

Molly: London, Ontario: known as one of the greenest and most resilient cities in Canada. Wait, what? Okay. Maybe it isn't yet. That's the London Environmental Network's vision for our city. This podcast asks how close we are to realizing that vision.

This is a tour of sustainability in London. I'm Molly Miksa. I'll be your tour guide.

Hi. Welcome to the podcast. In this first episode, we're looking at London's trees and the urban forest. For anyone not from London, we are a midsize Canadian city of about half a million people, currently second among Canada's fastest growing areas. The London Environmental Network, host of this podcast, is a nonprofit, umbrella organization supporting London's environmental groups and green businesses.

As Londoners know, the city of London is frequently referred to as the "Forest City," hence a good place to start, right? Now, my idea for the podcast is to have a lofty goal relating to each topic we cover. So, what's the goal for this episode on the Forest City? For London to be a city that merits that name.

How did London get that moniker anyway, you might ask? Ah, well it seems that in the early days, London was seen as a city within a forest. That's before settlers cut down a whole lot of trees to build the city, and for agriculture and general colonization. Before colonization, this area was home and hunting ground for Indigenous people, including: The Attawaondran or Neutral, who lived here alongside the Anishinabek and Haudenosaunee people. The three long standing Indigenous groups of this geographical region are the Anishinabek, Haudenosaunee, and the Lunapayak peoples. I would also like to recognize the three First Nations communities downriver from London, those being Chippewas of the Thames First Nation, Oneida Nation of the Thames, and Munsee-Delaware Nation.

I wanted to get a really good understanding of the urban forest ecosystem in London, so I talked to a lot of people. They are, in the order you'll be hearing them: Emma Young and Brandon Graham from Chippewas of the Thames First Nation; Brandon Williamson from the Upper Thames River Conservation Authority; and Jill-Anne Spence from the City of London. And a disclaimer before we start, the audio quality varies and you may notice some background noises. And with that, here we go, into the Forest City.

I spoke with members of the Treaties, Lands and Environment Department at the Chippewas of the Thames First Nation, including Emma Young and Brandon Graham, about the area's land and forest history and present forest conditions. This is Emma Young, senior environment officer.

Emma: We're in the Carolinian region, that was once rich, thriving. And Brandon can probably speak to this more—kind of the history of colonization, and particularly in this region, being one of the first areas in Canada (was once, I guess, Upper Canada) to be colonized, and what that has done to the landscape.

I know London calls itself the Forest City, but when you look on a map, the forest cities are really the First Nations communities. They're those green pockets that are kind of surrounded by agriculture and by urban development. So I think we have a long way to go, and I think when we do go forward, it needs to be together. I don't think the city can do it by itself. I think you need to bring in these other partners, including the surrounding First Nations—especially when you look at it from a treaty level or a territory level.

Molly: Brandon Graham is treaty research coordinator at Chippewas of the Thames First Nation.

Brandon Graham: The Anishinaabe people, of which the Chippewas of the Thames Anishinaabe community, have lived in the Great Lakes region here for countless generations, practicing traditions, hunting, fishing and so forth. Around the time of the end of the 18th and early 19th century, after the point of contact and colonization, the British government who assumed power wanted to secure some of the lands for their own settlement and development. So they began by, in this region, signing and developing the McKee Treaty, which is the south bank of the Thames River to Erie North Shore, from Windsor to just past London. Then six years later in 1796, they developed the Sombra and London Township Treaties, which ceded the lands off of Lake Sinclair and London Township, and thereafter—a few decades after, in 1822—another treaty process, called the Longwoods Treaty, was completed. Even from the name of that you can tell that there were vast forests. This is the area North of the Thames, between London and just east of Lake St. Clair. This is the area that the Chippewas of the Thames' ancestors have a real connection to, as they were the sole signatories to this treaty with the British.

Even from the name of the Longwoods you can picture this vast forest. And now much of that land is farm fields and townships and so forth. But it would have been host to a lot of life forms, a lot of biodiversity, and the Chippewa ancestors would have stewarded this forest. And that tradition of taking care of nature in this region is something that very much continues to this day, and which we look at different methods of which we can continue administering.

