Greenleaves

Newsletter of the Bruce Grey Woodlands Association

SPRING 2019

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BIGGEST EVER

14

PAGES!

President's Message

Alison Stewart

Welcome to another year with the Woodlands Association.

Rob Klea gave a great presentation on the health and wellness benefits of being in forests at our AGM meeting on Feb 28th at the Grey Roots Museum. It was nice to see everyone out, socializing and catching up.

With the exception of 2 people, all of last year's Board of Directors will be returning and we have 4 new members on the team. I would like to thank Sandy Bunker and Gord Edwards for their past contribution to the Board and wish them all the best. We still have room for 3 more Directors and I invite all members to come and attend our board meetings.

Spring has arrived at last, bringing warmer weather and longer days. The ducks and birds have returned with various other creatures/ critters making their appearance. It is a great time to take stock of our woodlands; how did they fair over the winter?; are there any signs of disease or ailments?; any new growth appearing in the undergrowth and in the stand?

Spring is also a time of pruning and thinning (I know my apple trees need a pruning soon, let alone the woodlands). Then there will soon be

(Continued on page 2)

APR 13	MAY 05	JUN 01	JUN 09	SEP 07	SEP 21
Movie Screening	Woodlot Tour	Invasive Species Workshop	Forest Therapy Walk	Annual Members BBQ	Bus Trip

DETAILS WILL BE POSTED TO WEB SITE & EMAILED TO MEMBERS (SNAIL MAIL TO POSTAL-ONLY MEMBERS) AS EVENTS APPROACH

How about hosting a member tour of your wooodlands?!?

Contact

Chris VanderHout

519-665-7414

(President's Message, from page 1)

the various chores around the house and property, gardens to get into (not too soon though) and tree plantings to be done.

At our first meeting held on March 20 in Formosa the Board:

- Reviewed the Treasurer's reports and approved the budget for 2019/2020 activities
- Voted on Executive positions (Listed in this Newsletter)
- Setup the 2019 committees (Events, Communication and Membership)
- Review nominations for the Award of Merit and made the decision as to the recipient
- Picked a date/time for the EOMF documentary film to be shown (April 13, 2019 at Bruce County Museum)
- Determined the presenter/speaker stipend
- Determined who would volunteer to staff the booth at the Woodlot Conference
- Setup Board Meeting Dates and Locations for 2019 (see listing on back page)

I had the pleasure of presenting the 2018 Award of Merit to Anne Lennox at the Woodlot Conference held on March 30, 2018 in Elmwood. Anne worked tirelessly for the benefit of the forests of Grey and Bruce Counties for over 3 decades. She is a long-time advocate for the practice of good forestry, the education of youth in natural resource management, and the importance of proper forest management planning. She has also left an even greater legacy of mentorship in the transfer of her knowledge and experience to all that have the pleasure of working with her. Anne has participated in numerous groups and committees to advance the understanding of what good forestry practices mean to responsible land stewardship. (see picture, pg. 12)

We are always looking for nominations for the Award of Merit. Please send your nominations in writing (email or letter) to myself or any board member.

Please do not hesitate to reach out with your ideas, projects, topics or concerns. The committees are hard at work putting together the dates for this year's events and fairs, newsletter materials and outreach programs. Stay tuned for more information soon.

Wishing you all the best.

Sincerely,

Alison Stewart

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.

BGWA's vision:

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

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Editor's Commentary

by Malcolm Silver, BGWA Member

What a pleasure to review the cornucopia of articles forwarded by members, in this issue. Thank you to all.

Now for something completely different; during a recent trip to Chile I visited La Campana National Park of 80 sq km northwest of Santiago in the Coastal Range mountains. It is famous because Charles Darwin visited the area during the 2nd voyager of the Beagle in 1834 and climbed the hill after which the park is named

In the valley leading to the park & within its confines one finds many *Jubaea chilensis*, a monotypic species commonly known as the Chilean wine palm. It is native to southwestern South America, endemic to this small area of central Chile and in that the most southerly distribution of any palm in South America.

Although Darwin described the palm as *a very ugly tree*, many consider it one of the world's most magnificent palms. It is one of the largest of the species in overall size.

