Greenleaves

Newsletter of the Bruce Grey Woodlands Association

AUTUMN 2021

www.bgwa.ca

SPECIAL SKILLS DEVELOPMENT FEATURE INSIDE !

An ABC Guide to DIY GIS

Upcoming Board Meetings:

(virtual/teleconference until further notice)

All dates 5:30PM start

Dec 14

Jan 11 (2022)

Members always welcome. Contact secretary@bgwa.ca for virtual meeting invite.

President's Message

Jim White

Dear BGWA Members,

As autumn draws to a close, we have had the snowplow down our sideroad for the first time this week. Days are ticking by to finish those last-minute items on the Fall 'to do list'.

Since our last Greenleaves edition we have had two more face-to- face field trips. One to the Kinghurst Forest and adjoining property of members Makhouleen's. They were excellent hosts, weather cooperated and participants had a great tour of their property. Thanks very much to Valentine and Ghazel's for making our troupe so welcome and providing a great learning experience. Our second tour was led by Donna Lacey, Manager of Forestry and Lands, Saugeen Conservation at the Greenock Swamp. Mother nature made sure rain gear was useful. Donna led the group through a variety of ecosystems at the site with a very engaged question and answer discussion.

If you have a property with interesting aspects that you would like to share with members, from plantation to riparian stream restoration we would love to hear from you to book a tour in 2022.

In terms of attendance, we are fairly consistent with approximately 10% of our membership participating at each event. That number allows social distancing and group size so that participants can hear the tour guide.

If you have ideas that you would find a valuable learning event, please contact me. We are planning to extend the season of our hikes, avoiding peak insect time while cashing-in on frozen ground for ease of walking and clear lines of sight.

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

Contact Jim Coles:
jcoles@gbtel.ca
519-934-0020

THANK YOU CONTRIBUTORS THANK YOU

We packed 12 pages for you, our members, with member-created content!

Will *you* help out with something for the next newsletter?

newsletter@bgwa.ca

GREENLEAVES

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

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

BGWA's vision:

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

bgwa.ca **info@bgwa.ca**

Mailing address:

BGWA, Box 45, Neustadt, ON, N0G 2M0

The summer of 2021 between COP 26 and the combination of heat domes and atmospheric rivers made each of us aware of the impact of climate change. My heart goes out to the farmers and urbanites in the lower Fraser Valley. The clips on CBC / CTV are unbelievable. I expect that we will learn more in 2022 about planning from OMFRA and MNR's regarding Carbon Credits. Forests and agriculture will have input and output impacts as policies develop.

Our membership continues to grow in families and individuals. In speaking with several new members, the theme of looking for a local source of knowledge is the important reason for joining BGWA. Following closely is the interest in meeting other like-minded individuals. BGWA provides a variety of venues for education and awareness about all things associated with woodlands. One of the key elements in the communication and education is with Greenleaves. I cannot emphasize enough the need for more members to take time to share their knowledge and experiences by contributing to the editors. Please help us!

Another key element of our communication and education tools is our BGWA website and Instagram. Have you checked the new look and feel of our website and our Instagram presence?

Recently, we provided an opportunity for members to do a little online shopping in advance of the gift giving season, to purchase clothing items with the BGWA logo.

A little association self-promotion with some new clothes.

We did a little analysis of views of the website in the members only tab. We have no idea who visited or if they visited multiple times, however over the course of two days following each email reminder we had the equivalent of all of our members view the offer. Thanks for taking time to check it. Our volunteer directors that organized the BGWA clothing offer got some nice feedback on their initiative. Hope you enjoy the clothing!

Looking at the calendar we will be headed towards our AGM in the next quarter. We are looking for persons with an interest in joining the Board of Directors in 2022. Especially people with new ideas and relevant skills to join a collaborative team of Directors. Please contact me directly: (jwhite007@sympatico.ca or 519 820 0938).

Keep well, be safe, be kind!

