

Working Group On Lincoln's Tree Policies and Practices



By Liz Benneian, member of the working group

Members of the Working Group



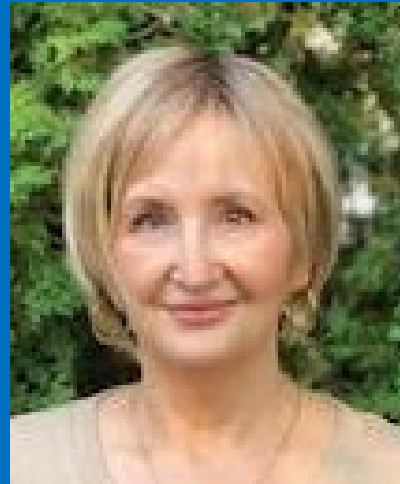
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A working group, led by senior staff, was formed following a direction from Council asking for a review of tree-related Town practices and policies to ensure they reflect current best practices.

Local citizens' groups who have been active on urban forest issues were also asked to participate. Staff with specific areas of expertise such as communications or bylaw enforcement are included as needed. As well, experts from other organizations, such as the Vineland Research Centre and the Niagara Peninsula Conservation Authority, may be asked for guidance as the work moves forward.

The first meeting was held on November 2nd, followed by meetings in December and January.

Best Practices for Community Benefit



The overall goal is to improve the health of Town's trees and increase Lincoln's tree cover through the implementation of proven best practices already employed in other municipalities so that Lincoln's citizens can enjoy all the economic, environmental and health-related benefits of a healthy urban forest.

Much Has Been Accomplished!

Liz, Vernah and Jane undertook a review of best urban forest practices and policies from other municipalities and put together a 53-page report which was submitted to the working group in December.

The report covered 12 areas of best practice including:

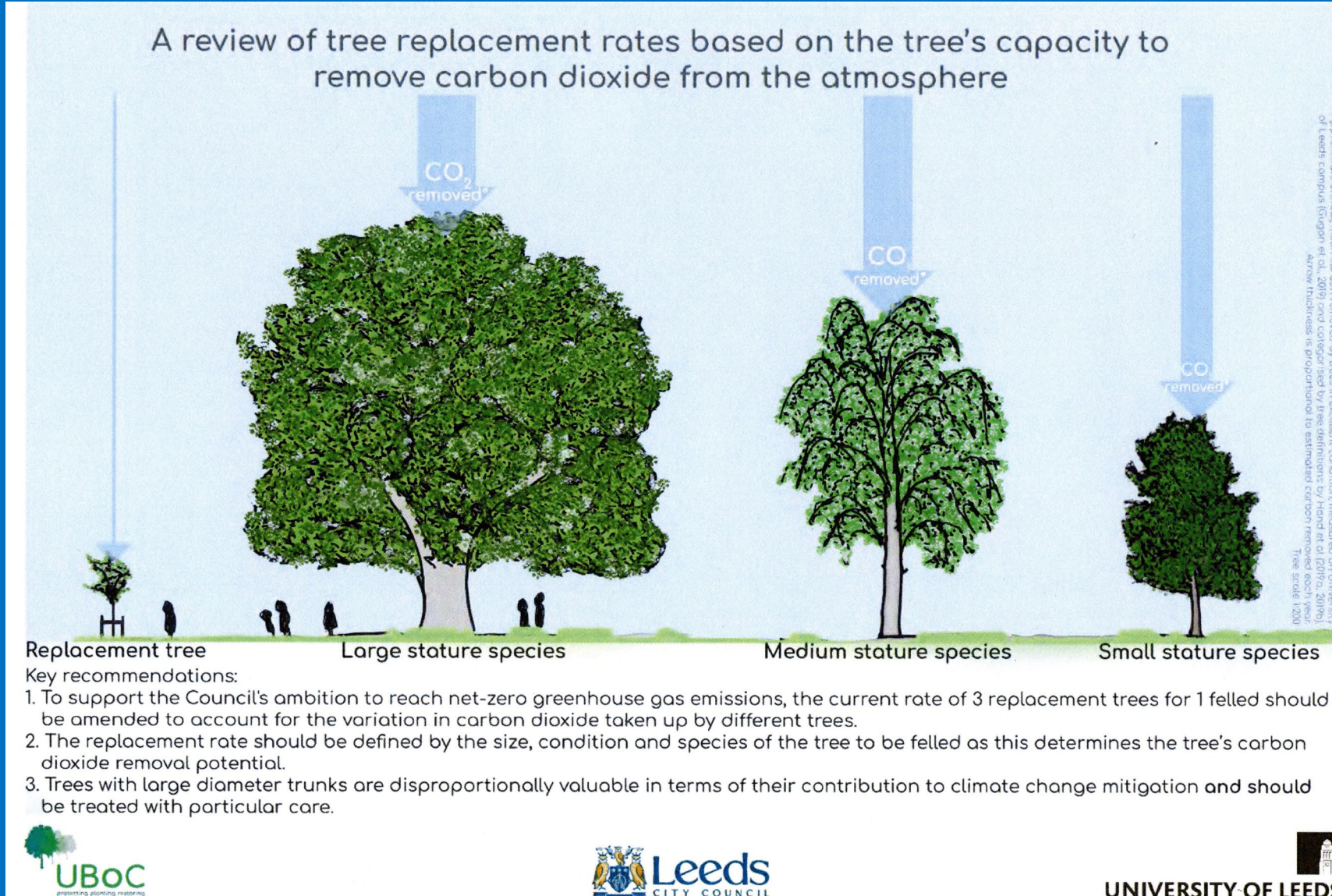
1. Setting Tree Canopy Targets
2. Achieving Tree Canopy Targets
3. Tree Planting Guidelines
4. Quality & Quantity of Soil Requirements for Planting
5. Tree List for Town Plantings
6. Protection for Trees During Construction
7. Planting Standards for Parking Lots
8. Maintenance Best Practices for Newly Planted Trees



