made for wood as an option for residential heating:

- Firewood is a renewable energy source that we can use forever, provided we manage our forests sustainably.
- Firewood is easily accessible to those who live outside large cities.
- Wood heating provides household security in two ways. It provides reliable heating when storms cause power systems to fail. To have your winter supply of wood neatly stacked, split and dry is very rewarding for many rural families. It also provides security when family incomes are tight and, if need be, a family can scavenge enough fuel to get by at a very low cost.
- Firewood is an economical heating fuel for those living at the urban fringe and beyond.
- It is an indigenous fuel at a time when imported energy is a serious concern.
- Firewood has the highest energy return on energy invested of any heating fuel.

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(Heating With Wood, from page 5)

- Firewood is a local fuel since it is normally used close to where the trees were harvested. These days "foodies" promote the hundred-mile diet, wood is the hundred mile (or less) heating fuel. Families can often cut and process their own firewood.
- The trade in firewood strengthens rural and small town economies. Most other fuel sources pull money out of the local economy.
- Those of us who heat with wood are continuously accountable for our actions because the results are visible at the top of our chimneys and we are connected to the combustion process.

However, when done badly, wood heating can make a lot of smoke. The challenge is to resolve these situations rather than paint all wood burners with the same brush.

Marshall Byle is a BGWA member, Senior instructor for Wood Energy Technical Training (WETT), Member of technical committee CSA B365 Installation Code for Solid Fuel Appliances & Equipment, WETT Master Solid Fuel Technician/Master Chimney Sweep, and Past president, Chimney Sweep's Stove Parlour & Gallery Inc.

Learning Among the Trees

by Gary W. Kenny

Forests as classrooms? There may be no better place of learning, say the parents of children who attend a "nature preschool" in West Grey County near Ayton. "Little Sprouts" is located on Cedar Down Farm in the home of Leslie Moskovits and Jeff Boesch. Started in May 2016, the indoor part of the preschool consists of two levels at the rear of their house, a kitchen and eating area downstairs, and a learning and play center upstairs.

For at least two hours most weekdays, summer and winter, children attending this "preschool" spend time outdoors, most of it in nearby woodlands. There, in the cradle of nature, among white cedar, hemlock, white spruce, red maple, trembling aspen, yellow birch and other tree species they encounter insects, birds, amphibians, trees, wildflowers, ferns, moss-covered logs and rocks, and myriad other natural phenomena. They learn to marvel at what they discover, study it in detail, and treat it with respect. . Rain or shine, a foray into the forest is a major part of the day's activities. Apparently, the children can't wait to don appropriate attire for the walk to the woods." Every day the children are eager to get outdoors, even on cold days in winter", Moskovits says"Often it is the children themselves who come-up with the day's subject of study. When they express excitement about something they encounter in the forest, it is developed into an impromptu lesson plan. Sometimes study and discussion occur right where the object of interest is found, other times back in the classroom, or both". "There is no end of study possibilities", says Katrina Gataveckas, a professional nature preschool teacher hired earlier this year. She is the founder of Toronto's "Red Robin Nature Preschool" where she taught for two years. "Every day we find something new [in the forest]. And our classroom changes with the seasons, so there are always more questions and discoveries to guide our learning", she says.

A spider's web crafted from sticks and string in a corner of the upstairs playroom is evidence of the outdoor-indoor learning dynamic. It was crafted by the children, working together, after encountering and observing spiders and their webs in the woods. Books about, and even a song about spiders, were used to deepen the learning experience. At Little Sprouts, Gataveckis says, "the forest is used as a format of sorts to teach and ground what otherwise would be considered academic exercises with indoor classroom content only, and [would be] removed from the broader world. Learning is not just about identifying this or that kind of tree but encountering things we need to research together to know more about". Gataveckas draws on an experiential learning methodology fostered in Europe. Called "Forest School Teaching", it was adopted in Denmark in the 1980's , and helps children develop a deep and enduring respect for what they encounter in nature. "When they are studying a tiny insect, the children learn to be gentle…and this encourages them to be gentler with their friends as well as younger children", Gataveckas

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says. She agrees that regular exposure to woodlands and nature generally builds children's confidence and self-esteem. "I have seen my students thrive in an outdoor environment. They are able to explore and play while becoming confident and engaged learners", she says.