A SPECIAL SKILLS DEVELOPMENT FEATURE:

An ABC Guide to DIY GIS (for Y-O-U)

By Kevin Predon, RPF, BGWA Director

Do you have the desire to create spatially referenced maps of your personal woodlot but thought that it was impossible because you don't have a fancy computer, own expensive software, or have training in GIS (Geographic Information Systems)?

Well, what if I told you that you don't need any of those things? (I know, this sounds like a late-night television info commercial) because I am going to show you how.

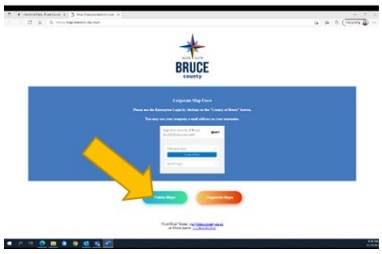
I realize that this may be one of those circumstances where Kevin the forestry nerd gets really excited about something that the muggles may not care about, however I recently had an epiphany. I have been struggling with getting the maps that I make on the Bruce County Geocortex website to work with the Avenza app for quite some time, and today (Tuesday, November 16th, 2021) I FINALLY got it to work. And since our fantastic BGWA editorial team was looking for newsletter articles – This is the exciting topic I have chosen to write about for our latest edition of Greenleaves.

Before I get started, I feel that I should make a declaration/place a disclaimer here. I barely know how to spell GIS, and if was not for the generosity of my classmates, I would not have passed those units in college/university. I was not good at working with the Arc software in school at all, and since my study/drinking buddy Don now lives in northern Saskatchewan, I've been forced to flex those GIS muscles all on my own. It has been a painful process, but I've learned some things, and these Geocortex programs are relatively user friendly. I had to share what I've learned with the membership to help all of you in your own woodlots.

Now that I've got that off my chest, let's do a little groundwork on why you should create maps of your woodlot before we get to the how to create them. Perhaps you'd like to keep track of regenerative growth – there is some really nice white pine popping up in the maple bush, or some red oak showing up in the fence rows. Maybe. some invasive species are growing in your woodlots that you'd like to keep track of, for example, buckthorn making its way into our hardwoods that you need to get more aggressive with. Or maybe you would like to map-out the extensive trail network on your property to share a spatially referenced photograph with your bed and breakfast guests, or build a Labyrinth in your forest and map-out the solution. (Any of those might be niche applications).

I know that your properties may not be as large as the forests that those of us who work in natural resource management deal with, but maps are still a useful tool that can be handy for tracking changes in your woodlot over time. Okay, so let's get going. Here is what you're going to need to make this happen:

Depending on which County you live in, you'll need to access the Geocortex program for your area. If you live in Bruce County, you can access the interactive mapping site at https://maps.brucecounty.on.ca or if you live in Grey County https://maps.grey.ca The two sites are very similar, but do differ slightly with options and functionality, so we'll need to address those issues as we move along. But for both sites make sure that you choose the "PUBLIC" option.



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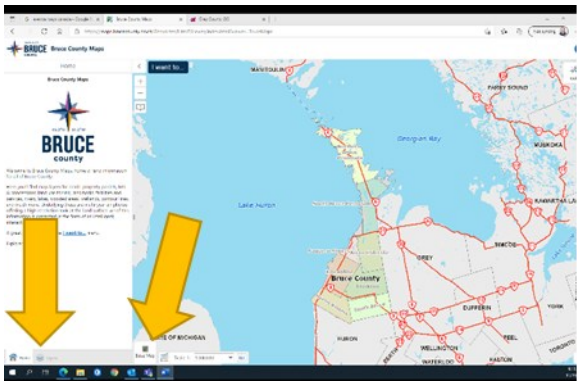
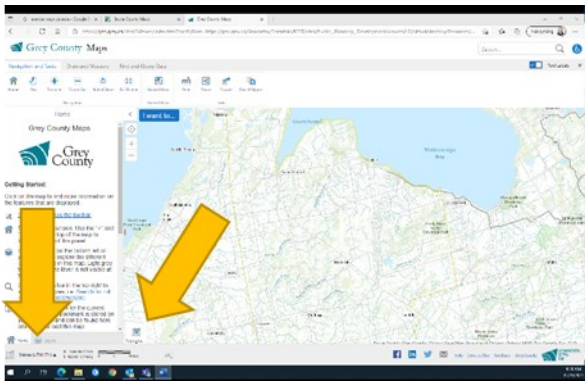
(ABC Guide to GIS, from page 3)

Also, if you want to access the maps as spatially referenced photos, you'll need to download the free version of the Avenza app to your "Smart Device" from wherever you get your apps from (we'll get back to this later).