Much Has Been Accomplished!

9. Educating Citizens on Tree Maintenance
10. Private Tree Protection Bylaw
11. Adequate Replacement Ratios
12. Engaging the Public to Help the Town Reach Its Tree Canopy Goals

Staff have reviewed the report, and it will inform a new *Tree Procedures and Standards Manual* that they are producing.



Identifying New Opportunities



Part of the task of the Working Group is to identify new opportunities that will further the group's goals. One opportunity is to work with Green Communities Canada and the Network of Nature to plant mini (Miyamaki forests) within our urban communities.

Identifying New Opportunities: Miyawaki Forests

Combine native species of canopy trees like Oaks, sub canopy trees like Yellow Birch, shrubs like Chokeberry and ground cover like Maple-leaved Viburnum that have evolved together and plant them densely, to encourage upward growth.

This maximizes biomass in the space which also maximizes oxygen production, carbon sequestration, habitat area etc.

By mimicking natural systems, Miyawaki forests form beneficial fungal networks in the soil that help them grow quickly.

Staff have identified potential mini-forests sites so they will be ready to launch should expected funding become available.

The combination of species chosen is important because various species have evolved together and thrive in the same or similar environments. A great way to determine species collections is to inventory nearby natural areas. This illustration shows a selection from the Mixedwood Plains Ecozone that extends from southwestern Ontario through southern Quebec along the St. Lawrence River.

Trees must be native to the area to support native insects, birds, mammals, reptiles and amphibians.

Once the forest has grown enough to cast shade and offer air circulation, gardeners can start to add ground cover native to the area (wild sarsaparilla, Canada mayflower and spinulose wood fern are common throughout much of Canada).

Planting species that make up each of the four forest levels mimics productive natural forest systems and maximizes potential biomass and biodiversity in the space.

Dense planting encourages rapid upward growth and suppresses weeds.

CANOPY

A American beech

B Eastern hemlock

SUB-CANOPY

C Black cherry

D Yellow birch

UNDERSTOREY

E Ironwood

F Chokecherry

GROUND COVER

G Prickly gooseberry

H Northern bush

honeysuckle

1 Maple-leaved viburnum

vibrant

The soil is rejuvenated before planting by adding compost and covering it with mulch and leaf litter. Mycorrhizae and other microorganisms can be added via a "compost tea" of wild soil and water..