Forest schools, also called nature schools, are an outdoor education delivery model in which children (or adults) visit natural spaces to learn personal, social and technical skills. They have been defined as *'an inspirational process that offers children, young people and adults regular opportunities to achieve and develop confidence through hands-on learning in a woodland environment*. They use the woods as a means to build independence and self-esteem in children and young adults.

Other benefits of forest schools to children have been documented by Swedish-American journalist and blogger Linda Åkeson McGur. "Children are more physically active than at regular school, McGur writes. They also are more imaginative, she adds. Nature is the perfect setting for dramatic play and abounds with open-ended play materials like pine cones, rocks, sticks, logs, and leaves that encourage children's imaginations to run wild. These creative skills are essential for problem solving and succeeding at school and life later", she adds. In forest schools, McGur continues, children are less likely to fidget. "They are easily able to burn off excess energy, which can be particularly beneficial to children with ADHD. They also become better at judging risk", McGur asserts. "Children who are allowed to take risks in nature, for example by climbing trees, naturally learn how to manage those risks. Risky play is also believed to nurture adventurousness and cultivate resilience and self-reliance, both traits that can help children overcome challenges", McGur writes. "Also, natural spaces are not culturally or socially gender coded which encourages boys and girls to play together and helps promote gender equity", McGur believes.

The terms forest school, nature-based preschool, forest kindergarten, outdoor preschool and nature school are often used interchangeably to describe schooling that seeks to get young children outside and interacting, hands-on, with nature. Although still a relative novelty in North America, these alternative preschools have been around since the 1950s in Scandinavia and are today popular across Europe. Germany alone has over 1,500 so called" waldkindergartens", or forest kindergartens. Growing awareness of a phenomenon known as "nature-deficit disorder" is thought to have been a catalyst behind the growing popularity of forest and nature schools in North America. Simply put, the term means that human beings, especially children, are spending less time outdoors resulting in a wide range of behavioral problems. The disorder is not recognized in any accredited medical manual. It's actually not meant to be a medical diagnosis. Rather, it's intended to serve as a description of the human costs of alienation from the natural world. Causes of the phenomenon include parental fears, restricted access to natural areas, and the lure of electronic devices like mobile phones.

"The children are their best selves when they are outdoors", notes Little Sprouts parent Glynis Macleod. "It's amazing to see them work together and learn by doing. They have no need for toys or technology when they are in the forest", she adds.

Forest schools – surely a worthy investment in not only our children but the integrity and future of our forests.

References

Why our kids need forests for true learning, Linda Åkeson McGurk, Marketplace, October 2017: www.marketwatch.com/search?m=Column&mp=TaxWatch

To learn more about Little Sprouts Nature Preschool and its guiding principles, visit: littlesproutsnaturepreschool.wordpress.com

Gary Kenny is a BGWA member and owner of River Croft Writing, Editing and Consulting Services.

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MEMBER GATE/POST SIGNS ARE COMING SOON!

Bruce Grey Woodlands Association Member

SEE BACK PAGE FOR SPECIAL OFFER

Forest Health Review

by Susan McGowan , OMNRF (Owen Sound)

The 41st Annual Forest Health Review was held October 24th at Geneva Park north of Orillia on Lake Couchiching. The event attracted over 250 participants including landowners, private industry, academia and representatives from NGO's, conservation authorities and all levels of government.

Hosted by the Biodiversity and Monitoring Section of the Ministry of Natural Resources and Forestry, the event began with the annual overview (given by Dan Rowlinson, program coordinator) of major forest disturbances determined through ground and aerial surveys conducted by the provincial Forest Health Program. Results featured an overview of native pest infestations and ranges including spruce budworm, white-spotted sawyer beetle, large aspen tortrix, fall cankerworm and balsam fir sawfly.

A highlight from the season included an expansion of areas affected by forest tent caterpillar (FTC) defoliation. A total of 1,173,570 hectares of moderate to severe FTC defoliation was mapped during aerial surveys across all regions of the province. Figure 1. In Grey County in 2017 no defoliation from FTC was mapped, but a small area of light feeding was noted in Georgian Bluffs, near Kemble. In 2016 the population of FTC had nearly collapsed with only 2,200 hectares of defoliation, down from 22,000 hectares in 2015.

