

Smiths Falls Miyawaki Mini Forest



Rideau Environmental Action League in
partnership with the Town of Smiths Falls



Mini Forest Resources

- <https://greencommunitiescanada.org/how-to-plant-a-mini-forest-course/>
- <https://littleforests.org/blogs/resources/tools-for-building-species-lists-for-a-little-forest>
- <https://networkofnature.org/mini-forests.htm>
- <https://www.canada.ca/en/campaign/2-billion-trees.html>
- <https://networkofnature.org/Community-Planting-Grants.htm>
- <https://www.nationalhealingforests.ca/>
- <https://www.originnativeplants.com/>
- <https://mvfn.ca/lanark-flora/>
- <https://www.ontario.ca/page/tree-atlas>
- <https://networkofnature.org/where-to-buy.htm>
- <https://www.cbc.ca/news/climate/tiny-forests-japan-canada-1.7114111>
- <https://ideas.ted.com/how-to-grow-your-own-tiny-forest/>
- <https://bugwomanlondon.com/2023/08/24/tiny-forests-the-miyawaki-method/>
- <https://www.nationalgeographic.com/environment/article/why-tiny-forests-are-popping-up-in-big-cities>
- <https://digginitnursery.com/>
- <https://www.rideauwoodlandramble.com/>
- <https://www.fergusontreenursery.ca/>
- <https://www.naturaide.ca/>
- <https://beecitycanada.org/native-plant-nurseries/black-bird-farm/>
- <https://nativeplantconnection.com/native-plant-nurseries-ontario/>



Key Features of the Miyawaki Mini Forest



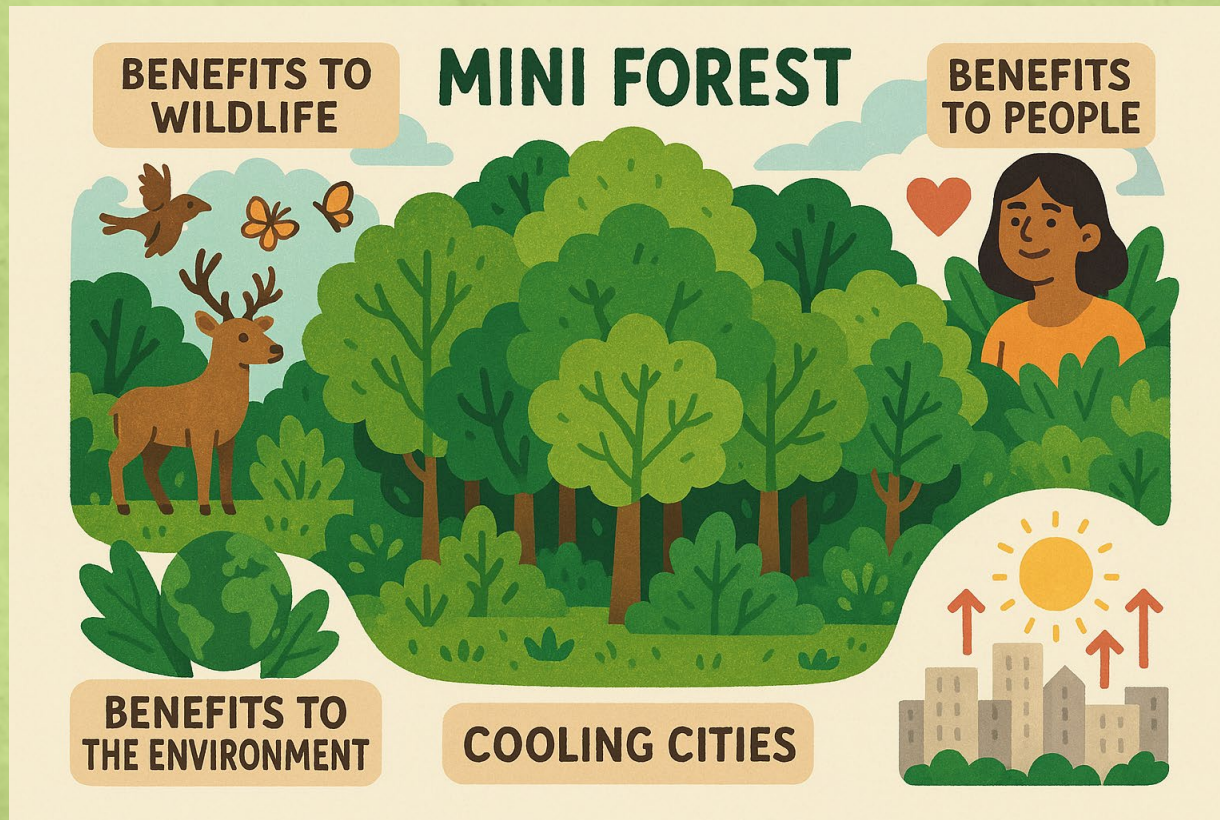
- **Compact size:** 100 to 300 square meters
- **Native species only:** recreating a natural ecosystem
- **Layers of the forest:** canopy, subcanopy, understory, shrub
- **High-density planting:** 3 per square metre
- **Fast growth:** shorter time frame to maturity

Miyawaki Forests – How do they Apply to Us?

- Pollinator Gardens
- Wetlands and Shoreline restoration
- Native Meadow Planting
- Hedgerow Planting
- Agroforestry
- Rewilding
- Depaving



What are the Benefits of a Mini Forest?



- People: *stress reduction, air quality improvement, connecting with nature*
- Climate: *cooling effects, carbon sequestering, water retention*
- Biodiversity: *creating wildlife habitat using native species*
- Advocacy: *introducing concepts to use in our own backyards*

Shinrin-yoku: *Forest Bathing*



A practice or process of therapeutic relaxation where one spends time in a forest or natural atmosphere, focusing on sensory engagement to connect with nature.