The community is connected via fungal networks, which allow for sharing nutrients and resources.

In the first few years, it's important to weed and mulch to ensure the plot isn't overtaken by unwanted opportunistic plants.



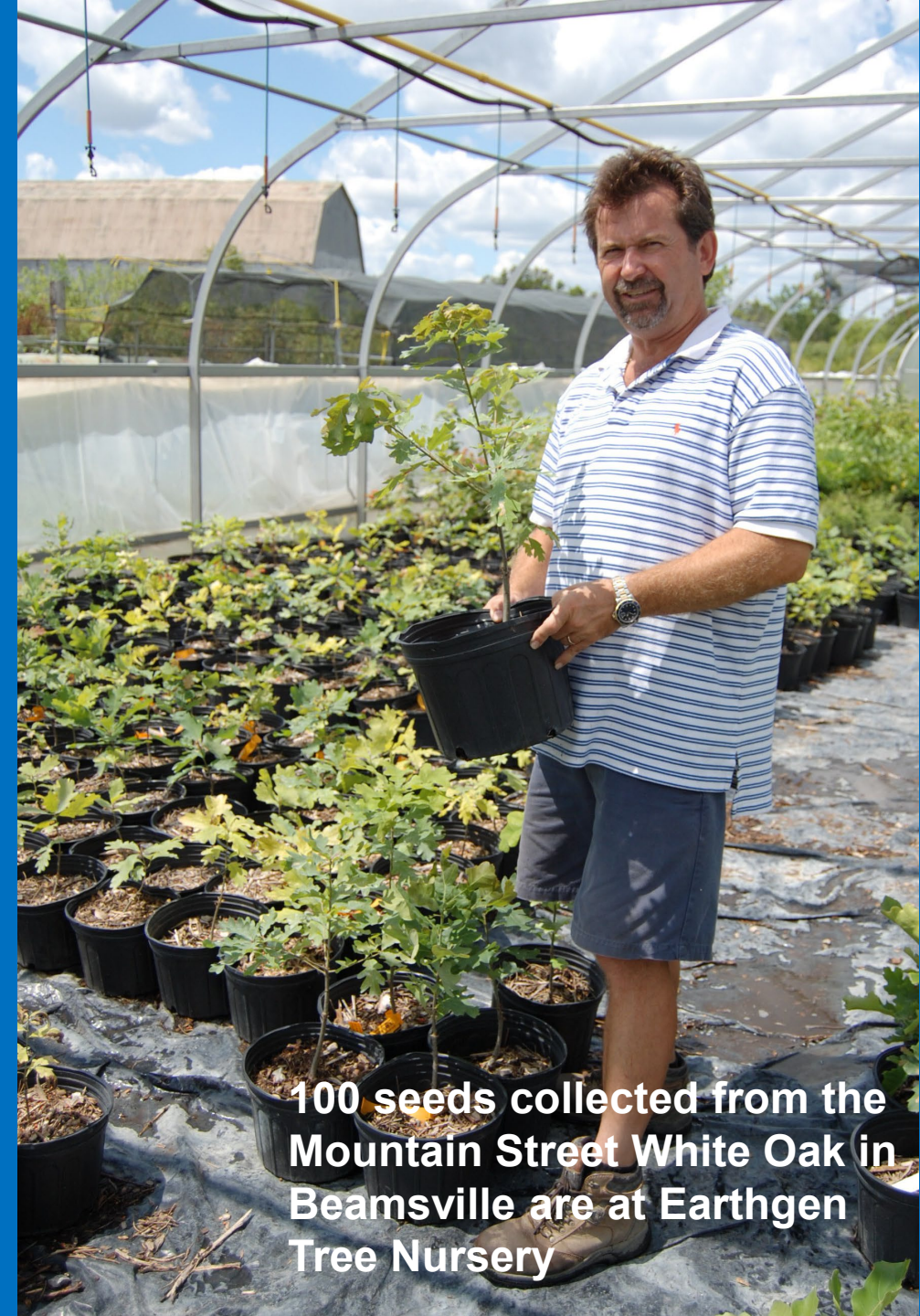
Identifying New Opportunities



Two other possible opportunities that have been identified include:
Replanting the Ancient Forest: seed collection and tree planting from significant, old native trees.
Holding a Tree-focused EcoFest at the Fleming Centre for Earth Day.