Figure 1: 2016 (above) & 2017 (below) maps of forest tent caterpillar infested area in Ontario

Another major pest in southern Ontario this year was fall cankerworm. 11, 764 ha of moderate to severe defoliation affected many hardwoods including Manitoba maple, sugar maple, oak, basswood, and hickory. Populations occurred in areas surrounding Lake Ontario and Lake Erie; in heavily populated areas of the GTA and Hamilton and along the Niagara Escarpment to St. Catharines. This caused great concern to homeowners. Some municipalities will carry out spraying programs and tree banding in 2018 in an attempt to reduce defoliation of valuable mature city trees.

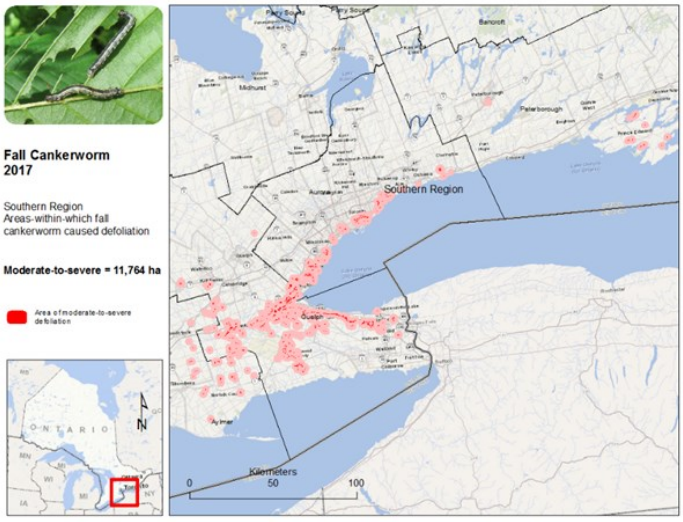

Figure 2: Fall canker worm defoliation in 2017

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(Forest Health Review, from page 8)

Speakers this year included Erin Appleton-Bullas (Canadian Food Inspection Agency) with an update on the Asian longhorned beetle outbreak which was discovered in 2013 in Mississauga. No new positive trees were detected in current surveys. Updates were given on two other invasive pests, hemlock wooly adelgid, and oak wilt. Thankfully neither pest was detected in Ontario in 2017.

Dr. Krista Ryall (Canadian Forest Service - Natural Resources Canada), gave information about the release of parasitic wasps in attempts to control emerald ash borer. (For more, see article pg.10.) This invader is now found throughout southern Ontario and was discovered at Thunder Bay during winter 2017.

Richard Wilson, (Provincial Forest Pathologist) reported on the biology, survey techniques and prevention of spread of oak wilt. Trevor Jones, a provincial researcher, presented an informative talk on the management of beech bark disease.

Emily Owens (Canadian Forest Service - Natural Resources Canad) gave an entertaining presentation on the disbursement of spruce budworm. She also presented the Budworm Tracker App, which involves citizen science in monitoring budworm outbreaks in Canada. Then Lisa Venier, (also from the Canadian Forest Service), explained the correlation between spruce budworm and some bird species populations.

Dr Richard Wilson speaks to packed house at Geneva Park about symptoms of oak wilt.

David Dutkiewicz (The Invasive Species Centre in Sault Ste. Marie) recapped the workshops and projects carried out over the past year, and Larrisa Nituch, (also Ministry of Natural Resources) provided an update on the current state of rabies in Ontario.

The keynote speaker was Dr. David Pearson, (Professor and Project, Lead Climate Change and Science Communication at Sudbury's Laurentian University) who enlightened attendees about effective ways of communicating science, and the importance of knowing your audience and their biases.

Susan McGowan is Forest Health Technical Specialist Ontario Ministry of Natural Resources and Forestry, Owen Sound. Please contact her wth any questions you may have on the state of forest pests in Ontario. 519-376-2352 or susan.mcgowan@ontario.ca

Tree-O-Caching Update

GEOCACHING

by Neil Baldwin

We have had a total of 54 finds so far on the five tree-themed geocaches BGWA set out around Grey & Bruce counties in July. The caches are available for the interest of everyone. But, only for BGWA members, once you have found all 5 you can be entered in a contest for a Leatherman Skeletool (retail value $100) to be drawn at the AGM in February… but act fast, before the snow flies, as 2 of them will become unavailable.

