4TH REPORT OF THE

TREES AND FORESTS ADVISORY COMMITTEE

Meeting held on March 23, 2016, commencing at 12:18 PM, in Committee Room #4, Second Floor, London City Hall.

PRESENT: R. Mannella (Chair), A. Cantel, P. Ciufo, C. Dyck, J. Kogelheide, C. Linton and G. Mitchell and J. Martin (Secretary).

ABSENT: A. Adgria and C. Haindl.

ALSO PRESENT: I. Listar, J. Ramsey and S. Rowland.

I. CALL TO ORDER

1. Disclosures of Pecuniary Interest

That it BE NOTED that no pecuniary interests were disclosed.

II. SCHEDULED ITEMS

2. Climate Change

That the following actions be taken with respect to the City of London's "Design Specifications and Requirements Manual" related to climate change:

a) the Civic Administration BE REQUESTED to consider the attached proposed recommendations with respect to a Climate Change Action Plan and tree planting;

b) discussion with respect to additional proposed recommendations with respect to a Climate Change Action Plan BE DEFERRED to the April meeting of the Trees and Forests Advisory Committee; and,

c) the attached presentation from A. Cantel with respect to the Climate Change Action Plan BE RECEIVED.

III. CONSENT ITEMS

3. 3rd Report of the Trees and Forests Advisory Committee

That it BE NOTED that the 3rd Report of the Trees and Forests Advisory Committee, from its meeting held on February 17, 2016, was received.

4. Municipal Council Resolution - 2nd Report of the Trees and Forests Advisory Committee

That it BE NOTED that the Municipal Council resolution adopted at its meeting held February 16, 2016 with respect to the 2nd Report of the Trees and Forests Advisory Committee, was received.

5. Middlesex-London Health Unit Representative

That it BE NOTED that a communication dated March 3, 2016, from Dr. C. Mackie, Middlesex London Health Unit, with respect to the appointment of Dr. D. Pavletic, Manager Food Safety and Healthy Environments to the Trees and Forests Advisory Committee as the Middlesex London Health Unit representative, was received.

IV. SUB-COMMITTEES & WORKING GROUPS

6. Allergens, Climate Change and Invasives Working Group

None.

7. Planting Strategy Working Group

That the Civic Administration BE REQUESTED to consider the attached City of London Planting Strategy.

V. ITEMS FOR DISCUSSION

8. Boulevard Tree Protection By-law

That the Civic Administration BE REQUESTED to consider the attached document with respect to the Boulevard Tree Protection By-law.

9. Green Legacy Presentation Update

That it BE NOTED that the presentation by R. Johnson, Green Legacy Manager, Wellington County, with respect to the Green Legacy Program be confirmed for the April or May 2016 meeting of the Trees and Forests Advisory Committee (TFAC); it being noted that this presentation was approved at the January meeting of the TFAC.

VI. DEFERRED MATTERS/ADDITIONAL BUSINESS

10. Road Work in Rowntree Neighbourhood and Impact on Trees

That it BE NOTED that discussion with respect to the road work in Rowntree Neighbourhood and its impact on trees was deferred to a future meeting of the Trees and Forests Advisory Committee.

11. Southdale and Wharncliffe Forest and Water Update

That it BE NOTED that C. Linton advised the Trees and Forests Advisory Committee that the Civic Administration is currently working to install drainage to return the water level to previous levels, prior to development at the Southdale and Wharncliffe forest.

VII. ADJOURNMENT

The meeting adjourned at 2:13 PM.

NEXT MEETING DATE: April 27, 2016

Climate Change Action Plan - General Recommendations

General Recommendations Concerning the Design Specifications & Requirements Manual

The following recommendations all apply to sections within Chapter 12 of the City of London's "Design Specifications and Requirements Manual".

It is recommended that:

1. The **native or non-native column** of Appendix 5 ("Approved Street Trees") be modified to include the country or region in which non-native approved species are considered native. Doing so will help ensure that species selection is sensitive to the Ontario context, particularly with regards to the importance of native species to our local ecosystems, the risk of invasion by non-native species and to our changing climate which will cause many species from the United States to expand their range northwards into our area.

   Non-native species should be broken into "Continental Non-Native" (which could potentially expand their range naturally into London, and support wildlife species which may likewise migrate north) and "Non-Continental" (which would not naturally do so). If there is uncertainty about this categorization in the literature (for example, the range of Manitoba Maple within Canada), it should be noted.