Smiths Falls Miyawaki Forest Time Line

- Hatching the Idea: Fall 2023
- Laying Ground Work: Spring 2024
- Planning the Forest: Summer 2024
- Planting Day: Fall 2024



Miyawaki forest at Kasuga Shrine in Japan

<https://bugwomanlondon.com/2023/08/24/tiny-forests-the-miyawaki-method/>

Fall 2023 – Hatching the Idea: Sources of Funding*

**From Green Communities Canada: Budget \$30-\$40 per plant*

- **In-kind donations:** Tools, soil, plants, volunteers, support from garden centers or local services
- **Government grants** Canada's *2 Billion Trees Program*
- **Environmental nonprofits & foundations:** Trees Canada, Green Communities
- **Community fundraising:** Crowdfunding, Plant Sales.
- **Corporate sponsorships.**

Fall 2023 – Hatching the Idea: People Skills Needed

- Plant Knowledge
- Project Management
- Financial Management
- Marketing & Communication
- Volunteer Coordination



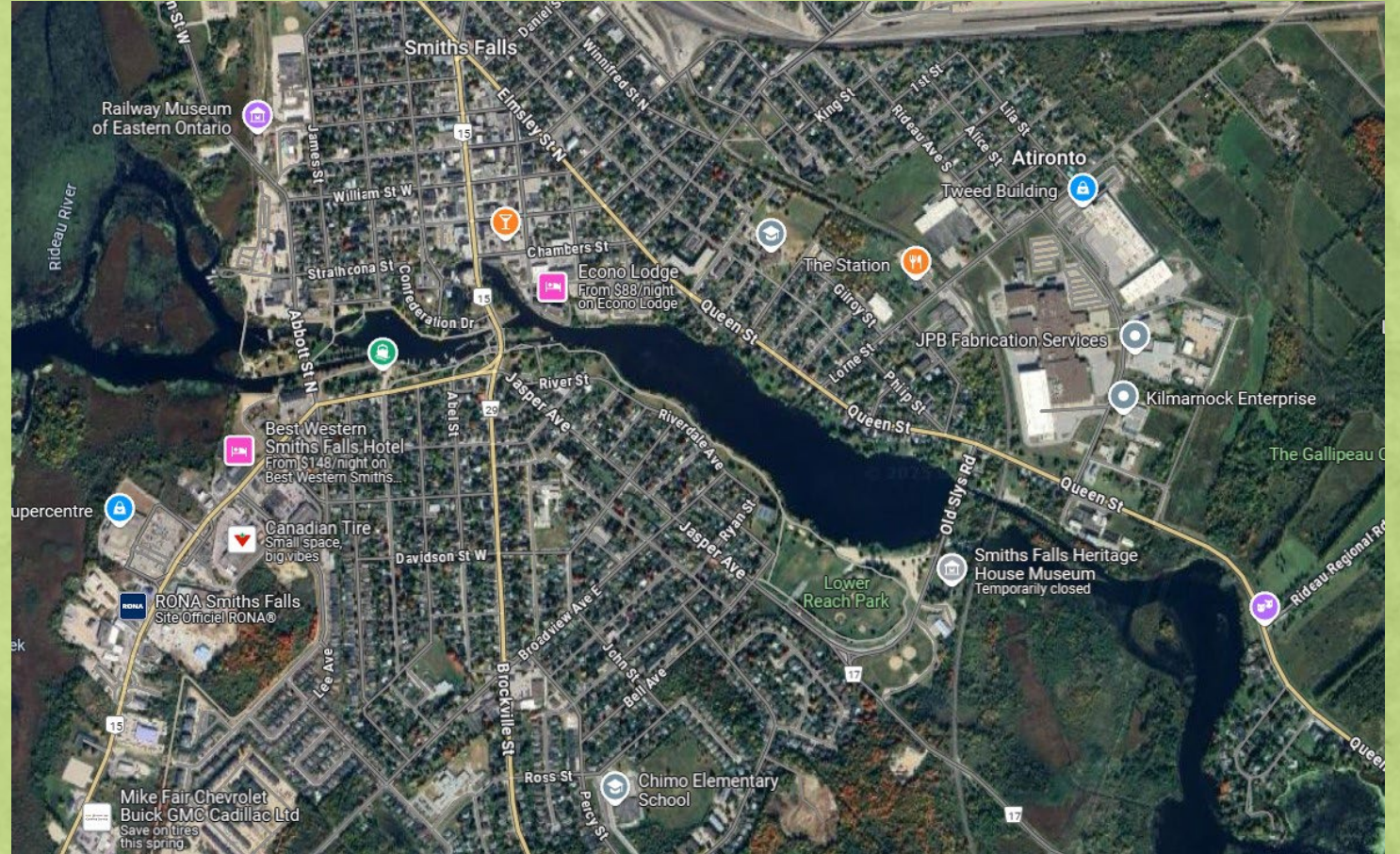
Mini Forest near Harvard University, Cambridge Mass.