Molly: I hope that you could make that out okay. If you are interested in reading the actual treaties for our region, you can. I'll include a link to them in the show notes. They are not long but they are certainly educational. The Longwoods Treaty specifically, the last one Brandon mentioned, between the British Government and the Chippewas, covered 580,000 acres of land. And the 240 men, women and children of the Chippewa Nation were each paid "an annuity of two pounds and ten shillings, lawful money of Upper Canada, in goods and merchandise." But I digress.

Brandon Graham talked about the Chippewas' stewardship of the land, both historically and continuing. So what does stewardship look like today, with regard to urban forest ecosystems?

To try to understand the complexities of forest and tree health I met with another Brandon—Brandon Williamson, of the Upper Thames River Conservation Authority—at Westminster Ponds. In case you've not been there, and I hadn't, Westminster Ponds is one of

London's ESAs, or environmentally significant areas. It's approximately 200 hectares and has been designated as a provincially significant wetland. You might want to go there now to listen to the podcast. It is open to the public and quite lovely.

Molly: Do you mind just introducing yourself and saying a few words about what you do?

Brandon: Sure. Brandon Williamson. Land management technician with the Upper Thames Conservation Authority. I'm an associate forester and ISA arborist with the authority. And we manage 11 of the City of London's environmentally significant areas. Really diverse job. And, we're outside probably 80–90% of the time.

Molly: Wow, great. And how long have you been with the conservation authority?

Brandon: I've been with the authority since 2001, so I guess it's 19 years now.

Molly: How do you see forest health in the London area?

Brandon: I'd say overall, forest health in London is fairly good, considering all the pressures that are here. There's definitely some challenges. Invasive species is probably number one, and then maybe habitat loss I think maybe would be number two. I mean, climate change is there as well, but that's not unique to London; I think that's all over the world really.

Molly: In terms of those challenges, can you talk a bit more about invasives, and then habitat loss? What are we looking at, and what's the effect of those species coming in on the trees?

Brandon: Right. So with invasive species, I think the major species in London that has a real major impact on the forest's health overall, is buckthorn—and that's either Common Buckthorn or Glossy. The reason for that is it's so widespread across the city. There's a huge number of buckthorn within most woodlands, within most forests and that, sort of, forested portions of the city. Buckthorn is an invasive species that will grow anywhere, in any type of conditions. It likes dry, it'll grow in wet areas, virtually any soil conditions. It puts out a bumper crop of seeds just about every year, once it reaches a mature age. If you try to remove it, it will spread by roots. So you can't just cut it out. It'll completely just spread by roots, as well as the seed. The seeds act as a laxative for birds, so if the birds do eat those seeds, you know, as a last resort, it's coming out very quickly and can be deposited pretty much anywhere that bird will fly. So lots of different methods of reproduction for buckthorn.

As well, it's allelopathic, so it releases chemicals into the soil that prevent other species—native species, like sugar maple, hickory, ash, oak and cherry—it prevents those seedlings from sprouting. If there are already seedlings of those native species in a location and buckthorn moves in, it can stunt their growth. It basically slows down the overall reproduction of that forest. What that does ecologically, is when the mature forest dies out from the natural life cycle and falls to the forest floor or a tree will die and fall to the floor, it opens up a hole in the canopy of the forest. If all you have—or the majority of the seedlings and saplings on the forest floor—is

buckthorn, because of all those things I just talked about with buckthorn, that's what's going to grow up. It's going to prevent those native species from growing. It will occupy that space in the forest canopy or the sub-canopy, and then you don't get that regeneration of the native species. You lose the diversity of species in the forest. Once you lose the plant diversity, then the wildlife diversity is lost. So, the whole balance of the ecosystem, it doesn't matter where it is, really gets thrown off and can really be set back for generations, depending on how severe that infestation is.

Molly: And where did it come from? How did it get here?