2. Given the great cost a municipality may incur when **invasive species** spread into natural areas, invasive species currently listed in Appendix 5 which lack a natural (native) population within North America, (i.e., labelled "*non-continental, invasive*" in the species list) be placed in a new appendix, and only be allowed to be used as replacement trees for City street tree planting. (I.e., a non-invasive species must be tried in any given location before a non-continental invasive will be considered). Even then, invasive species should not be allowed as replacements if the first tree was not regularly watered.

3. In light of growing concerns around food security, which are expected to increase as climate change progresses, **more edible fruit trees** should be added to Appendix 5 ("Approved Street Trees")

Beyond the proposed changes to the Design Specifications & Requirements Manual, it is further recommended that:

4. Urban Forestry engage in purposeful testing of **additional native Ontario tree species** for their use as street trees and their inclusion in Appendix 5 (Approved Street Trees) of the Street Tree Guidelines (for example, Chinquapin Oak).

5. Given the enormous risk climate change poses to London's trees and forests, the time it takes any given tree to reach seed-bearing age and the slow rate of natural range expansion for most species, the City of London create local guidelines for **assisted migration**. These guidelines should give consideration to:

   - The climate scenario (RCP 2.6, 4.5, 6.0 or RCP 8.50) to be used, and how often this should be re-evaluated based on global success or failure to reduce greenhouse gas emissions (it being noted that the absolute best-case scenario that should be considered given available technology, progress on reducing emissions, and on global commitments should be the RCP 2.6 scenario, which equates to 3 degrees of warming for Canada).

   - The time frame for migration, and if different types should be used over the course of the coming decades and the timing of different approaches, in light of the time it takes a tree to reach seed-bearing age

   - The type of stock (e.g., seed may be preferred over importing southern stock so as to reduce the risk of disease)

   - The type of migration ("genetic"/population migration vs. assisted range expansion or long-distance migration – see: http://www.nrcan.gc.ca/forests/climate-change/adaptation/13121)

   - The potential for introduction of disease where one new species may be an alternate host for a disease that could affect our native species

   - How migration species or individuals could best be incorporated into the urban forest

WORKING GROUP

Amber, Iqbal, Nina & Carol

Strategies built around:

-**Assisted migration**
-**Reducing invasives**
-**Planning for greater smog days (& air quality impacts)**

WHAT MAKES A GOOD STRATEGY

Depends on your assessment of risk

CLIMATE CHANGE

without a doubt represents the greatest challenge humanity will face this century (& probably ever)

Our understanding of risk comes from two sources:

Past – pollen, sediment records, ice cores, etc.
Future – scientific models to predict how climate will change (at the point now where we can assess how good we are at modelling)

TWO TYPES

• **"Propelled"** (climate keeps changing as long as we keep polluting; stop polluting, and it holds)

• **"Runaway"** or Self-Accelerating (climate will keep getting hotter *even if we stop polluting*)

In either case, there will be massive impacts on trees & forests this century

2ºC

Traditionally the number given for "gives us a good chance to stop runaway climate change" (good until someone read the IPCC fine print)

1.5ºC

Safer number now being touted

“The difference between two degrees and four degrees is human civilisation.”

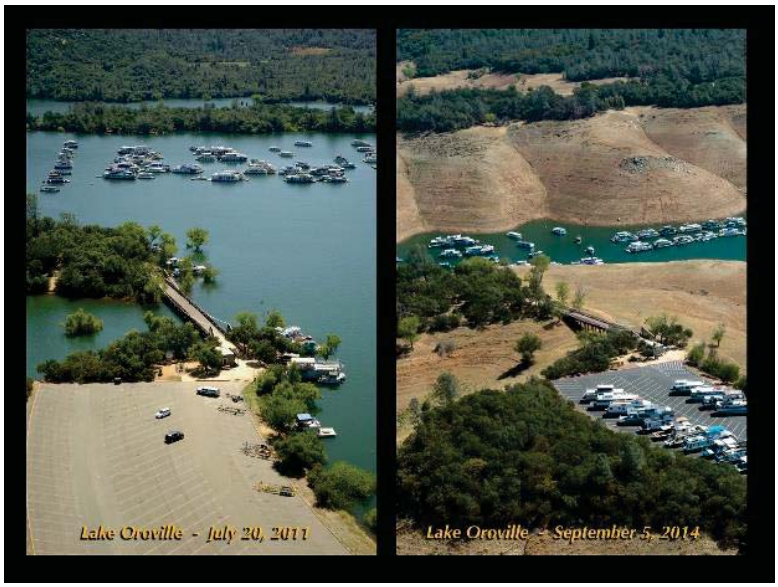
- Professor Hans Joachim Schellnhuber, Director of the Potsdam Institute for Climate Impact Research