<https://www.nytimes.com/2023/08/24/climate/tiny-forests-climate-miyawaki.html>

Fall 2023 – Hatching the Idea: Site Selection

Typical Sites to Consider:

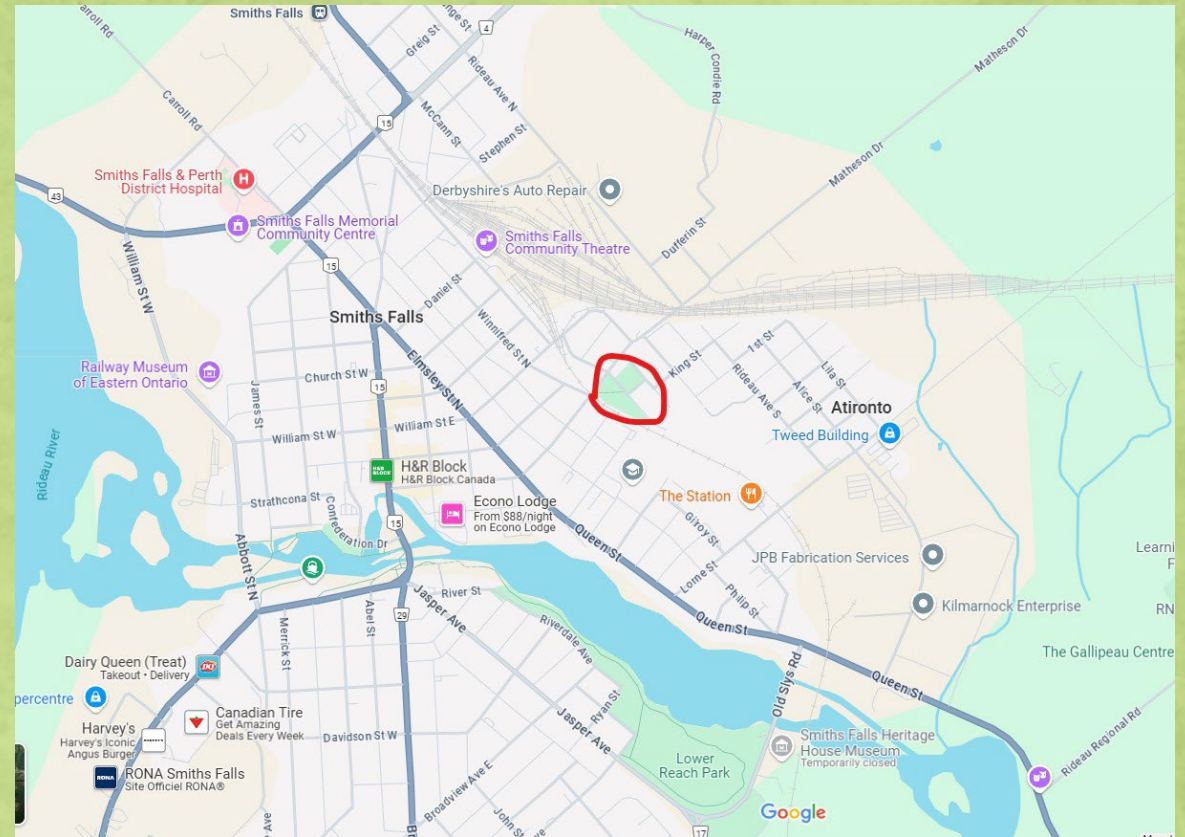
- School grounds
- Urban parks and public spaces
- Vacant or underused lots
- Roadside and boulevard corridors
- Private land (e.g., backyards, farms, corporate properties)



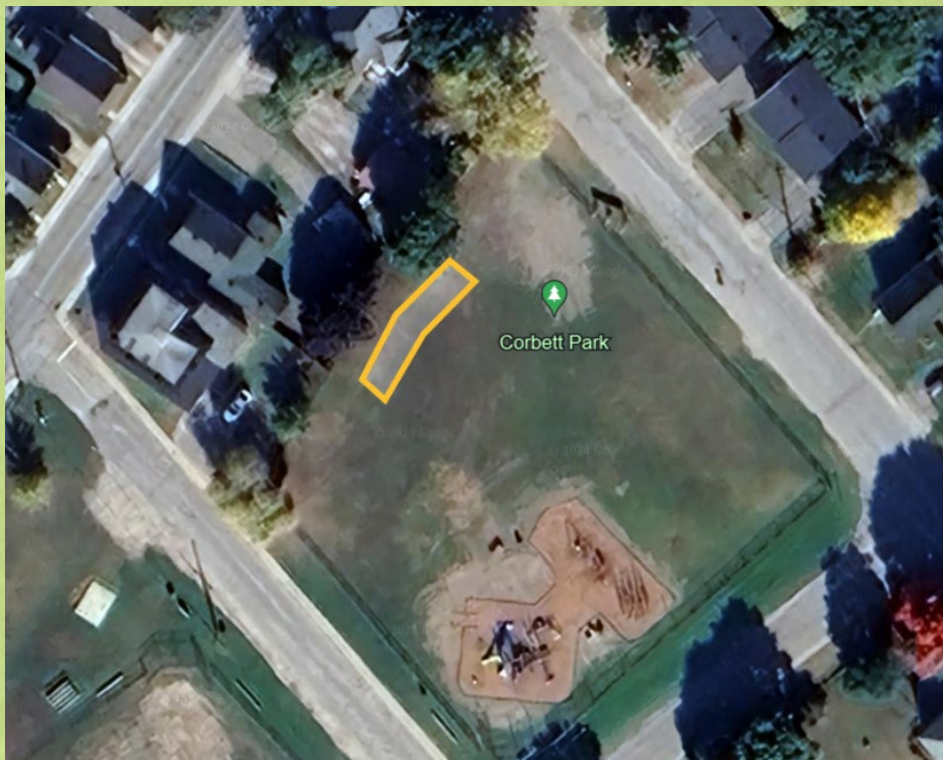
Fall 2023 – Hatching the Idea: Site Selection