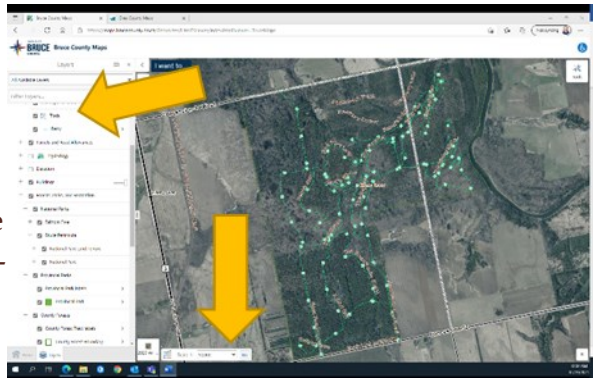
Okay, back to the GIS programs, it's going to take forever if I go over each function, point by point, so I'm just going to outline the basics and you'll have to play with the programs, but if you get stuck, email me at kpredon@brucecounty.on.ca and I'll try to help you get it figured out.

After you've clicked on the "public" options and agreed to the disclaimers, you should arrive at these large-scale maps of the two counties.



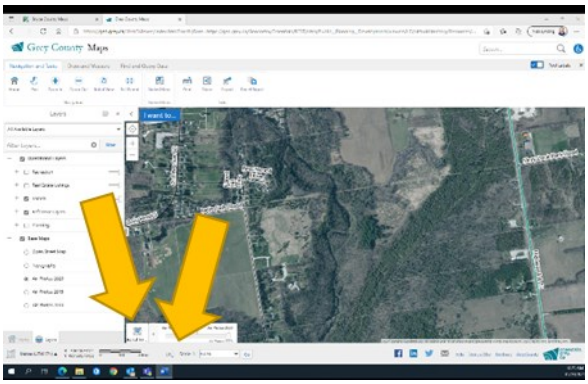


If you use the wheel on your mouse, it will allow you to zoom in and out. Look for the "Layers" icon in the bottom right corners of each program to change up the visible features, and the "Base Map (Bruce County)" or "Topography (Grey County)" icons to access the aerial imagery.



Both programs come with instructions put there by the people who created them, so I encourage you to read through them to help you figure out what you want to do.

On the Bruce County map (upper right), I've zoomed into a scale of 1:10,000 at our Brant Tract, switched to the 2020 Air Photo base map, turned on the Trails layer, and turned off the hydrology layer, the County Forest coverage layer (but not the County Forest Boundary Layer) and the Wooded Area coverage layer. Again, the different layers can be toggled "on/off" on the left-hand side, and the Air Photo Base maps are accessed via the icon in the bottom left corner of the map.

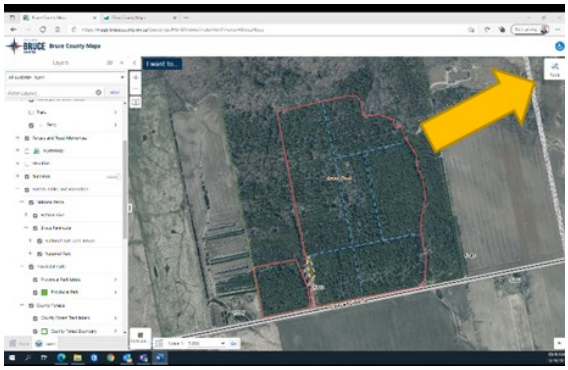


On the Grey County map (lower right), I've zoomed into a scale of 1:9,028 at the Grey Sauble Conservation Authority property at Inglis Falls. I tried for the even 10k, but it wouldn't let me, and I'm not sure the reason for this. However the reason why I like to produce my maps in even increments is that I can easily measure distance on the maps when I print them as paper cop-