Brandon: Buckthorn is from Europe. It was brought here, I believe, in the 1800s—early 1800s—for a number of reasons. The roots were burned and ground up and used to mix with gunpowder. So it was used in that capacity. As well, because it grows so fast and in any soil conditions, and it does have a thorny feature to the end of the twig, it was used in hedgerows for farmers.

Molly: Wow. Interesting. And what is the strategy to try to deal with it now?

Brandon: There's a few different ways to get rid of buckthorn. The major way to do it is to use what they call a basal bark herbicide control. And that's very quick, very effective, and really when you're applying that herbicide directly to the stem or to the bottom trunk, there is very little negative, I would say, impact on the environment. You have to be careful when you're close to water and sensitive environments, but other than that it's actually a very efficient way of doing it.

You can pull buckhorn by hand when it's a seedling size, if it's small enough, and if it's in the right soil conditions. You can cut it if it's under the right conditions. However, when you cut it and you don't treat the stump, let's say with a herbicide, it will just come back.

Molly: And what are some of the other invasives? I've come across Phragmites, Japanese knotweed. Are those some of the bigger ones, or are there other ones too?

Brandon: Yeah, Phragmites is a huge one. It's one of the more difficult species to control because of how fast it grows, and because it grows in wet areas predominantly. Japanese knotweed is another one, probably the most difficult to control just because it's so pervasive, and the root systems are so strong, so deep. It's really difficult. Dog-strangling vine is another one. There's a few others, you know, garlic mustard and honeysuckles and there's some locusts and some other species.

Molly: And do those also destroy the forests?

Brandon: Yeah, they're all similar in that they all grow in a lot of different soil types, a lot of different conditions. They all propagate, or most of them will propagate, through root cuttings to seeds. Although, Japanese knotweed, not so much; it's mainly through root rhizomes. But they

all propagate very easily. Most of them are allelopathic, so they do have that chemical that releases into the soil that prevents other plants from growing.

Molly: What about invasive insect species, or even native insect species, that are detrimental?

Brandon: Right. So, one of the native species that comes to mind is the hickory bark beetle, and it's really specific to hickory, bitternut hickory in particular. It's on a multi-year cycle, so the last one came in the early 2000s, where the cycle really hit heavy and really did a number on some of the hickory. But once the hickory population dies off a little bit, then the insect goes away and it doesn't come back for generations really.

Exotic invasive pest: the emerald ash borer (EAB) is the first one to come to mind, and the evidence is right here in front of us in Westminster Ponds, the damage that can be done. We're sitting here in front of a 4 hectare piece of property, where most of the trees have been removed, because it was probably 90% ash, and they have all died. And so as a result of that there is a huge restoration project going under way.

Molly: So is it possible that the ash trees can regenerate at this point?

Brandon: They definitely are regenerating. So what happened was, when the ash were infected with the EAB, what a lot of trees do is they'll put out a huge bumper crop of seed. Sometimes it's not viable, sometimes it is. When it puts out that seed, it's basically like that last gasp, to try to regenerate the population. So when it does that, it pushes those seeds out, and that's your next generation of forest.

As well, there could be a huge seed bank or amount of seed in that seed bank, in the soil already (of ash seed), from generations gone by. And once the canopy opens up, then you get that ash naturally coming in if it can out-compete the buckthorn and other species. We're definitely seeing a large component of ash in the understory, or in that sort of seedling and sapling layer. The trick is whether or not those trees can survive to maturity or not, and that is, is the ash borer still around enough to have a second wave? Or, if the ash borer moves east or moves north, runs out of fuel, turns around and comes back? We don't know that. There are some things going on, some research going on with some wasps and some other other biocontrol methods that are trying to figure out if there's going to be a natural sort of predator that will start to take a liking to the EAB.

Molly: And where did that come from? The emerald ash borer?

Brandon: The emerald ash borer is from Asia, from I think in the China, Southeast Asia kind of area.

Molly: Did that come over accidentally?

Brandon: Yes. That came through—I believe it came through packing crates and shipping containers, that sort of thing. That's one of the biggest things about these pests and diseases that come in. A lot of them come in through the worldwide globalization and shipping trade. A lot of those shipments are supposed to be treated, and the packing materials are supposed to be treated. But if for whatever reason they get through, all it takes is one packing crate, and that can infest the whole area.