Smiths Falls Corbett Hyland Park

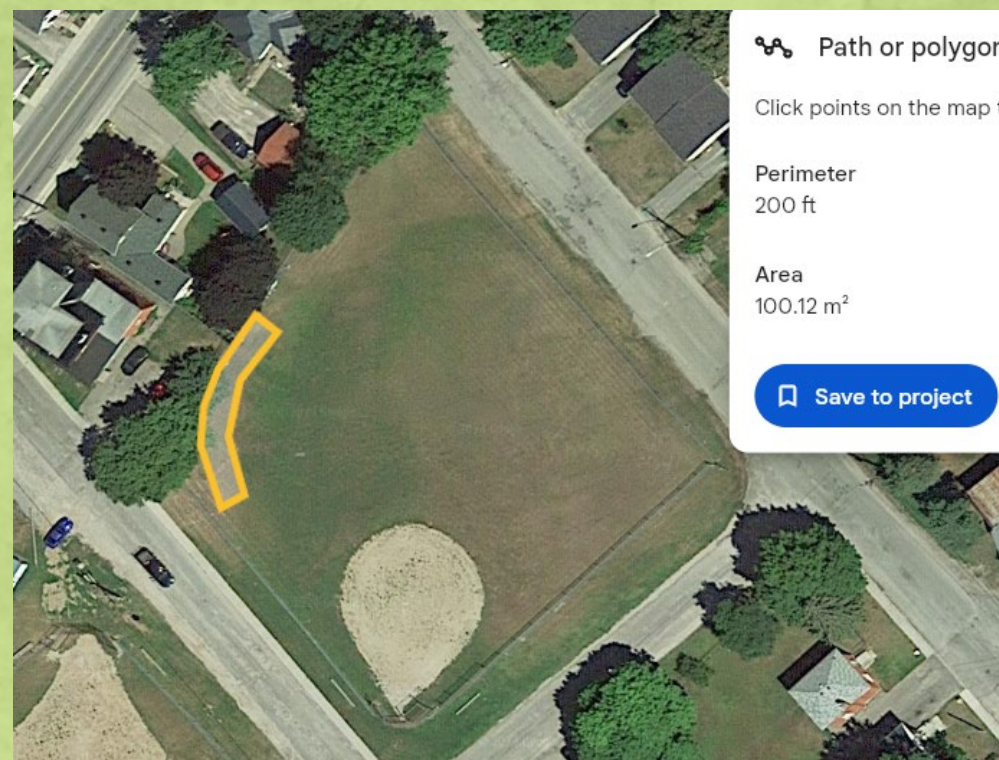
- Small Neighborhood Park
- Play Structure & Benches
- Near Schools
- Possible Site of Community Gardens



Fall 2023 – Hatching the Idea: Forest Location



100 square metres



100 square metres

Idea is Hatched...

Laying the Ground Work is Next



April 2024 - Laying the Ground Work: Site Preparation – Basic Technique


Basic

Low-intensity, minimal
intervention

- Lay Cardboard
- Layer with compost
- Top with Mulch



April 2024 - Laying the Ground Work: Community Involvement



MINI FOREST

Coming to Corbett Park

A mini forest is a community of native trees and shrubs planted tightly together in an urban or suburban site based on the Miyawaki method

What Will be Happening

100 sq m
300 plants
10 years to maturity

Besides creating a green space for people to enjoy, benefits include increased biodiversity, improved air quality, cooling, reduced runoff and increased wildlife habitat.


COME JOIN US

Saturday April 13
Volunteers are need to help prepare the site with layers of cardboard, leaves, compost and wood chips. Site will be fenced off.

Summer
Layers are left to develop into good forest soil, and temporary signage will be in place to let everyone know what is happening .

A Saturday in October
The site will be marked off in a grid and a mix of canopy, subcanopy, understory and shrubs/groundcovers will be planted in each square by volunteers.

One - three years after planting
Large weeds will be removed . The site will be monitored and and watered 2-3 times a season .



RIDEAU ENVIRONMENTAL ACTION LEAGUE

www.REALaction.ca
Contact Dave at (613) 205-0320 or thornley.j.d@gmail.com with questions or to volunteer.

Mini Forest Coming Fall 2024 Please Join Us!

This dense, diverse planting of native trees and shrubs will provide many environmental benefits.



**RIDEAU
ENVIRONMENTAL
ACTION LEAGUE**

www.REALaction.ca



April 2024 - Laying the Ground Work: Site Preparation Day April 13th



April 2024 - Laying the Ground Work: Site Preparation Day April 13th



April 2024 - Laying the Ground Work: Opening Day April 17th



Mayor Pankow, Councillors and Staff presided over Opening Day

April 2024 - Laying the Ground Work: Opening Day April 17th



Students from Duncan J. Schouler Public School created inspirational flags to plant

Laying the Ground Work is Done... Planning the Forest is Next

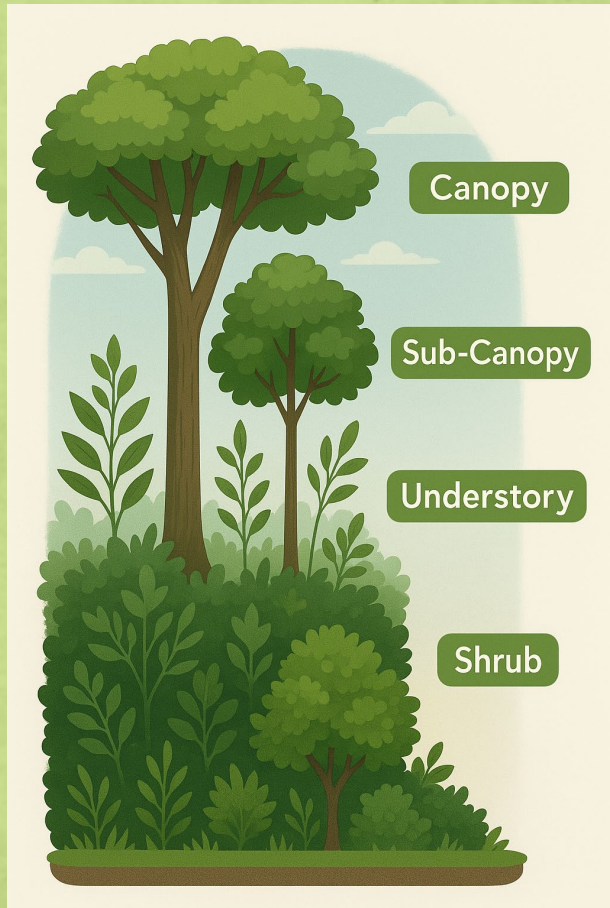


Summer 2024 - Planning for Planting Day

100 square metres - 300 specimens

- Determine plant choices and quantities of each.
- Identify nurseries who can supply and deliver.
- Order and coordinate for arrival close to planting day.
- Reach out to local community.
- Coordinate volunteers, tools, supplies.