The immense dark-grey trunk grows up to 30 m, with a diameter of 1 m or more, and often has a swollen region that generally tapers towards the crown which supports between 40 and 50 green or blue grey, pinnate leaves up to 4 m long. On dying they fall cleanly to the ground rather than persisting on the stem. Borne amongst the leaves, a large inflorescence hangs down and bears both male and female flowers. The spherical fruits are yellow or brown, and, like a mini-coconut, have a nut-like shell with three eyes through which the root emerges at germination. The tree is extremely slow growing and may take 10-20 years to even begin to grow a stem or trunk.

Historically, the Chilean wine palm was extremely abundant, but several centuries of destructive over-harvesting for sap collection reduced it to just a few significant populations in protected areas. I would point out the area of park visited was not really protected because grazing was permitted in it. However, efforts are being made by local conservation groups to reforest areas lying within the palm's former range. Furthermore, the harvesting of palm sap is now limited under Chilean law, and it is hoped that non-destructive harvesting methods will eventually be implemented.

Unlike sap collected from other trees for palm wine in this instance the trunk is felled and the crown cut from the apex of the stem. The sap then drains out over several months, sometimes yielding more than 300 liters. It can be fermented into a wine or, more commonly nowadays into sweet syrup (palm honey) for culinary uses. The edible seeds are also harvested and leaves used to make baskets.

Jubaea chilensis is widely cultivated in warm temperate regions of the world as a magnificent ornamental. Indeed, I remember several in the Adelaide Botanic Gardens next door to the old Royal Adelaide Hospital where I trained as an interne during 1957-58.

Source:

Jubaea chilensis (Molina) Baill. | Plants of the World Online | Kew ...
powo.science.kew.org/taxon/urn:lsid:ipni.org:names:131713-2

Hummock and Hollows

by Gerald Guenkel, RPF, BGWA Member

(Hummock and Hollows alias *Mounds and Pits,* or more scientifically – microtopography)

If you have walked through an afforestation red pine plantation under the age of 60 years, you will have seen that the forest floor is almost dead flat. This reflects backs to the plantation's origins; an abandoned agricultural field.

Many will comment that the area is *treed* and now a forest. I, however, challenge this thinking when you compare a new plantation to a forested area that has limited ground disturbance. When one walks through *old growth* forests, one sees a complex forest floor of mounds and pits. At first glance the irregular terrain could be attributed to rocks, boulders and ground depressions. The surprising fact is that most of these hummock and hollows have been created by the trees themselves.

The messy forest is full of victims of wind and snowstorms as trees singularly or in clusters fall to the forest floor over time, beginning the creation of a beautiful microtopography. A fallen tree can contribute to the hummock and hollow formation for hundreds of years beyond its importance as a living structure.

Why should we care about these cool bumps and concavities on the forest floor? They add soil diversity to encourage new regeneration

Over half of the forest floor can be comprised of hummock and hollows. The hollows created by uprooted trees roots collect leaf litter where increased insect active creates decomposition of organic matter. Tree seedling establish around the edge of the hollows benefit from the rich soil and the increased sunlight from the opening created by the toppled tree.

Fallen trees become hummocks over time as they decompose over hundreds of years, providing ideal micro-sites for the establishment of forest seedlings.

Depending on the species of seedling, the microtopography will provide micro-climates for ideal growth (ie. A bit of extra shade for a cooler, moisture growth site or in a sunnier location providing additional thermal units earlier in the spring for growth)

So enjoy all that beautiful hummock and hollow microtopography in your forest. The older the forest, the greater the microtopography, the greater the diversity of habitats for plants and invertebrates.

Gerald Guenkel Registered Professional Forester
Gerald@ElmStreetSolutions.com – Woodlot Forestry Services - MFTIP.
Certified Cutter/Skidder Trainer for Ontario
(Website: ElmStreetSolutions.com)

Sources used:

Stabb, Mark. Ontario's Old Growth: A Learner's Handbook. Canadian Nature Federation, 1996.