16 finds – Grey-Bruce Tree-O-Caching #1: Growth from Rock

5 finds – Grey-Bruce Tree-O-Caching #2: Best Tree Guard Ever

11 finds – Grey-Bruce Tree-O-Caching #3: Sacred Maple

6 finds – Grey-Bruce Tree-O-Caching #4: I Have a Big Cavity

16 finds – Grey-Bruce Tree-O-Caching #5:Archaeological Beacon

Contest Details: bgwa.ca/2017/07/22/final-tree-o-cache-contest

Don't Kiss All Your Ash Goodbye Just Yet

by Jen Llewellyn, OMAFRA

In 2016, approximately 4,688 hectares of ash trees were found to be in decline or mortality due to Emerald Ash Borer (*Agrilus planipennis*, EAB) in the province of Ontario. That's down from just over 41,000 ha in 2015. This data is collected by the Ontario Ministry of Natural Resources and Forestry. Although no aerial survey was completed by OMNRF in 2017, the numbers are on the decline since this pest has been chewing its way through our ash trees for at least a couple of decades now.

It is estimated that nearly 247,000 ha of ash trees have been decimated by EAB in Ontario. The northern provincial limit runs from the Sioux and east towards to Quebec border. The Canadian Food Inspection Agency is monitoring the northern expansion of this infestation zone through trapping. Since 99% of ash trees are killed within five-to-seven years of emerald ash borer advancing into an area, the spread of EAB is a major concern. Thankfully, CFIA found no EAB adults above that northern line this year.

Dr. Krysta Ryall and her team from Natural Resources Canada have been releasing non-stinging, parasitic wasps since 2013. Dr. Ryall gave a very detailed summary of their biocontrol efforts at the Forest Health Review in Orillia (see pg. 8) The wasps are part of a "classical biological control strategy" where various egg and larval parasites were recovered from native EAB populations in China and brought back to North America to be evaluated for their potential as an effective biocontrol agent here, followed by release into the environment.

Many of the species chosen are parthenogenic (a female's eggs do not require fertilization) with a high female:male sex ratio. These lady wasps have a STRONG preference for EAB and are recorded to kill a high percentage of EAB larvae and eggs in their native region (Asia). All of the selected species have a life cycle that is perfectly synchronized with their preferred EAB life stage. (It is important to note that the wasps are extremely tiny and are not a nuisance to humans.)

Tetrastichus planipennisi (photo below: Stephen Ausmus) was the first species of parasitic wasp that was approved for release by the US government, followed by Canada.

Tetrastichus is a larval parasite; the adult female lays 50-60 eggs through the bark of the ash tree, directly into the larvae of EAB feeding in the underlying phloem and sapwood. How on earth Tetrastichus can so accurately find the larvae is beyond me, but researchers say she is more successful on small caliper trees with thinner, immature bark. The wasp larvae consume the EAB larvae, eventually killing them. The wasps then pupate and emerge as tiny adult wasps, ready to breed and lay more eggs. Dr. Ryall reports that Tetrastichus adults have been released in about 12 sites across Ontario and Quebec since 2013 (and in Michigan since 2008).

There are three other species:

Oobius agrili is an egg parasite; the adult female lays eggs inside the eggs of the EAB. It has proven to be quite successful.

Spathius agrili was another species that showed great promise as an ectoparasitoid of EAB larvae in China. Researchers failed to recover this species after introduction.

Spathius galinae was the 4th species approved for release in the United States (2015) and in Canada (2017).

And how are the parasitoids doing? Of all the parasitoid wasp species released, Tetrastichus has shown the most promise of establishment in North America.

Ten states in the US have documented both Tetrastichus and Oobius's ability to successfully establish a reproducing population. In Canada the situation is similar with Tetrastichus being recovered from all of the release sites in the years following release, this species has been recovered from 68% of the trees that were sampled! The US thinks that the population growth rate of EAB could be slowed by parasitoids. Although it is still a little early to tell in Canada, researchers are hoping these beneficial insects will have a significant long term impact on EAB.