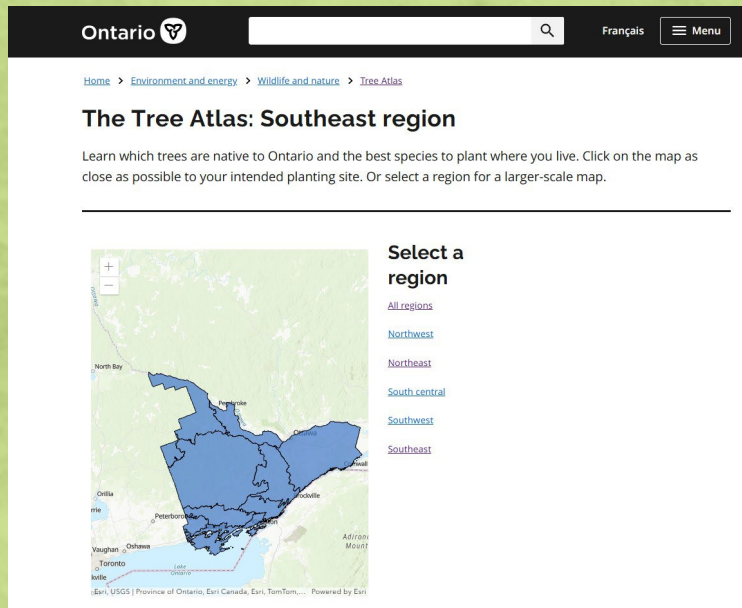
Summer 2024 - Planning for Planting Day: Understanding Forest Layers



Layer Species and Percentages to Plant

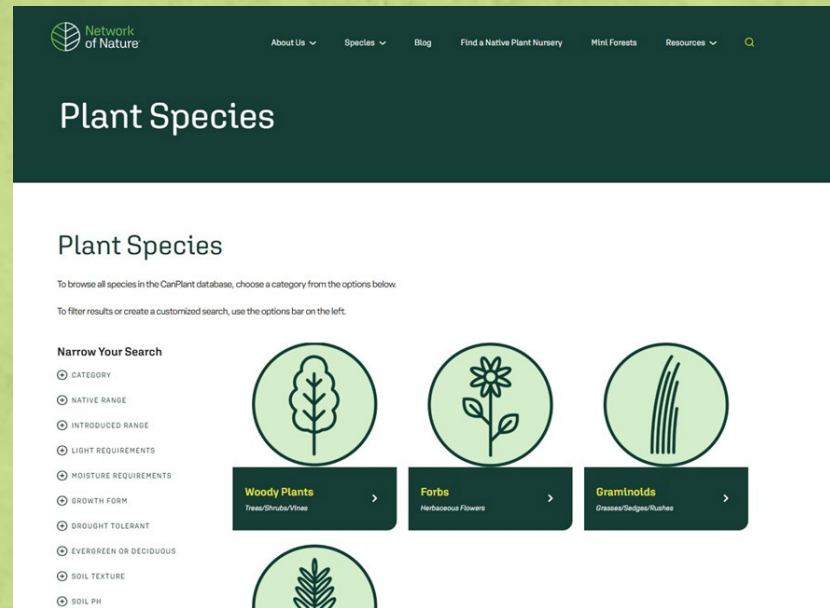
- **Canopy: 20%.**
Sugar Maple, Red Oak, White Pine
- **Sub-Canopy: 40-50%**
Yellow Birch, Eastern White Cedar, Aspen
- **Understory: 25-30%**
Serviceberry, Dogwood, Redbud.
- **Shrub: 10%**
Spicebush, Elderberry, New Jersey Tea