This high quality metal 12"x18" sign is perfect for gate, fence or post! (printing on one side only) $15 each available to current members

All 50 signs in last year's order sold out! We will be ordering another print run of signs. If you would like one (or more) please contact Donna Lacey after you have renewed your membership for 2019:

d.lacey@svca.on.ca

519-367-3040 ext 231

Bruce Grey Woodlands Association Member

Utilizing Small Patch Clear-cuts

to harvest Eastern White Cedar and enrich biodiversity in Bruce County's Community Forests

by Kevin Predon, RPF, BGWA Member

Eastern white cedar is one of the most prevalent tree species growing on the Bruce Peninsula, as well as one of the most sought after by local timber producers. When I started working for Bruce County five years ago as their Forest Technician, I knew that managing this particular resource would be a challenge.

Bruce County owns approximately 4700 hectares of forest, which are separated into eight tracts, and have been named for the former township in which they are located. The largest of our properties is the Lindsay Tract, which is 2800 ha of primarily cedar dominant stands. Bisected by Highway 6 North, the Lindsay Tract is located just south of Miller Lake in the Municipality of Northern Bruce Peninsula.

Location of Lindsay Tract in Bruce County

After joining the Eastern Ontario Model Forest in 2017, Bruce County's forests achieved third-party certification. Even though these forests are managed as a public resource, they are still classified as private land, and are therefore not subject to Ontario's Crown Forest legislation. Abiding to an internationally recognized set of standards, policies, and procedures demonstrates to the County Council and rate-payers that these forests are being managed sustainably.

Of all the operations that I have carried out so far for Bruce County, there have only been two exclusive cedar harvests in the Lindsay Tract. The first was in 2015, which yielded a less than desirable post harvest condition. I blame myself for allowing the harvest corridors to be too close together, which caused some residual blow-down. However, to prevent that from happening again, my strategy was altered for a second cedar harvest in 2016. The plan this time was to use the *pearl necklace* method recommended by Fred Pinto, R.P.F.

Location of the forty small patch clear-cuts in the northwest corner of the Lindsay Tract.

The harvest area was delineated into 40 individual circular clear-cuts, approximately 30-50 metres in diameter, with connecting corridors. The periphery of each circle was marked with ribbon, in order to retain some mature cedar trees as seed stock, as well as any mature non-cedar conifers. The strategy worked well in this area since the density of cedar is not uniform throughout the stand. It allowed the lower density areas to be left undisturbed while targeting those that were more operationally feasible.

There are multiple environmental conditions to account for when harvesting trees on the Bruce Peninsula, and the one which I learned about the hard way is shallow substrates. Typical soils in the Lindsay Tract are Breypen, which is a mixture of exposed bedrock, a veneer of mineral soil, and organic muck. In fact, 787 hectares of the Lindsay Tract are designated as a *protected forest reserve* due to their extremely shallow soil conditions, and are therefore ineligible to be harvested. The circle harvests have done well to protect the shallow soils, and I have been very pleased with how few trees have fallen over so far.

(Continued on page 6)

(Small Patch Clearcuts, from page 5)

Another environmental condition to account for when harvesting on the Bruce Peninsula are endangered species, in particular, the Massassauga Rattlesnake.

Massassauga rattlesnake in Lindsay Tract cutover

There is a significant population of these snakes living in the Lindsay Tract. To mitigate the risk of harming any, operational timing restrictions were used as outlined in the MNRF's Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales. According to this guide, the sensitive times are April 15th to June 1st and September 1st to October 15th, when the snakes are exiting and entering their hibernacula. Since the timing windows also somewhat aligned with the nesting songbird season, the harvest was restricted entirely to the winter months to protect those values as well. I was lucky enough to encounter a few Massassaugas last summer when I was conducting a supplemental tree plant.

In the summer of 2018, I managed to plant several hundred White Pine seedlings at random throughout the harvest circles and their connecting corridors. Finding suitable micro-sites for planting was difficult due to the shallow soil, but I made it work. Something that I noticed while planting was that by having the corridors move through the harvest circles, it substantially reduced machinery's foot print. The harvesting was completed by an eight wheeled mechanized cut-to-length processer, and then used an equivalent sized forwarder to transport the logs to the landing. Site disturbance was kept to a minimum.