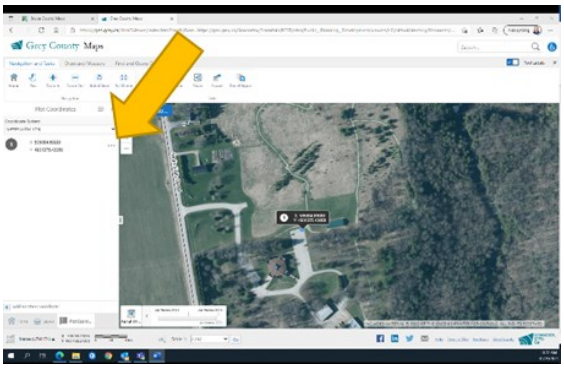
(Continued on page 5)

(ABC Guide to GIS, from page 4)

ies. You'll need to click on the "1:500" symbol at the bottom of the screen to access the scale function and open the Aerial Imagery.



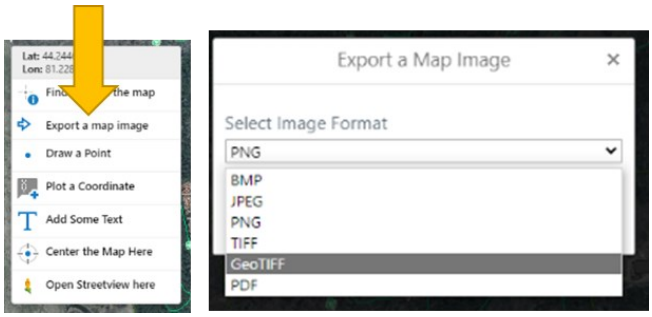
Now that we've figured out how to get your base map made, we can start adding personal stuff to it. One way to do this is with the draw and measure functions to show where things are, or are going to happen, on the ground in real life. I've drawn a boundary around where we'll be doing a pine harvest at the Brant Tract as an example. I've used different colors to indicate the harvest boundaries, the main forwarder trails, and where the log landing will be. These functions are all accessed by clicking on the "Tools" icon in the top right-hand corner of the map.



Another way to add personal information to your map is with the "Plot a Coordinate" function, which lets you use real world coordinates. As an example, I've marked a point in the GSCA Main Office parking lot where I like to park my truck. With this function you can "Edit" the location of your coordinate, and manually input your own pre-determined coordinates. What you need to do is "right-click" your mouse on the map where you want to mark a location, left-click on the "Plot a Coordinate" option, which will then show you the coordinates of that exact spot. The locations will be numbered, and you can change the information by clicking on the horizontal dots next to the coordinates on the left-hand side of the screen.

Perhaps we'll need to cover how to gather coordinates of specific objects at another time, maybe at the next woodlot tour, but I think that GPS units have been around for a long enough time that you'll know what you are doing. Even if you don't have a GPS unit, most Smart Devices have GPS in them, and so you can get coordinates from the Compass App or the meta-data of photos you've taken with that device. Just make sure that the coordinates you collect are either in the same format or converted to the same format used by the Geocortex software. The Grey County coordinates are in UTMs and the Bruce County coordinates are in Lat/Lat decimal degrees – so make sure that you're comparing "apples" to "apples" otherwise it won't work! You can use Google to find a whole bunch of online conversion tools to help if you need them.

Alrighty, the final step will be to save your map in a spatially referenced format so that you can upload them to your Smart Device. I have an iPad Mini and an iPhone 11 with the previously mentioned "Avenza App" installed on them. That allows me to see where I am in real time on the images that I have created and uploaded. Please note that Avenza does not use cellular data for navigation, so if you make sure to previously upload your images while connected to a Wi-Fi network, it won't cost anything to use the out in the real world.