Molly: You mentioned habitat loss as another challenge. Can you talk about that?

Brandon: So, habitat loss in an urban environment. The city wants to expand for lots of different reasons. They create subdivisions and new shopping centers and commercial areas and things like that. When that happens, if there is a woodland, a lot of them are protected, but some of them are not. Some of them are privately owned. And some of that habitat is lost due to the expansion of urban environments. It's really important to keep as much as we can.

Molly: And how's London doing in that regard?

Brandon: I think London's doing really well. With the environmentally significant areas that we manage on behalf of the city: they're very well-protected; we do a lot of invasive species work; we're always in these areas; they're really high-focus; there's a lot of citizen groups that help manage these areas with us. And then there's a lot of city-owned woodlands, where they're doing a lot of great work, doing a lot of restoration, invasive species controls, in those areas as well.

Upper Thames [River] Conservation Authority does a lot of tree planting in London as well, with school groups and other corporate groups and other industries. So, I think we're doing well. We just have to keep on top of it, and not get ahead of ourselves, and just sort of know that there's still a lot of work to do.

Molly: What are the challenges you see coming due to climate change, and how are you dealing with those challenges?

Brandon: Some of the species that we see here, tree species and plant species, are...it's becoming harder to survive. Now they may be creeping northward, and some of the southern species now are coming up to replace them. It's just, it takes a little longer for the southern Carolinian species to adapt to the changing climate here, because we still have some of those climate conditions from 20, 30 years ago here. So I think it just takes a longer time for those species to adapt. There's some initiatives going on, like assisted migration trials, that are trying to bring southern species up to this area, plant them out, and try to do some research to find out if they'll survive.

Molly: And cedar is part of that initiative?

Brandon: Cedars, yes. Spruce is another one that's moving out of our area (that was never really here to begin with). They're trying to bring in a lot of southern species—I think some Kentucky coffee tree, pawpaw, tulip, sassafras and things like that, and some other oak species that can kind of take the place of those species that are not doing as well.

The other thing about climate change, it's not necessarily the warming. I think it's, over time, the warming, but it's the more severe events that's really the major issue—the wind events, the flooding events, ice storms. The more severe events is what take its toll on forests and tree health—I think more than the overall... The earlier thought of global warming and the increasing temperatures, although that does have an effect, I think it's those more frequent, severe events that have the bigger impact.

Molly: At this point, do you think the Forest City is an apt name for London?

Brandon: I think it is. We do have a lot of great forests, a lot of diverse forests. We have to keep an eye on them, and we have to keep managing them, to make sure we keep out some of those threats that we spoke of and try to keep them as diverse as possible. The City of London does a lot of tree planting on boulevards and private property, as well as on their own lands. It's just a matter of keeping up with that over the long term. Budget is a huge issue. So, when you talk about tree planting and restoration, it's competing for healthcare, transportation, it's competing with everything. So, as long as you keep up with it, I think we're in good shape in London, for sure.

Molly: Just talking to you, generally, helps me to understand how complicated the whole system is. And then the timeline as well, right?

Brandon: The timeline, yeah. What you do in forestry and forest management, or whatever you do to a forest, it could have an 80 to 100-year impact on that forest. And regeneration is not overnight; it can be 10, 15, 20 years before you can see any real effects on that woodland or that forest patch. So sometimes that can be a bit daunting, when you have this huge restoration project and you do all this planting, and invasive control and all this work, and you don't see it. And 10 years later you're looking at it and, "Ah, I don't even know if that's working." Just be patient, be calm; it comes.

Molly: So going both ways: if you take a tree down, that's affecting the next...

Brandon: The next generation. When you're outside of the city, in more of a forest management context—whenever you do anything to a forest, you've really got to think about what you're doing, because it could have a huge impact. If you've taken a patch of trees down that's 80 or 100 years old, well, you just took that out. You've got a seedling there that just started out; it's seven years old. That's an 80 year cycle before that seedling becomes the mature tree that you just took down.