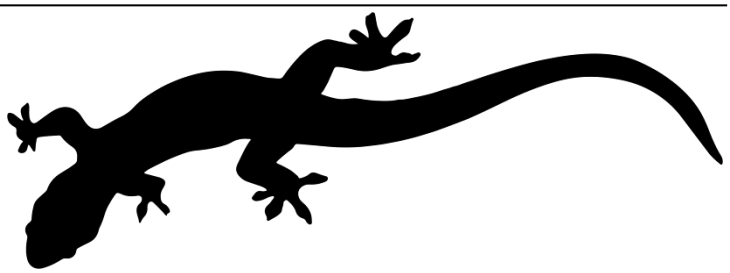
One problem with harvesting cedar is the volume of slash and the time it requires to decompose, which may slow down natural regeneration. The operator wanted a full-tree harvest; however, I had concerns of nutrient depletion on the shallow soils. Much debris was left behind, but at least the harvester did a great job spreading it out. Having both machines travel across the material repeatedly helped to break it up. I will continue to monitor the post-harvest condition of the clear-cuts. As you can see from the picture below, we've already had luck with a white pine seedling that germinated from a healthy residual seed tree, which was proudly marked in blue paint.

Patch clear-cut post harvest, February 2016

Natural white pine seedling from a residual tree

Terrestrial Salamanders of Grey-Bruce

by Jim Coles, BGWA Member



On our October field trip to Lloyd Holbrook's woodlot, Kevin talked about the importance of ephemeral or vernal water pools and the role they play in supporting forest dwelling reptiles. Terrestrial salamanders are among the reptiles that benefit from ephemeral pools in upland forests. Six species of salamanders are found in Grey Bruce representing four different families - each with different life cycles. Two families (four species) are terrestrial and two are aquatic.

The terrestrial salamanders have a number of common features:-

- they live their entire life within the humus and soil of the forest floor
- their forays to the surface for feeding and mating are usually nocturnal and coincide with warm, wet, calm conditions
- they are among the most energy efficient of the vertebrates - converting roughly 90% of what they eat (mostly invertebrates - worms, slugs, insects) to mass and energy (we humans convert roughly 25% of what we eat to energy)
- some are very long-lived (20+ years)
- low fecundity but high survivorship
- body temperatures fluctuate with the local substrate
- have small home ranges with complex social systems of territoriality and aggression
- are a food source for other vertebrates (snakes, herons, raccoons), transferring the energy of the soil up the food chain
- in undisturbed forests, achieve high densities often exceeding the biomass of other vertebrates

The terrestrial salamanders are divided into two families - **mole salamanders** (*Ambystomatidae*) and **lungless salamanders** (*Plethodontidae*) with two species each in Grey Bruce. Both families have the ability to lose their tails to a predator or if roughly handled but regrow the tail although usually shorter and of a slightly different colour.

The name of **mole salamanders** comes from their habit of staying underground or beneath objects or forest litter except when breeding. They do so in the early spring, as soon as the snow melts, in ephemeral ponds, ditches or shallow lake edges. Eggs are laid in small clusters and hatch in a few days. The larvae are chunky little creatures with relatively large external gills and well developed tail fins. They are carnivorous and voracious, feeding on small aquatic invertebrates. They only have front legs at hatching but soon develop hind legs. Aquatic larvae colouring varies, making it difficult to identify species. Transformation to adults generally occurs in July or August depending on the size of the pond and the temperatures of the year. Young salamanders quickly disperse to the forest. Sexual maturity is reached in about 3 years.

We have two species of mole salamanders in Grey Bruce. Both prefer moist, closed-canopy deciduous or mixed woodlands. They are uncommon in disturbed habitats.

The **Yellow-spotted Salamander** is fairly stout with a broad head and rounded snout. It is black to dark brown above with two irregular rows of yellow spots running from the back of the head to the tail. It can grow to 20 + cm.

The **Blue-spotted Salamander** is relatively small (reaching only 13 cm in

(Continued on page 8)

(Salamanders, from page 7)

length), is black to blueish black with dark underside and has intense white or blueish flecking on its sides and underside.