Summer 2024 - Planning for Planting Day: Plant Selection



Ontario Tree Atlas

<https://www.ontario.ca/page/tree-atlas/>



Network of Nature

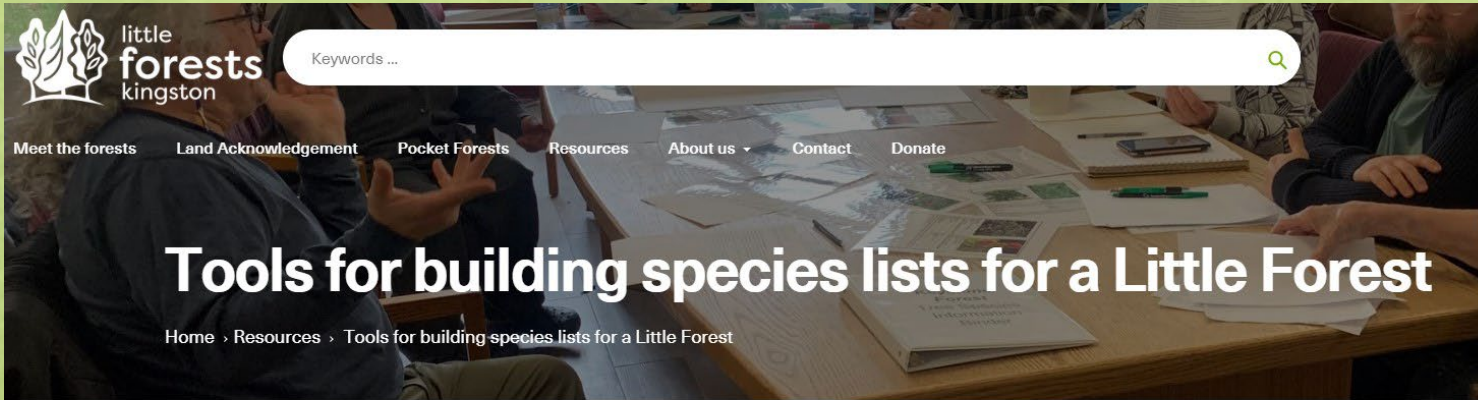
<https://networkofnature.org/species/>



Ontario Trees & Shrubs

<https://ontariotrees.com/>

Summer 2024 - Planning for Planting Day: Planning Tools



The screenshot shows the homepage of the Little Forests Kingston website. The header includes the logo, a search bar, and navigation links. The main article title is 'Tools for building species lists for a Little Forest'. Below the title is a breadcrumb trail: 'Home > Resources > Tools for building species lists for a Little Forest'. The article content includes social media sharing icons, a paragraph about the common question of tree selection, a list of two tools (Forest builder and Species list template), and a section titled 'Framework: The Miyawaki Method' with a paragraph explaining the method.

little forests kingston

Keywords ...

Meet the forests Land Acknowledgement Pocket Forests Resources About us Contact Donate

Tools for building species lists for a Little Forest

Home > Resources > Tools for building species lists for a Little Forest

One of the most common questions we get from prospective forest planters is: How do we choose the trees that we plant in Little Forests or Pocket Forests? A Little Forest might have hundreds, or even thousands, of trees!

We've developed tools that we use to build species lists that generally align with the Miyawaki method. This article explains the framework and tools, so that hopefully you can find them useful as well. We'll start by outlining the Miyawaki Method concepts that we build into our forests, then we'll describe our two species building tools:

- [Forest builder](#)
- [Species list template](#)

Framework: The Miyawaki Method

We typically follow the Miyawaki method, which lays out a formula of sorts for selecting trees. Dr. Akira Miyawaki discovered that dense plantings of saplings of varying eventual heights (layers) leads to the saplings growing more quickly than in more traditional plantings, and a vast array of biodiversity achieved in a relatively short time period. These advantages are critical when we so urgently need healthy forests to help reverse and recover from the biodiversity crisis we're facing, and to help cool our warming planet.

Little Forests Kingston

- Forest Builder Species List (130 species)
- Species List Template

<https://littleforests.org/blogs/resources/tools-for-building-species-lists-for-a-little-forest>

Summer 2024 - Planning for Planting Day: Planning Tools

Forest Builder Species List

File Edit View Insert Format Data Tools Extensions Help

Search Menus 100% View only

B1 Note: INF = Info Not Found

	B	C	D	E	F	G	H	
1	Note: INF = Info Not Found N/A = Not Applicable				<u>Description</u>			
	Common Name	Botanical Name	Type	Height (m)	Layer	Growth Rate	Root Depth	
2	Balsam Fir	<i>Abies balsamea</i>	conifer	15-25	Tree	Med	Shallow	
3	Black Maple	<i>Acer nigrum</i>	deciduous	20-30	Tree	Med	Shallow	
4	Striped Maple	<i>Acer pensylvanicum</i>	deciduous	4-12	Understory Tree	Slow	Shallow	
5	Red Maple	<i>Acer rubrum</i>	deciduous	12-25	Tree	Rapid	Shallow	
6	Silver Maple	<i>Acer saccharinum</i>	deciduous	20-30	Tree	Rapid	Shallow	
7	Sugar Maple	<i>Acer saccharum</i>	deciduous	20-35	Canopy	Slow	Shallow	
8	Mountain Maple	<i>Acer spicatum</i>	deciduous	3-5	Shrub	Slow	Shallow	
9	Ohio Buckeye	<i>Aesculus glabra</i>	deciduous	9-15	Understory Tree	Med	Deep	
10	Speckled (Grey) Alder	<i>Alnus incana</i> subsp. <i>rugosa</i>	deciduous	3-4	Shrub	Med	Shallow	
11	Green Alder	<i>Alnus viridis</i>	deciduous	3-9	Shrub	Rapid	Shallow	
12	Saskatoon Serviceberry (Alder-lvd)	<i>Amelanchier alnifolia</i>	deciduous	1-5	Shrub	Med	Shallow	
13	Canadian Serviceberry	<i>Amelanchier canadensis</i>	deciduous	2-6	Understory Tree	Med	Shallow	
14	Smooth Serviceberry	<i>Amelanchier laevis</i>	deciduous	2-10	Shrub	Med	Shallow	
15	Dwarf Serviceberry	<i>Amelanchier spicata</i>	deciduous	9-1.5	Shrub	Med	Shallow	
16	Lead Plant	<i>Amorpha canescens</i>	deciduous	6-1.2	Shrub	Slow	Deep	
17	False Indigo	<i>Amorpha fruticosa</i>	deciduous	1.5-6	Shrub	Rapid	Deep	

Summer 2024 - Planning for Planting Day: Planting Tools

Species List Template

File Edit View Insert Format Data Tools Extensions Help

Menus 100% View only

A1

	A	B	C	D	E	F	G	H	I
1	<div>Select the species of plants for your forest using the Forest Builder Little Forest Master List as your guide. Enter the chosen species and percentages in the table below:</div>	Area (square metre)	100		Layer Percentages:				
2		Density (Saplings/sq m)	3		Canopy %	#DIV/0!		Understory Tree %	#DIV/0!
3		Saplings	300		Tree %	#DIV/0!		Shrub %	#DIV/0!
4					Actual #Sapling	0		Total %	#DIV/0!
5									
6									
7		Instructions			Percent Sum:	0	(this should be 100 when you complete you		
8									
9	Common Name	Botanical Name	Type	Height (Meters)	Layer	Percent	Order Quantity		
10						0			
11						0			
12						0			
13						0			
14						0			
15						0			
16						0			
17						0			
18						0			