Molly: Are there aspects of urban forestry that keep you up at night, that concern you right now?

Brandon: I think invasive species is the major one. Another issue that's really concerning is, global trade increases every year, and when that does, that's when you get the infestation of these insects and diseases. As long as we can keep on top of them, great. When you're talking global trade, that's a multibillion-dollar industry, and really stops for no one or nothing. That's a little concerning. On a grand scale, 10 years, 20 years from now, what's going to be here that we're going to have to combat? What sort of resources are we going to have to use to combat some of those major infestations that we don't even know about yet? It's planning for the future, and not ad hoc, just looking at it and trying to put on a band-aid, or put out a forest fire with a garden hose type of thing.

Molly: Right. So that requires a lot of education and a lot of people getting on board.

Brandon: A lot of education, a lot of awareness. And for all levels of government, it's just going to require commitment. Funding and resource-wise it's going to be a commitment to bring those types of things to the forefront.

Molly: Conservation Authorities typically receive some funding from all levels of government (according to Conservation Ontario). However, Ontario's provincial government, headed by Doug Ford, has been criticized for cutting conservation authorities' budgets as well as their mandates, meaning they are less able to reject permits. Ultimately, this makes development on these lands easier, and conservation and resiliency more challenging.

Molly: Is there anything else you want to add?

Brandon: I just think we just have to keep going. Just be aware of what's around you. Try to plant native species in your own little corner of the world. There's a lot of great campaigns out there. Look at the Ontario Invasive Plant Council and they have a "Grow Me Instead" planting campaign. So you can look on their website, and there's a lot of good resources there for the average homeowner and landowner to do, to sort of help combat some of the things like invasive species, and things like that. So just be aware of what you're doing on your own property, and then when you're out into these natural environments, read the signs, read the bylaws signs, read the information signs. Just know about the area. Do a little bit of research; find out what type of area you're going into. If you have any questions—what you should and shouldn't do, what you can and can't do—call the conservation authority, City of London. Ask questions, and we'll be able to help you out.

Molly: Excellent. Thank you so much.

Brandon: Ah, you're welcome. Thank you.

Molly: Those are some great tips. Plant native trees, grasses and wildflowers on your property and try to get rid of some invasives. The Ontario Invasive Plant Council's "Grow Me Instead" guide that Brandon Williamson mentioned, is a good guide to get you started, and we'll link to it

in the show notes. You might also consider volunteering or taking a workshop with the Thames Talbot Land Trust. They do a lot of work around removing invasive species while protecting environmentally significant lands in our area. Consider visiting some conservation areas and ESAs (again, those are environmentally significant areas) in and around London. There will be a link to ESAs in the show notes. ESAs include the Westminster Ponds where I met Brandon Williamson, The Coves, and Meadowlily Woods.

Reforest London is a non-profit organization with a mission to plant, grow and sustain our urban forest by engaging our community. I spoke with Sheila Creighton, Reforest London's partnerships and marketing manager. According to Sheila, Reforest London plants between 4000 and 8000 trees and shrubs a year, mostly native species. In the 2020 pandemic they planted 2225. At their tree depots or tree give away events, they normally give out 3000-6000 trees for Londoners to plant on their own properties. In 2020 numbers were well down in the spring, but up to low-normal levels in the fall, with their new online ordering system in place. In terms of how London is doing as a city, and whether we could be doing better, Sheila said there's always room for improvement—for example, in parking lots and new build areas. She said that the practice of mowing down trees in new build areas needs to be addressed, that there needs to be a champion developer who will build without cutting everything first, that property values increase by 15% where there are mature trees. Still, she said hats off to the City. She said they're planting everywhere and that the four pillars of the urban tree strategy, (more on that later) are solid.

When I mentioned my concerns about construction projects, including new sidewalks, resulting in many large trees being felled by the City, Sheila pointed to Runnymede Crescent, a street in the Sherwood Forest area, where residents successfully petitioned in 2019 to save their trees rather than have a sidewalk put in. Now, this was at the expense of accessibility, so it's not a black and white issue, but it does show that neighborhoods in London can have a say in the way their city is built.