The **lungless salamanders**, with over 230 species, are the largest salamander family in the world; they breathe through their skins and membranes in the mouth and throat. Their skin must remain constantly moist or they lose the ability to transfer oxygen. Both Grey Bruce species are rather small, narrow-bodied creatures that live in undisturbed moist woodlands and retreat below the surface in hot, dry weather and in the winter. Their breeding habits are slightly different.

The very common **Eastern Red-backed Salamander** is quite small (up to 12 cm) and has two colour phases. The redback phase has a red or orange red stripe running from the back of the head to the middle of the tail while the leadback phase lacks the red stripe and is dark on back and sides. In both phases, the belly has a *salt and pepper* appearance. Breeding can occur in the fall or the spring with a small cluster of 5 to 15 eggs laid in early summer and suspended in a cavity underground or in a rotten log or stump. They complete the gilled larval stage within the egg and hatch as miniature adults in about 6 weeks. These young stay with the female until the remnant gill buds are absorbed then disburse throughout the forest. They grow to sexual maturity in two to three years.

The **Four-Toed Salamander** is a very small (up to 10 cm), slender, reddish to greyish brown with only four toes on each hind foot. The belly is white or greyish with black or light blue specks and the long tail narrows where it meets the body. Mating occurs in the late summer or fall but egg laying occurs in the early spring. The cluster of eggs (15 to 60) is suspended on overhanging vegetation, preferably sphagnum moss, over or very near shallow water. The females usually stays with the eggs which hatch in about 6 weeks and wriggle or drop into the water. The aquatic larvae metamorphose into the terrestrial form in about 5 weeks. They reach sexual maturity in three years.

Probably 98% of salamander sightings will be the eastern red-backed which seems to occur under most over-turned bits of forest debris. Despite the high density, it is unlikely you will find the other three species unless you venture out early on a relatively warm, rainy evening in the early spring with a flashlight when salamanders are moving from the forest toward the waters edge to breed.

Our Future's Greatest Stewards

by Patty Kruis, BGWA Member

Children, by nature, are great learners. If we teach our children and grandchildren to be aware of the forest ecosystem and have meaningful discussions with them about our woodlands, we can develop their curiosity and begin a lifelong learning experience. We can teach them not to be afraid of the forests and give them the love of the woodlands. When we teach them to value the forests, they will protect them. They will then become our future's greatest stewards.

A is for Alligator

by Paul Kruis, BGWA Member

Every spring, when the sun starts to feel warm, my mind turns to thoughts of camping and canoeing. It was no different last spring. My wife, Patty, and I pulled out our Algonquin Park maps and made a list of family members who were interested in joining us on a trip that year. The group would consist of two of my brothers, 3 nephews and 3 nieces, plus Patty and myself for a total of 10. We were looking forward to another canoeing adventure, wondering what beautiful scenery and interesting wildlife we might find this time.

Our route took us from Smoke Lake to Ragged Lake the first day. At the end of the portage, the remains of an old wooden log chute were visible on the left. Starting in about 1830 the eastern Algonquin highlands and surrounding area were logged mainly for red and white pine timbers[1]. Trees were felled and timbers squared, then floated down creeks and rivers to ships which would take them to England. When required, log chutes were built to get logs past the rapids.

Replica Log Chute, Algonquin Logging Museum

Our third day on Big Porcupine Lake was scheduled to be a rest day, one to relax, explore and swim. Mother Nature would have her say though, and we ended up huddled for the entire afternoon under a tarp, waiting for severe rains to stop; the previous year we also experienced torrential downpours on our trip. I have canoed for many decades in numerous parks in Ontario, and have never seen rainstorms like these last two years. We know that for every degree the air is warmer, it can hold about 7% more moisture[2], so as the climate warms further we need to anticipate that rainstorms will be heavier. I can't imagine how heavy the rains will be when the earth has warmed 4 or 5 degrees by the end of this century.

Day 5 found us on a campsite at Harness Lake, it was warm and sunny and great for exploring and swimming. One of my nephews came upon a snake basking in the sun on rocks. With a stick in hand, began. *Where does it live? Why is it sleeping on the rock? Why does it want to slither away?*

Eastern Gartersnake basking on a rock.
Harness Lake, Algonquin Park, 2018

One final day on the water and we were back to civilization. We always have mixed emotions on the last day. We look forward to hot showers, comfortable beds, and clean dry clothes, but will miss the quiet beauty of the park interior, the independent living and lack of cell coverage (work can't call here), and especially the lack of highway noise.