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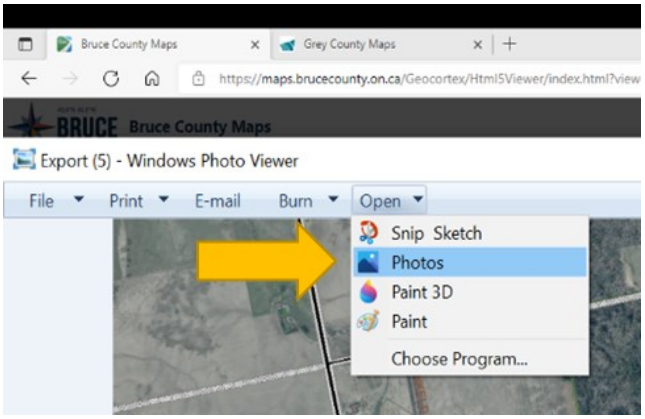
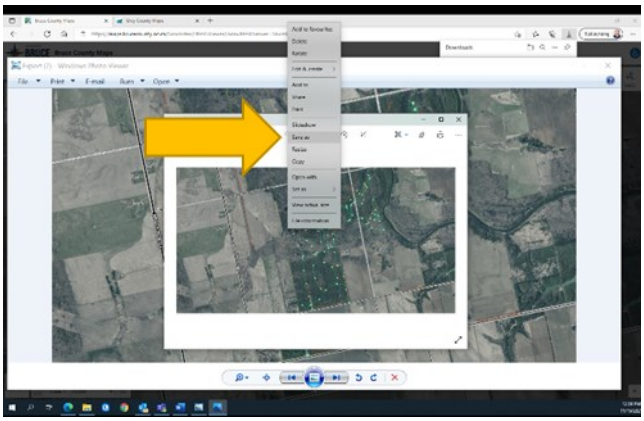
(ABC Guide to GIS, from page 5)

Now to save your map, what you need to do is right-click anywhere on the image and select "Export a map image" from the pop-up menu. After that, it will ask you to "Select Image Format" from a drop-down menu, and you'll want to choose "GeoTiff", and then click on "Create Image".



Don't worry about the little box that says "Include Georeference Data" because GeoTiffs already has it embedded into the meta-data. You'll need to follow whatever prompts it gives you, and then you need to also follow the download prompts which will export the image to you as an Export.tif file. Once you have the image downloaded, you'll need to click on the "Open" tab and select "Photos"



This will bring-up your exported map as a picture file in the photo viewer. What you'll need to do next is right-click on the image, and select "Save As" from the drop-down menu, and rename the map file and save it somewhere on your computer.

The final step is to get your map from your computer to your mobile smart device. I'll tell you right now, this can sometimes be a frustrating experience, so please remain calm! There is probably more than one way to do this, and if you're a tech savvy indivudual, by all means – fill your boots. I am not good with technology, so what I do is email the map to myself as an attachment. If you're using Apple devices, it is possible to use iTunes or "Air Drop" between devices, but I have found emailing them to be the easiest.

The funcitionality of your email apps and mobile devices may be different than mine, but I will demonstrate the path that I use to get the map image from my Outlook email account to the Avenza app on my iPad Mini.

To transfer the map image from the email, I open Outlook, open the email, and then to the right of the attachment, there is a little drop-down arrow that brings up some options – of which I'll select "Download", which will place the image into the download folder on the iPad. Then I open-up the Avenza app, and click the "+" icon in the top right corner, which will bring up the "Add Map" menu. I then select "From Storage Locations" which brings me to the Downloads folder, and then I select the map image which will now upload the image to the Avenza app.