Reprinted, by kind permission of the author, from her blog at

onnurserycrops.wordpress.com

which provides timely info on plant health issues with trees, shrubs and perennials

The Newest GREEN Tool in the Shed

by Neil Baldwin

As those of you who attended my session "*Eco-friendly Forest Equipment: Tools or Toys?*" at last year's woodlot conference are aware, I live off-grid on 50 acres of woodlands in the northwestern end Chatsworth Twp. Whether it is by virtue of being off-grid, or in the country, I get a variety of guests from the city. For those guests interested enough (or foolish enough!) to ask me for a tour of how the off-grid system works, we start at the solar panels outside and eventually end up in the basement looking at a large battery bank and the electronics that keep it all humming smoothly. Along the way I explain how energy from renewable sources is generated, stored, and converted to usable house current.

I also tell them a bit about off-grid living, and how it's not just about being independent or not having an electricity bill. It is about living as sustainably as possible… reducing carbon footprint and continually looking for ways to make most efficient use of electricity as well as finding ways to use this renewable energy to replace non-renewable sources. Otherwise "off-grid" is just a clever collection of electronics with a dubious halo to assuage the guilt of consumption.

So, if guests' eyes have not yet fully glazed over, I explain strategies like using an induction (electrical) cooktop or toaster oven instead of the propane stove on bright days. Even running portable heater or air conditioner when there is power to spare!

Battery-powered saw easily cuts through even dense hardwoods.

I have also been gradually amassing a collection of electric and battery-powered yard tools. So far, there is an electric log splitter (thank you, sun, for saving my back and shoulders from ruin splitting elm!), as well as a line trimmer, hedge trimmer, brush cutter, and chainsaw.

Now, if you're a die-hard woodsman or woodswoman, don't laugh too hard at the idea of a battery-powered chainsaw. I do have gas-powered Stihl 250 for really heavy work, but I use the battery saw for about 90% of my cutting! The technology has come a long way in the past 5 years, much owing to better batteries, higher voltages, and especially brushless electric motors with good torque. What's more, the portable tools all use the same type of battery so I have lots of run time with multiple batteries.

Back in the fall, the magical combination of end-of-season clear out and a 20x points day coalesced at Canadian Tire and out I walked with a new tool in the arsenal. This 40V (same battery as the other tools!) lawn mower is the latest way to trim my carbon footprint here a little bit more—and make life a just a little bit healthier too!

It's a useful and ingenious piece of technology. Like the chainsaw, it has a brushless motor; it senses load requirements and speeds up when mowing thick or heavy grass and spinning more gently for lighter cutting… which saves power and gives longer run time. I was surprised by how much got done on one battery. With the extra batteries from the other tools on hand, it is essentially limitless. There are still times and places I will use the gasoline-powered lawn tractor, but the new mower does a better job and is a lot more pleasant (and healthy!) to use… plus it is easier to see little froggies in the grass and scoot them out of harm's way. An added bonus is being able take it to more remote trail areas on the property where the tractor cannot access and, until now, I had been maintaining with a line trimmer. That will save a lot of time and help make it easier to keep the trails well-kept for guests.

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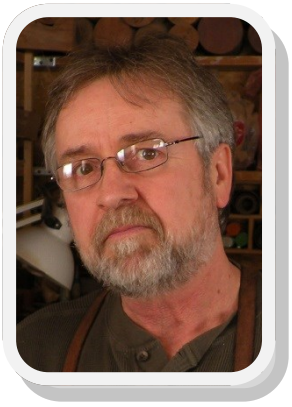

Apart from a few years at university I have been a life-long resident of Grey County. For the last 34 years home has been an old fieldstone schoolhouse just south of Neustadt and 2018 will mark my 28th year as a wood artisan. My work has appeared in *Fine Woodworking* magazine and has dispersed to every corner of the planet.

Long days working with locally sourced woods have given me a real appreciation for the material and the nobility of trees. I work almost exclusively with salvaged wood: back yard trees, off cuts from logging and lumbering and even invasive shrub. It's important to me that future woodworkers should find the same diversity of materials that has made my career gratifying and engaging on a daily basis. For that reason I joined the Grey County Woodlot Association in 2010 and the board in 2011. I don't have a woodlot but I do have a handful of the largest maple and ash trees you will find anywhere in Grey County. For the past 4 years I have been treasurer, first for the former woodlot association and now for the Bruce Grey Woodlands Association.

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Once you have renewed your membership, contact Donna Lacey to order your sign. d.lacey@svca.on.ca