Our gaggle of 4 canoes.
Head Lake Algonquin Park, 2018.

(Continued on page 10)

(A is for Alligator, from page 9)

With the canoeing portion of the trip done, we headed to the Algonquin Logging Museum near the East Gate of the park for a bit of early logging education. There we learned the history of logging in Algonquin and followed a trail that took us past replica bunkhouses and actual logging equipment that was used a century or more ago.

In late fall or early winter lumbermen felled trees with axes, then later used crosscut saws. They squared the timbers with adzes and broad axes. The logs were pulled by horses to loading areas where they were loaded onto sleighs which were then drawn to frozen lakes. When horses were pulling sleighs downhill, they used a Barrienger brake to slow them down for fear of going too fast and causing an accident.

Barrienger Brake, or Crazy Wheel.
Algonquin Logging Museum.

To make sleighs slide easier, the tracks for their runners were watered using a water sleigh. Water was loaded from nearby lakes and drained onto the tracks as the horses pulled the sleigh along.

Horse drawn Water Sleigh.
Algonquin Logging Museum.

We were told to watch out for the alligator, but up here, so far north? But a few minutes later down the trail there is was; we saw it, sitting along the edge of the water in wait One of only a few that remain. An old steam warping tug, nicknamed the Alligator.

The William M.
Algonquin Logging Museum.

We had the opportunity to climb aboard and explore. Lots of questions. *Where is the engine?"* the kids asked. *How did it go across the land and water? What was it used for?*

As with any interesting piece of equipment, when I got home, I had to learn more about who built these alligators, how they were made, and how they were powered.

With the internet these days, it becomes easy to quickly find a lot of interesting information. A book, written by Scott Gilles from Simcoe Ontario titled, ALLIGATORS of the NORTH: A Brief History, provided much information on the alligator. It was designed and built by West and Peachy of Simcoe Ontario in 1888/1889 to resolve the issue of transporting logs from inland lakes for timber magnate Joseph Jackson.

> *It measured 32 feet in length, 10 feet in width and 4 feet deep… The hull was scow shaped and constructed of 3" thick white oak planking on the bottom, protected in turn by boiler plating. On the flat underside of the hull, two white oak runners measuring 6" x 8" were secured six feet apart; for further protection, these were shod with iron. The sides were built using 2" x 6" white pine planks laid flat, with white lead used as a sealer, and every 12 inches, bolts were run through these pine planks from top to bottom and then tightened securely*[3]

(Continued on page 11)

(A is for Alligator, from page 10)

Clarence F. Coons, R.P.F. in 1992 wrote:

> *In the late fall and early winter, the trees were cut, bucked into logs, and later in the winter delivered to a lake or lakeshore. On the lake, boom logs were laid out around the logs forming a bag boom. A bag boom was a series of logs or timbers fastened together end to end by short chains known as boom chains. Once filled with logs, the boom was closed by chaining the end logs together. Thus, a bag boom filled with logs was formed. The Alligator moved the boom of logs usually referred to as simply the "boom" by use of its winch, cable and anchor, in a procedure known as warping. When it was necessary for the tug to move from one lake to the next, and no navigable stream existed between the two, a portage route through the forest was cleared and the Alligator, by the use of its cable and winch, would skid itself across the portage to the next lake. In the meantime, the boom would be opened and the logs transferred to the next lake via a small stream, or a flume built to connect the two lakes. On reaching the next lake, the logs were collected in another bag boom and warped down it by the Alligator. This sequence continued until a main river was reached where the logs would be set free to flow with the current down river to the mill in a log drive.*[4]

The alligator was propelled by a 20 hp steam engine and used about ¾ cord of wood in a 10-hour shift. There were berths for 4 men below deck. "The alligator could move up to 60,000 logs at a time in a single boom at a speed of about one mile per hour." 4 The first 66 alligators built had paddle wheels which presented some issues when operating beside the floating logs. Later versions utilized twin propellers which allowed the alligators to easily move between the floating logs and the required width on portages was reduced. Over 200 were built in all.