Once you've successfully got your image open in the Avenza app, and if you are within range, a blue dot will appear which will represent your current location on the image. However, like I stated earlier, it has taken me years of patiently working out the kinks to get where I am with this app. If you feel you would like to make some maps of your property, but can't seem to make it work, let me know and I can try to help you out. I will make a few "Avenza" ready maps for various areas around Grey/Bruce, and put them in the Member's section of the BGWA website. If you feel so inclined, get the Avenza app, upload a map or two to your device,

How Do Leaves Change Colour in Autumn

By Jim Coles, RPF, BGWA Director

Autumn in our temperate zone is a beautiful time of the year. All our hardwood trees, shrubs, and larches change leaf colour from green to various shades of yellow, orange and red, prior to falling off for the winter. Perched on a hill overlooking a vast tract of land in the fall can be a glorious sight.

In summer, most of our hardwood trees and shrubs have green leaves due to the green pigment chlorophyll. Leaves generate an abundance of chlorophyll in chloroplast cells throughout warm and sunny days. The chlorophyll uses energy from the sun in the photosynthetic process to convert carbon dioxide and water to sugars and starches used for growth. Leaves also generate other pigments called carotenoids – xanthophylls, for instance, are yellow (as in corn) and carotenes are orange (carrots). However, the green of chlorophyll overpowers all other pigments, hence virtually all leaves and needles are green during spring and summer months.

The time when they start changing colour is more dependent on light than on temperature, which is why leaves start changing colour at about the same time each year. In autumn, with shorter day length and colder temperatures, leaves start to prepare for winter in a number of ways.

1) They stop making chlorophyll. Much of that existing breaks-down to individual molecules or nutrients and these are transported and stored to be used next spring. This allows the colour of the carotenoid pigments to be unmasked, revealing colours like orange and yellow.

2) Only at this time of year are other pigments produced–, the reddish colour found in blueberries and cherries. Anthocyanins are produced when sugars are made during warm days, but they can't exit the leaves during cold nights. They turn ash leaves a purplish red and deepen the reds in maple and sumac.

An abscission layer slowly develops where the leaf stem meets the twig cutting off much of the nutrient and sugar transport between leaf and twig. This is a weak layer of cells enabling the late fall winds and heavy rains to dislodge the leaves from a tree/bush.

Trees in the fall are not just yellow and red. They are a kaleidoscope of colours - bronze, golden yellow, purple, red, tan, crimson and orange-red. Different tree species, even different trees within a species, have different proportions of pigments within their leaves. The amount of chlorophyll remaining and the proportions of other pigments determine a leaf's colour. A combination of anthocyanin and chlorophyll creates a dark yellow or tan while anthocyanins and carotenoids create orange leaves.

Saplings of some of our species - red oak and beech - retain their leaves over much of the winter. These leaves are dead; the pigments have completely broken down and the leaves turn brown.

The beautiful colours in our Grey/Bruce forests have passed us by for this year but next year promises to be brilliant again.

Air Pruning Bed Project Update

By Rosemary Crick, BGWA Member

Ed Note: This is a follow-up to an article in the Spring 2021 edition of Greenleaves.

Our first working bee was on July 11 with Chris, Donald, Ken, Lydia and myself on the job. The box had been sitting in the grass for about two years so the grass had grown up through the mesh screening on the bottom and all around. Our first task was to scythe the grass so we could get to the box and to pull the grass out from within it.

The next task was to build a solid and level platform for the box to sit on, sufficiently off the ground.

Once the box was in place we put a good thick layer of old straw on the bottom. We at Crickhollow Farm had a pile of top soil from when we levelled ground for our greenhouse. Ken used the tractor loader and made quick work of filling up the box.

In summer the box made a really nice planter! I grew spinach, sweet peas, beets and lettuce as a bonus crop! Also, during summer and fall months my forest hikes took on more importance as I searched for prime specimens from which to collect seeds and nuts. As mentioned in the first article I sought trees that were healthy and mature. Others did the same.

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(Fireflies, from page 8)

We had our next working bee on Thursday November 11. In the meantime, Chris and Donald had made the top mesh frame and Chris dropped it off with two boxes of black walnuts.