Identifying New Opportunities: Replanting the Ancient Forest

The Town of Lincoln has several outstanding old trees that carry the genetic legacy of the original forest that existed before settlers arrived. Examples include the Mountain Street White Oak and the Shagbark Hickories at Jordan Lions Park. These seeds can be collected and planted (some already have been!) or grown out in nurseries (the Mountain Oak's already have been!) and then planted. Opportunities abound with these projects, and I have already been in touch with the library about organizing tree seed potting sessions with community groups. A few nurseries such as Earthgen in Wainfleet and Be Sweet Nature Company in Puslinch collect seed from local ancient trees. Community groups can work with funders and the Town to preserve this precious genetic legacy by organizing community tree plantings using the seeds and the saplings of these trees.



100 seeds collected from the Mountain Street White Oak in Beamsville are at Earthgen Tree Nursery

Identifying Challenges

The Working Group is examining urban forest challenges related to issues of climate change and infill development.

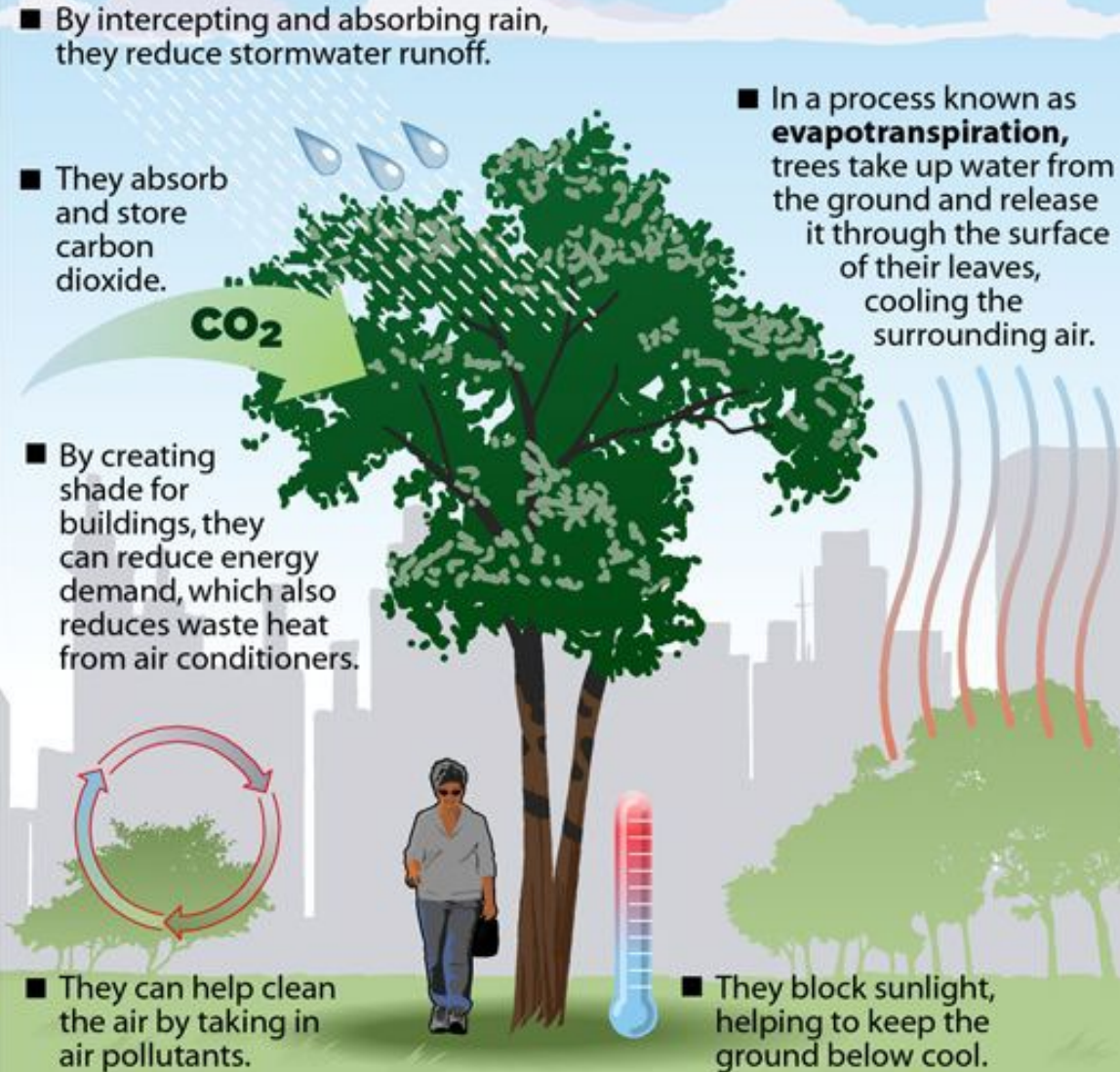
For instance, we are looking at ways the Town's tree policies can help mitigate the impacts of warmer temperatures and reduce the heat island effect.