For warping, each Alligator used a long steel cable referred to as the warping rope. The standard size Alligator used a 5/8inch diameter rope usually 5000 feet in length. The wire rope was cast steel. It was supplied to West and Peachey by the B. Greening Wire Company of Hamilton. Each Alligator was also equipped with a large cast malleable iron warping anchor. The standard lumberman's warping anchor weighed 500 pounds. These anchors had a long shank, a wide stock and large flukes. [4]

If you are interested in learning more about the Alligator and the life of an Alligator driver, or the early logging period in Ontario, I suggest visiting the following sites.

http://alligatorsofthenorth.blogspot.com/2009/12/alligators-of-north.html

http://www.parrysound.com/opinion-story/4468055-a-day-in-the-life-of-an-alligator-wheelsman/

http://www.muskokaregion.com/opinion-story/3645970-wahwashkesh-lake-s-alligator-/

http://mcraelumber.ca/index.php?whichpage=history&parent=history

Footnotes:

1. http://algonquinforestry.on.ca/algonquin-park-history/history-logging-history/
2. https://www.engineeringtoolbox.com/maximum-moisture-content-air-d_1403.html
3. ALLIGATORS of the NORTH: A Brief History" - Scott Gilles. Curator/Manager. Eva Brook Donly Museum & Archives. Simcoe, Ontario
4. The Alligator Steam Warping Tug by Clarence F. Coons, R.P.F. OCTOBER/OCTOBRE 1992, VOL. 68, NO. 5, THE FORESTRY CHRONICLE

Remnants of Anchor and Block.
Burntroot Lake, Algonquin Park, 2016.

This newsletter was made possible in large part by the BGWA members who generously gave their time and effort to write the content you are enjoying.

Would you please consider contributing for a future issue to keep the newsletters full and interesting? And as a thank you, all contributors are entered into a prize draw at next year's AGM for each piece contributed.

To learn more: newsletter@bgwa.ca

You thought it was only a black beetle; think again

by Malcolm Silver, BGWA Member

The shiny black 20-30 mm long adult horned passalus or betsy beetle, *Odontotaenius disjunctus* is widely distributed, throughout deciduous forests of southern Manitoba and Ontario. It is easily recognizable. The horned passalus only decomposes decaying wood or logs, and is not a pest of urban structures. If disturbed they can stridulate.

You will encounter adults, their large white grubs or immature reddish insects in tunnels in a log that has fallen and begun to decay; optimal conditions include high moisture levels, as the beetles are sensitive to dry conditions. For them to digest wood, it must also have microflora, such as naturally occurring fungi and bacteria, which are breaking it down; these microflora aid in the predigestion of the wood. When the horned passalus takes up residence in a log, the beetles facilitate log decomposition by chewing up wood pulp and expelling frass. Logs that have been inhabited by them tend to have sawdust littered around and beneath.

In forests throughout the world, coarse woody debris makes up a tremendous amount of biomass that is tough, hard-to-decompose, and nutritionally bankrupt due to its low nitrogen content. For insects like termites and the passalid beetle, decaying wood is their main dietary staple from which they derive energy and nutrients to make their cells and tissues. Passalid colonies may have as many as seven adults that can consume over four times their weight in wood per day. This wood passes through the beetle's complex digestive tract and is finally excreted as its waste product, politely termed frass. This beetle has a hardy digestive tract with microbes to thank for turning its woody diet into energy, food for its young, and nutrients for forest growth.

Recent studies indicate the beetle's gut architecture, such as its length and thickness of its walls, has evolved to suit its microbiome so that specific metabolic processes are favored in different gut regions. This allows oxygen-requiring reactions to happen in a gut region that is separated from regions where microbes carry out reactions that would be inhibited by oxygen. The research team also demonstrated that the beetle gut architecture prevents certain products like hydrogen from escaping in order to favor the production of acetate, a critical energy source not only for the beetle itself, but also for its offspring.