Lydia made markers out of popsicle sticks to mark where we put the nuts and seeds in the ground. We planted some locally grown hazelnuts, black walnuts, acorns, linden seeds and a mystery seed that I found on the forest floor but was unable to identify. Since planting these I have found some beech nuts and Donald has some chestnuts to add.

You can see Donald researching as we plant to find out the depth and spacing for the nuts and seeds. He referred to the book by Henry Kock and University of Guelph Arboretum colleagues "Growing Trees from Seed" 2nd edition, Firefly Books 2016. Unfortunately, some specifics were missing, even from this tree nursery bible!

In the spring article I encouraged BGWA members to save nuts and seeds from trees on their property or that they find on their travels. If you have any please let us know! You can stratify them in your fridge and plant them in the box in the spring or, you could bring them over and we can plant them out here now.

There was much debate in our group as to whether it was a good idea, or not, to plant seeds directly in the box to overwinter. Will they freeze too much? We

planted some of the black walnuts in the garden and will move them into the box in the spring. Ahren bought hazelnut and heartnut seeds from Grimo nursery and he is overwintering them in his refrigerator.

The last steps were to cover the soil with a thick layer of wood chips. (I have a pile given to me by a local tree surgeon. It had been sitting all summer and was full of lovely mycelia) and to attach the protective screen. The very final step is to collect soil from the woods and make a tea to inoculate the bed with forest microbes.

As a group we are just jumping-in and learning as we go. We are all passionate about the importance of trees, and finding ways to nurture them in their first steps from nuts/seeds to seedlings.

Hope you can join us!

A Birds-and-Bees Turtle Story

By Marshall Byle, BGWA Member

PHOTO CREDIT: commons.wikimedia.org/wiki/File:Midland_painted_turtle,_young.jpg

One fine morning back in early June, as I was scanning the yard for birds with my binoculars, something shiny on the lawn caught my eye. It turned out to be a painted turtle digging a hole to lay eggs. This was the first time I had actually witnessed this very interesting process. She worked away for about an hour, and when finished, did such a neat job covering it over that it was hard to tell where it was. This is really cool, because who doesn't like turtles?

Next, I went to Google to look into the life history of painted turtles. The ones hereabouts are actually Midland Painted Turtles. Now if you think you know all about the "birds and the bees", uh, you don't. Like, those cute little Chickadees that come to your feeder. Did you know that while the dedicated male is taking his turn sitting on the eggs, the female is out having sex with other nearby males? My mother never taught me about those little trollips. Every egg in the nest may have a different dad. Then there's those handsome male red-winged blackbirds that proudly puff up their bright red shoulder patches. They keep a small haram of 5 or 6 females who do all the work, build the nest, incubate the eggs, and feed the babies. The males just cruise about chasing away other males, and singing that familiar konk-la-ree song that we love to hear each spring.

Ok, back to the turtles. How do they do it? You know, copulate, because this could be tricky with the hard shell and all. Turtles and most birds don't have an appendage for procreating, like humans or mammals. They have a cloaca which is multi functional, basically where it poops from and used to pass on genetic seed. In the case of these small turtles, the male has a longer tail than the female and the cloaca is midway down its tail. They just have to touch their cloacas together when the mood is right. And, they do this under water.

Apparently, females can store the male's genetic material for up to 3 years. So, when one of these little turtles digs a hole and deposits a half dozen or so eggs, each could be from a different dad. The good part for mom is that once she deposits the eggs, her parenting work for that batch is over, they're on their own. If it's too late in the fall, they can actually stay in the ground until next spring. Believe it or not, they can withstand freezing.

Unfortunately, most turtle eggs are dug-up and eaten by raccoons, opossums, and even chipmunks or snakes, so I did some human intervention and built a special enclosure to protect them.

According to Google the average incubation period is 72 days. Our eggs were due to hatch in the middle of August. So, when nothing happened on the due date of Aug. 17 and after a close vigil for another 14 days, we decided something must be wrong. Maybe the hard clay had dried out and could be too hard for the babies to dig their way out.