Another climate-related challenge is that some of the trees that grow here now, will not be able to survive warmer temperatures.

Assisted migration may help combat tree loss with weather-adapted species.

Why Trees Are So Cool

Experts say trees should be considered urban infrastructure, every bit as important and useful as sewage, drinking water and transportation systems. They are an important tool for cities to reduce urban heat island effects. Here are a few ways trees benefit our urban environments:

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- The infographic features a central illustration of a large green tree in an urban environment. A person is walking on a path next to the tree, and a thermometer is placed on the grass nearby. In the background, there are city buildings and a smaller tree. Various arrows and icons point to different benefits of trees:
- By intercepting and absorbing rain, they reduce stormwater runoff. (Illustrated with raindrops falling on the tree's canopy.)
 - They absorb and store carbon dioxide. (Illustrated with a green arrow labeled "CO₂" pointing into the tree.)
 - In a process known as **evapotranspiration**, trees take up water from the ground and release it through the surface of their leaves, cooling the surrounding air. (Illustrated with blue wavy arrows rising from the tree's leaves.)
 - By creating shade for buildings, they can reduce energy demand, which also reduces waste heat from air conditioners. (Illustrated with red wavy arrows representing heat being blocked by the tree's shade.)
 - They can help clean the air by taking in air pollutants. (Illustrated with a circular arrow around a smaller tree.)
 - They block sunlight, helping to keep the ground below cool. (Illustrated with a thermometer showing a lower temperature in the shade of the tree.)

Identifying New Challenges

Another challenge is how to compensate for increased tree loss within established urban areas as development and intensification increases.

- A Toronto study showed a 56% tree loss on redevelopment sites.
- A New Zealand study showed infill development caused a 35% decrease in tree canopy over a 10-year period.
- A study in Ottawa showed 50% of “retained” trees on development sites were actually lost.

By anticipating these issues, the Working Group can identify best practices that can be put in place now to avoid, mitigate or compensate for future losses.



White Oak
Mountain Street

Public Education and Engagement



As the process moves forward, the Working Group will liaise with Communications staff on a communications plan and public engagement campaign on the Tree Management Strategy like the Town so successfully undertook with Parks planning.

Public Education and Engagement

There are many opportunities for public engagement as work on the Tree Management Strategy moves forward.

The Town is fortunate to have many community groups such as the Benchlands Citizens Group, the Val Fleming Butterfly Garden, Ontariogreen and other local organizations like the NPCA who are willing to help with engagement, education and events.



The Working Group is pleased with what's been accomplished so far and looks forward to reporting to Council on future progress.



**Thank you.
Questions?**

**Grand Oak
Victoria Avenue**