Passalid beetles are considered amongst the most highly subsocial of species, meaning they work together in family units to defend their log tunnel homes and care for their young into adulthood. Because the beetle excretes an energy- and nutrient-rich frass on which their offspring feed, now it seems the young also have their parents' microbes. The nutrient-rich products from these insects eventually work their way back into the forest soil, supporting ecosystem productivity

So what's next? Although nature leads the way, we can learn from how beetles compartmentalize biochemistry along a production line, and perhaps engineer artificial systems to produce bio-products by mimicking the properties and functions of systems like this beetle's gut and its microbiome.

References:
entnemdept.ufl.edu/Creatures/misc/beetles/horned_passalus.htm
www.sciencedaily.com/releases/2019/03/190311125148.htm

Anne Lennox receives the Award of Merit from BGWA President Alison Stewart, in recognition of her outstanding contribution to the objectives of BGWA and sustainable forest management.

Invasive Plants Awareness Platforms

by Jim Martell, BGWA Member

After consultation with Craig Todd at Ontario MNRF requesting assistance for ideas on a conservation project, Craig helped the Bruce Peninsula Sportsmen's Association (BPSA) decide on the promotion and construction of an Invasive Plant Awareness platform.

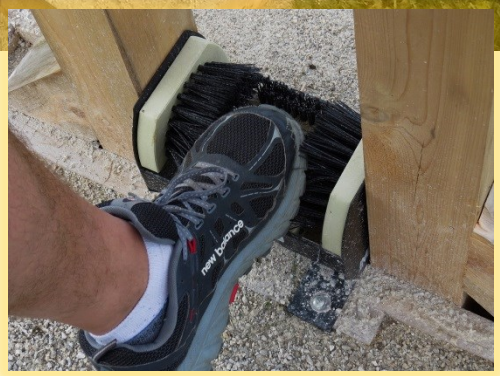
These consist of a frame made from 2 X 6 cedar lumber 4 X 4 posts harvested from a member's woodlot and milled with a wood miser sawmill. The platform is very sturdy and a cedar plank backer board holding the sign. We expect the platform will last for many years.

BPSA have embarked on the goal of supplying and installing 100 of these platforms across the Bruce Peninsula. To date we have 34 platforms in place. We have partnered with the Town of South Bruce Peninsula, The Bruce Trail, The Outdoor Education Centre in Wiarton and the Bruce National Park.

Simply a boot brush station with informative signage. Each platform costs less than $400.00. So far we have received grants from Union Gas, The Gosling Foundation, The Helen McCrae Toronto Foundation, and the Community Foundation of Grey/Bruce.

The goal is to provide the hiking public a sign to inform them of invasive plant and a chance to brush off their boots before and after hiking a trail or walk through the woods.

I would like to encourage woodlot owners and others who may have trails nearby to install platforms like these to inform the public about invasive plants.



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Donna Lacey
Susan McGowan
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Ron Stewart

* committee chair

Past-President's Message

Chris VanderHout

Hello members,

Since 2015, I have worked as the President for the newly-formed Bruce Grey Woodlands Association. We have transitioned from the amalgamated Bruce and Grey Woodlot Associations to where we are today. In that time we made good progress. Some highlights include initiating many quality events- (Treevia; film showings; and bus tour). We also created display banners; constantly improved our online communications platform; connected with joint associations and revived the GCWA Award of Merit. Of course all of this was made possible through the hard work of an engaged Board of Directors. It has been a pleasure to work with it over the years. The Board's commitment to the objectives of the organization is outstanding and made it easy to accomplish the things we have.

I am pleased to announce that I pass the torch to Alison Stewart our new President. I am confident she will do a fantastic job to continue the work that has been initiated and bring a fresh outlook to the role. I want to thank members for their support over the years as we worked through the transition from two associations to one. I am proud of what our group stands for and the strength of the organization after our first 4 years. I will continue to sit on the Board as Past President to assist Alison as needed. Above all, I wish her every success as we move forward.

Sincerely,

Chris

BOARD MEETINGS

7-9PM • Members always welcome to attend

April 10 - MNRF (Owen Sound)

June 12 - Saugeen Valley Conservation (Formosa)

August 14 - Grey Sauble Conservation (Owen Sound)

October 16—Saugeen Valley Conservation (Formosa)

December 11 - Grey Sauble Conservation (Owen Sound)

January 15 - Saugeen Valley Conservation (Formosa)