So as Brandon Williamson mentioned, the City of London is quite involved in urban forest maintenance. An important document that guides their work is the City of London's Urban Forest Strategy. Jill-Anne Spence is the City of London's urban forestry manager. She has been with the City of London since 2017. Prior to that she served as urban forest manager in Calgary and in Falls Church, Virginia. I met with Jill-Anne at Kiwanis Park, and asked her about the City's efforts to maintain and protect urban forests.

Jill-Anne: The city of London is known as the “Forest City,” and we have a very long history of caring for trees. In 2014, we adopted the Urban Forest Strategy, which is a very comprehensive plan for how we want to manage and maintain the urban forests that we have. It's about a 20 year roadmap for how we're going to reach our canopy cover goal. And our long-term canopy cover goal is 34% by 2065. So that gives us some time. The Urban Forest Strategy, I think, is probably one of the best out there. There's four pillars and each pillar has a very important function for the strategy to be successful. And it's kinda catchy. It's “plant more, protect more, maintain better, and engage the community.” All of those things are very important to being

successful. Some of the major accomplishments that we've done so far is: we've created a tree planting strategy. That was created a couple of years ago in 2017, and it's also kind of a roadmap to how we can plant trees within London. Some of the major points are that we need to plant as soon as possible—as many trees as we can plant, as quickly as possible, so they'll have time to grow, provide ecosystem benefits quicker, and by the time that 2065 comes around, we will have hopefully reached our goal.

Close to 90% of tree planting opportunities are on private land. So it also talks about how we need to engage our stakeholders; residents, industrial places, things like that. We've been very fortunate that City Council adopts these plans. And as part of the plan they've also endorsed a "TreeME" grant. "TreeME" is specifically for planting trees on private land. Unfortunately, due to the pandemic, we didn't move forward with that program this year, but definitely next year. And it has been in place for several years now. But, it's a grant program for folks to plant on private land. We started out at about \$30,000 in grants, and now it's up to \$200,000.

Molly: Wow.

Jill-Anne: Yeah, so it's been very successful. There's a lot of our partners, like ReForest London. They're able to also leverage that funding into a lot of planting that they do too. It's a really great program. And again, we're trying to encourage people to plant trees as soon as possible.

Other items in the urban forest strategy that have been significant is to protect more. We can plant all the trees we want, but if we're not preserving the existing canopy cover it will be very challenging. We updated our boulevard tree bylaw, so that's protecting street trees. Also we've adopted a new tree protection bylaw, which applies to private land. A lot of folks don't know we've had a private tree bylaw since the '80s but that bylaw pertained to woodlands and areas like that. When we adopted the tree protection bylaw in 2016, we also added trees of a certain size, called distinctive trees. So we were looking at preserving individual trees throughout the city, within the urban growth boundary. Those two things combined together—preserving what we have and planting for the future—hopefully will get us to our canopy cover goal.

Molly: The distinctive trees bylaw Jill-Anne mentioned protects trees 50cm and greater in diameter. In November 2020, London City Council voted down a motion to have city staff look at the cost of expanding this bylaw to include trees 40cm in diameter. According to a CBC article, while Councillor Steven Turner—who voted in favour of the motion—argued that more focus needs to be put on preserving the mature trees, Councilor Shawn Lewis—who voted against the motion—said it wouldn't be worth the potential added cost of enforcement. According to the article, City staff estimated the distinctive tree bylaw has saved 120 hectares of tree canopy since its inception. That motion fell in a 7–8 vote.

Can you just go back a step? Did you say it was the boulevard tree [bylaw]? What does that say? Because you do see, sometimes when they're doing...I know someone on a street where they've just put in a street sidewalk, and all of the trees there on the side of the road, where it's

now sidewalk, were all taken down. And there are new construction projects, where they've taken down, in my neighborhood, a lot of trees.

Jill-Anne: Yes. So, the boulevard tree bylaw would pertain to folks who wanted to remove a tree in front of their home. It wouldn't pertain to city projects. Most bylaws, the City's exempt from, because they're our bylaws.