Summer 2024: Planning for Planting Day: Smiths Falls Species Plan

Canopy Trees		
Sugar Maple	Acer saccharum	24
White Oak	Quercus alba	12
White Pine	Pinus strobus	6
Tulip Tree	Liriodendron tulipifera	9
Eastern Cottonwood	Populus deltoides	6
American Sycamore	Platanus occidentalis	3
Black Walnut	Juglans nigra	3
	7	63

Sub Canopy Trees		
Eastern White Cedar	Thuja occidentalis	24
Shagbark Hickory	Carya ovata	24
Basswood	Tilia americana	12
White Birch	Betula papyrifera	9
Hackberry	Celtis occidentalis	6
Kentucky Coffeetree	Gymnocladus dioica	9
Butternut	Juglans cinerea	3
Northern Catalpa	Catalpa speciosa	3
Black Maple	Acer nigrum	12
	Quercus macrocarpa	9
Bur Oak		
Black Spruce	Picea mariana	9
Yellow Birch	Betula alleghaniensis	6
	12	126

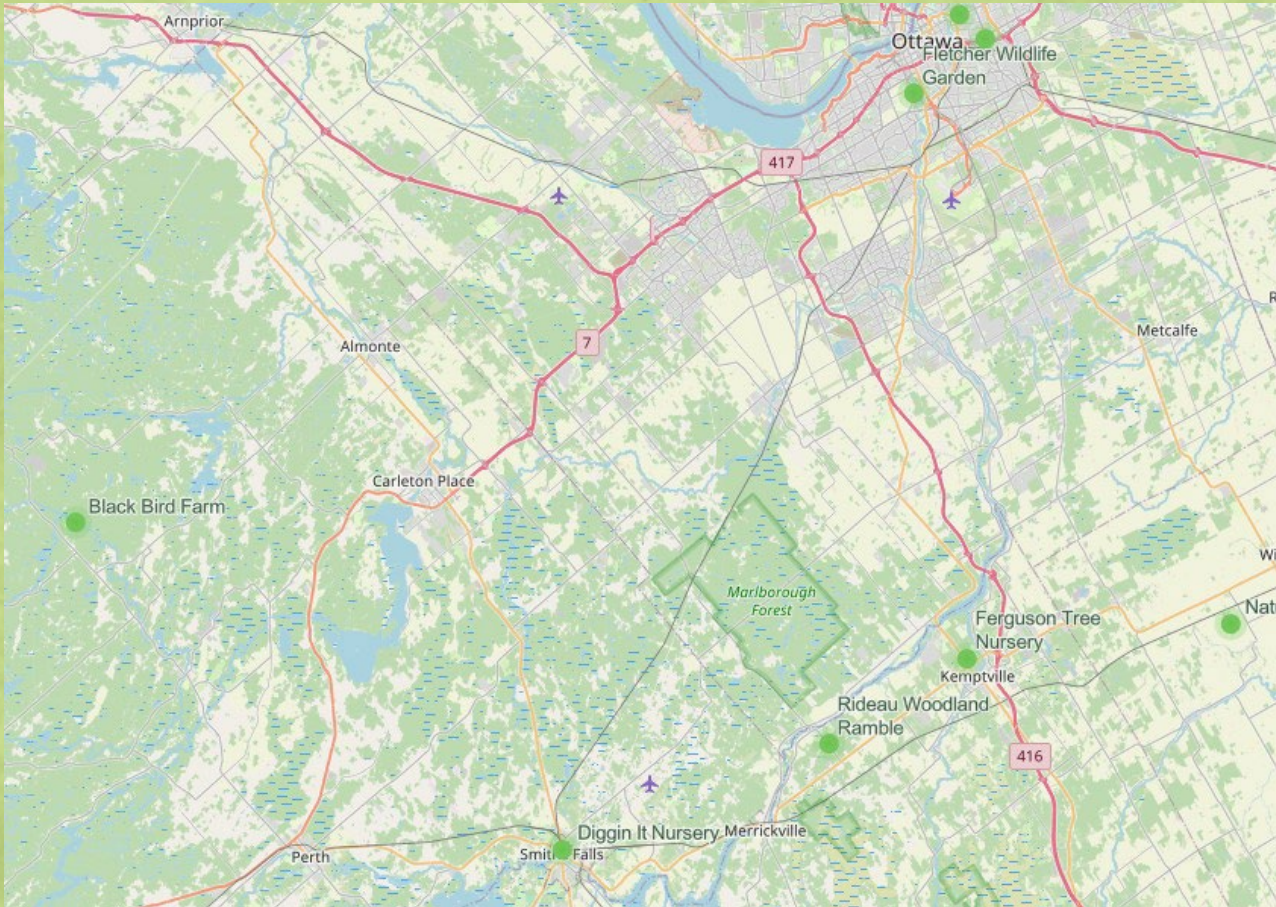
Summer 2024: Planning for Planting Day: Smiths Falls Species Plan

Understory Trees		
Serviceberry	Amelanchier canadensis	24
Blue Beech	Carpinus caroliniana	9
Eastern Redbud	Cercis canadensis	9
Red Mulberry	Morus rubra	9
Wild Crab Apple	Malus coronaria	6
Chokecherry	Prunus virginiana	3
Flowering Dogwood	Cornus florida	5
Canada Plum	Prunus nigra	5
	8	70

Shrubs		
American Hazelnut	Corylus americana	24
American Currant	Ribes americanum	6
Witch Hazel	Hamamelis virginiana	6
Glaucous Honeysuckle	Lonicera dioica	3
Beaked Hazelnut	Corylus cornuta	3
	5	42