This next step, maybe controversial, is as close to a "C" section for turtles as it gets. Very carefully I proceeded to uncover the eggs, but after such a long period, and lots of vegetative growth it was difficult to know the exact spot. Unfortunately, one of the 6 eggs was damaged in the process. It did however reveal that the turtles were alive but not fully developed. You can't believe everything on Google.

At this point I transferred the remaining 5 eggs into a bucket of sandy soil, being ever-so-careful not to rotate them. The bucket we now kept in our kitchen, so that we could keep a close watch. I know what you're thinking, everyone should have incubating turtle eggs in their kitchen. Could be worse, I've had baby racoons in the kitchen, but that's another story.

After 98 days from when the eggs were laid the first baby hatched. Turtle eggs are not like bird's eggs which are pointy at one end with hard shells. Turtle eggs are rather oblong with soft leathery shells. It took the baby about a half day to get free of the shell. It was perfectly formed like a miniature adult about the size of a quarter. We took it to the pond and it instinctively knew what to do, swimming into the grasses and mud. The rest of the eggs hatched over the next few days with the same happy result.

The Treehouse

By Martha Martell, BGWA Member

Our wooded property is surrounded by more wooded property, rocks and beaver ponds. It is our retreat with wildlife and has many trails we made over several years. We particularly enjoy this retreat in Winter with Spring and Fall visits as well. Thanksgiving and Christmas have been the family highlights to be spent at the little cabin on the property.

This retreat has been in the family since our children were in elementary school with only a compass and old fence lines as guides into it. Now the children have young children of their own. As schools were shut down, home schooling and home offices made interest in being outside and exploring more exciting.

An improvement made this summer was a sturdy dock on the beaver pond, not to moor a boat, but to capture frogs and see pond life. The grandsons, Remy and Nelson, have learned to respect the dangers of bush life but also to see beyond the screens and activities inside buildings. We could see it was time for the boys to experience treehouse life.

The build started in October so we knew we had a time limit to get it winter-ready. The location had to be so the pond could be seen from it. The builders, Grandpa and Grandma with help from the Dad meant this was not going to be a perfect project. We spent many days at each stage of the build but you can't complain when it was time spent at the beaver pond. Because we didn't have many big trees around and wanted to be forestry-friendly the plan was to make a platform 4 or 5 feet off the ground. Grandpa Jim spent time on the computer to get some ideas. We also kept in mind that the boys will grow up and tire of the treehouse, so it will be our bird viewing platform when they are not playing in it. It was to be semi-sided but with a little repurposing of material we had at the house it came together nicely. We used an old shower side for a permanent window. The door was made on the spot, even with insulation left over from another build. The clear roof keeps it bright for future star gazing. We made plastic frames to enclose the structure for the winter. A bonus we discovered is that with it facing west, the afternoon sun heats it nicely for afternoon tea time.

It will be a great retreat after a snowshoe hike. With the climb up the ladder, the boys will have to retrieve their sandwiches with a pulley and pail. Their imaginations are now alive for the next stages. We will wait until spring for the inside plans.

Equipment Report: Log Skidding Arch for ATVs & Compact Tractors

By Jim White, BGWA Director

If you cut trees for firewood or a few logs for custom sawing I have found this item to be a useful method of moving logs efficiently and, with care, reasonably safe. What I find helpful is as long as the ground is dry or frozen I can move logs without a lot of soil disturbance or having logs full of mud and small stones. The unit is light enough that one person can easily maneuver it in tight positions. You will get lots of practice backing up with your tractor or ATV. My woodlot is fairly flat so I have no experience with steep slopes or uneven ground. The tongue of the arch has a self-loading chain and roller that when you accelerate with the ATV the roller lifts the log up the tongue of the arch to clear rocks and soil. The load rating on the arch is listed at 350 lb (160 kg) by the manufacturer (Norwood). Keep the tires properly inflated and it rolls-along smoothly.

We have used our unit for about 5 years and aside from a few paint scrapes it works with minimal maintenance. A choker chain, grapple and logging chains are needed. Use at your own risk.

There are probably competitor models so shop around.