Molly: I wanted to better understand the process the city goes through before they cut boulevard trees. So I emailed Andy Beaton, manager of forestry operations for the City of London, and asked if I could read the tree removal policy that would be used in municipal projects. Here is his reply: "We don't have a tree removal policy. We try to retain as many as possible. Trees are reviewed by criteria set out under the international society of arboriculture tree risk assessment process. Road construction has an independent arborist report to identify impacts and tree health." That's it. I didn't find it entirely satisfying, but was grateful that he answered my question. For more on this, back to Jill-Anne.

Jill-Anne: Normally when you see those types of construction projects, they do do a tree inventory. They are out there doing updates to infrastructure. So a lot of times, those types of projects, they're digging really deep for sanitary sewer lines, and because they're going so deep they need to go wide too, and that's where trees are impacted. But as part of those projects, they are to replant trees as replacement trees. There's opportunity in those; we had a canopy cover study completed, and also a tree inventory (is how we manage our trees within the City) on City lands), and we have a very high percentage of maple trees, and specifically Norway maples, which are non-native, and we have concerns around that. So there are opportunities to replant different species to improve our biodiversity, but also to maybe plant more trees back. But yeah, I live in one of the neighborhoods too, where that has happened, and people get attached to trees and they provide tonnes of benefits. So it is challenging when those types of projects go through.

Molly: Going to the goal of, what is it, 34% by 2065? I dug a little bit. So Toronto, by comparison, has a goal of 40% tree canopy by 2050. Why isn't London shooting higher, I guess is my question.

Jill-Anne: It's pretty consistent why municipalities and cities put in place these types of canopy cover goals. It's because you start to see that there's a downward trend. We were seeing a downward trend in 2000 because of emerald ash borer. There were a bunch of things that were kind of impacting why our canopy cover was going down. And at that time we had 23% canopy cover. So, it's a pretty big stretch to get to where we want to go. But I know since our last study in 2008, we've increased by 3.1%. So we're moving in the right direction. Some of that percent could be to improved technology, but it also could be a result of all the actions that have been put in place as a result of the Urban Forest Strategy.

Molly: I know that there was a 50 Million Tree Program, that the provincial government had been running, that was cut. I'm wondering how much of an effect cutting of that program had on London?

Jill-Anne: The City of London specifically didn't tap into those resources, but our stakeholders did. I do believe that the federal government stepped in, and are funding them now for that. Yeah, because people were extremely concerned about that. And it's a very good program. It's an excellent program.

Molly: What would you say are the biggest improvements that you've seen, and also the biggest challenges that you're facing?

Jill-Anne: You know, it all really comes down to resources and time. I would say the challenges of, you know, the pandemic, like things you can't plan for. But then that sometimes gives you the opportunity to be creative, and maybe do things a little bit differently. Like, I was talking about, we work closely, again, with Reforest London, during National Forest Week, which is the last week in September. And we normally do a huge tree giveaway. And because of the pandemic, they created a model where they put everything online. People got to choose their tree and then pick a time to come and pick up the tree. That worked phenomenally. We were still able to meet our goal of giving away 2000 trees in that event. So that was very successful and it's something we can continue into the future, but for the fact of the pandemic, that would not have been something we would have thought about in our normal process.

Molly: Would you use the same process again?

Jill-Anne: Absolutely. Yep. Especially with the online information; it's really nice. They did a really, really good job.

Molly: A challenge Jill-Anne mentions is climate change and its complicated effects. Our warming climate is leaving open inroads for insect pests and invasive species. Jill-Anne points to gypsy moths, which alone don't normally kill a tree. But if a tree has been defoliated by gypsy moths for several years, and additionally faces drought conditions, the combination may be too much for the tree to handle.

Molly: It does seem like there's stuff that we know is coming. You know, there's certain trees that are at risk because of certain.. insects mainly?