Total # Species			32
Total # Plants			301

Summer 2024 - Planning for Planting Day: Finding Nurseries



Sources from Network of Nature

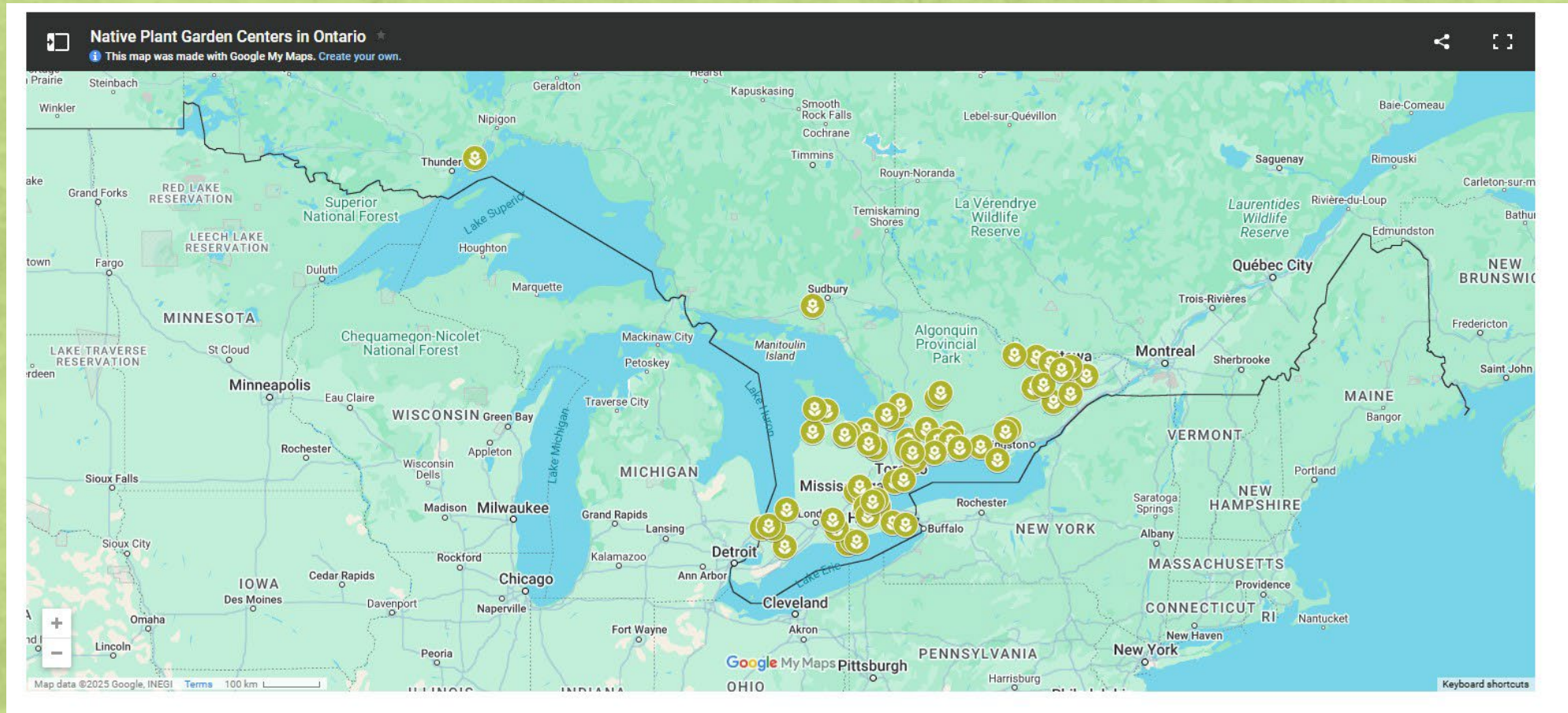
<https://networkofnature.org/where-to-buy.htm>



- Diggin' It Nursery
- Black Bird Farm
- Rideau Woodland Ramble
- Ferguson Tree Nursery
- Naturaide
- Connaught Nursery

Summer 2024 - Planning for Planting Day: Finding Nurseries

Native Plant Connection: <https://nativeplantconnection.com/native-plant-nurseries-ontario/>



Planning is Done.... Planting Day is Next



October 5th 2024 – Planting Day

MINI FOREST PLANTING DAY

Saturday, October 5
**Hyland Park, Empress Ave,
Smiths Falls**

VOLUNTEERS NEEDED



A mini forest is a community of native trees and shrubs planted tightly together that matures faster than other forests.

Be a part of it! We are planting the site prepared April 13. Volunteers will plant three small seedlings or plants in each one metre square. Due to the small space, people will be scheduled in half hours slots throughout the day beginning at 9:30. Children welcome if accompanied by an adult.

FREE BBQ
11:00 am. - 1:00 pm

*Thanks to the Town
of Smiths Falls*



**VOLUNTEERS MUST
PRE REGISTER**
Contact Dave at
thornley.j.d@gmail.com or
phone (613) 205-0320.

www.REALaction.ca

*Photo credit: Forest My Wellbeing

- Organize and stage plants
- Set up tools, inoculant and water
- Welcome volunteers and provide orientation
- Demonstrate planting method
- Assign groups to planting spots
- Supervise and assist planting process
- Mulch and water newly planted areas

October 5th 2024 – Planting Day



October 5th 2024 – Planting Day



October 5th 2024 – Planting Day



October 5th 2024 – Planting Day



October 5th 2024 – Planting Day



October 5th 2024 – Planting Day



October 5th 2024 – Planting Day



October 5th 2024 – Planting Day





**OUR POWER
OUR PLANET**

**HAPPY
EARTH
DAY**

April 22. 2025