Jill-Anne: Yeah. One that we're specifically concerned about is oak wilt. Oaks are one of our main structures of our forests. There's a lot of industry that's reliant on oak trees, and they have a lot of wildlife habitat benefit. There's been no confirmed cases of [oak wilt] in Canada, but it's on Belle Isle, in the Windsor River, between the U.S. and Canada, so it's like a couple of football fields away from our borders. It's a very aggressive disease that can kill a mature tree in weeks. And it's very challenging to keep it contained once it gets in an area. So that's one thing we're definitely concerned about.

We've done a pretty comprehensive educational program around it. Last year we had billboards, and there's some postcards up at the EnviroDepots.

Molly: If you notice an oak tree's leaves changing colour in summer, rather than fall, that could be a sign of oak wilt. And interestingly, this disease is spread by native picnic beetles, not by invasives. The beetles carry the oak wilt fungus on their bodies, and spread it through cuts or injuries on the tree. Jill-Anne therefore recommends not pruning oak trees until winter, when picnic beetles are no longer active.

So I asked Jill-Anne if she thinks London is deserving of the name "Forest City".

Jill-Anne: I think so. We experienced the same issues and concerns other cities and municipalities have. We're not unique in that regard But I do believe that there's a lot of pride in being the Forest City and that there is real love; I think Londoners really care about their trees. I think with our Urban Forest Strategy, that it is, you know, caring for and leaving the best environment, trees, tree canopy, that we can for future generations.

Molly: And do you think, having said that, which was very optimistic and positive, could we do better, and are there ways that you would ideally like to see: more funding or more action or more education?

Jill-Anne: I think, yeah. Folks may be understanding of a benefit trees are. I think people understand that they're pretty, or they're a landscape feature, but perhaps they don't understand that our canopy cover in London provides \$1.2 or \$1.7 billion of ecosystem benefits. I don't know if people really understand that they are a workhorse, that they actually function as green infrastructure. If someone just wants to take down a hundred-year-old tree that might be in the way, it's really doing something for us. Trees were considered the original green infrastructure and now they're considered critical infrastructure, because of the impact they have on climate change and the impact they have on health outcomes. There's a lot of studies out there that show that with a well treed canopy, communities have less people having respiratory diseases, and having better health outcomes. And they have a big impact on the healthcare system. Then recently with the pandemic, there's a study in Europe that just came out that showed that parks and urban forests are being used three times as much, by way different populations than used to visit them, for longer periods of time. So that's kind of, I think, the shift we need to see, is [that] these are functioning pieces of our environment.

Molly: And apart from that more scientific based education, do you think, just pulling people out to interact directly with, relate to, actual trees, is a good idea?

Jill-Anne: That's how people become engaged. I think I mentioned to you, that's how I became interested. Some of my first memories are of trees. And I think when you start to bring people to planting events, or going on walks and in our ESAs... And especially now—you and I are out here doing an interview in a park, because we want to be (COVID-19) responsible and all that

good stuff. But yeah, I think folks being outside, enjoying the environment that people really do change their hearts and minds around trees.

Molly: As a send off, can you share one or two of those early memories of trees?

Jill-Anne: We had a huge weeping willow in our front yard that I used to just climb. And I don't know why my parents let me, because I have gone home, and, it was up to at least the second story, and I would have been in grade one. And I remember most of my life, for those years, just hanging out in the tree, being quiet, watching the other kids play. And I was just really happy and content to be in this big, massive weeping willow tree where I felt really safe and happy and comfortable.

Molly: We used to have an apple tree in the backyard with maybe five or six extending branches, and I used to pretend they were different rooms in the house.

Jill-Anne: That's exactly what I did!

Molly: Really? That's great, amazing! Thank you so much Jill-Anne.

Molly: So, the conclusion. Does London, Ontario warrant the name The Forest City? Honestly, I've been pleasantly surprised by the feedback from the experts. It seems like London's doing a lot of things right.

But still, from a lay perspective, like mine before I talked to any of my guests, or from Emma Young's perspective, looking at the city from her First Nation community downstream, it still doesn't fully look like, or feel like, a forest city.

To build and maintain healthy urban forests, we need to stay in it for the long haul, and hope that all players are diligent in their efforts.

So is London, Ontario one of Canada's Greenest Cities? We're working on it.

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