NOT GOING TO GET INTO

- **Sea level rise**
- **Flooding & storms**
- **Ocean acidification**
- **Mass extinctions**
- **Poverty**
- **Air quality**
- **Spread of disease**
- **War**

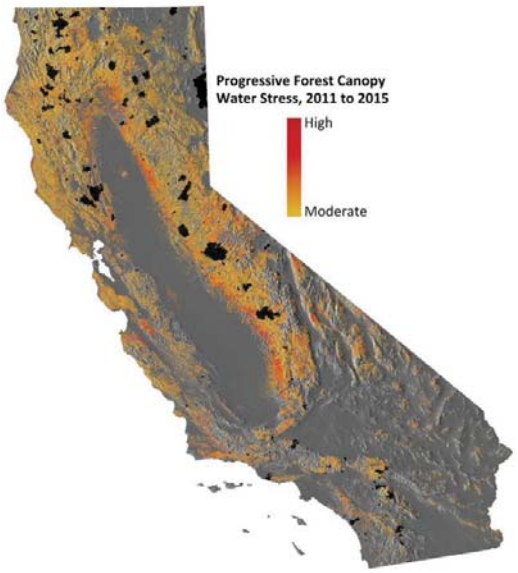
GOING TO COVER

- **Some key impacts on forests (fire & drought) and how they relate to risk of runaway climate change**
- **What is the risk of runaway climate change?**
- **General recommendations: assisted migration, invasives, & sister cities**



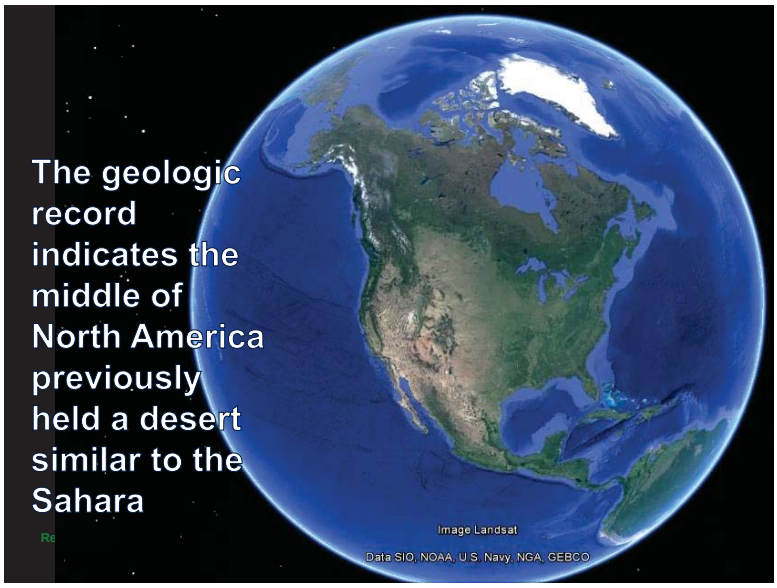
CALIFORNIA'S FORESTS

- **58 million trees experiencing severe canopy loss**
- **Less carbon sequestration; more fire**
- **Ecosystems may not recover in our lifetimes**
- **Invasives handling it better**



CALIFORNIA'S FORESTS

Impacts so severe, California's governor declared a state of emergency – for dead & dying trees



NORTHWEST TERRITORIES, 2014

- Yellowknife's June high 2.1°C above normal
- Rainfall 15% of normal

NORTHWEST TERRITORIES, 2014

- Over 330 wildfires
- 2.8+ million hectares of forest burned
- Birch Creek Fire: 100,000+ hectares (more than twice the size of London)
- Worst in 30 years

NORTHWEST TERRITORIES, 2014

- For every **+1.8°C** wildfire activity is expected to **double**
- Positive feedback loop: Fires release CO_2, warms climate, leads to more fire
- Ash over Greenland

BETWEEN FIRE, DROUGHT & DESERTIFICATION

Forests across the planet will be severely compromised and have reduced ability to absorb carbon (accelerating change)

ICE

Reflects light & heat back into space (has a "high albedo")

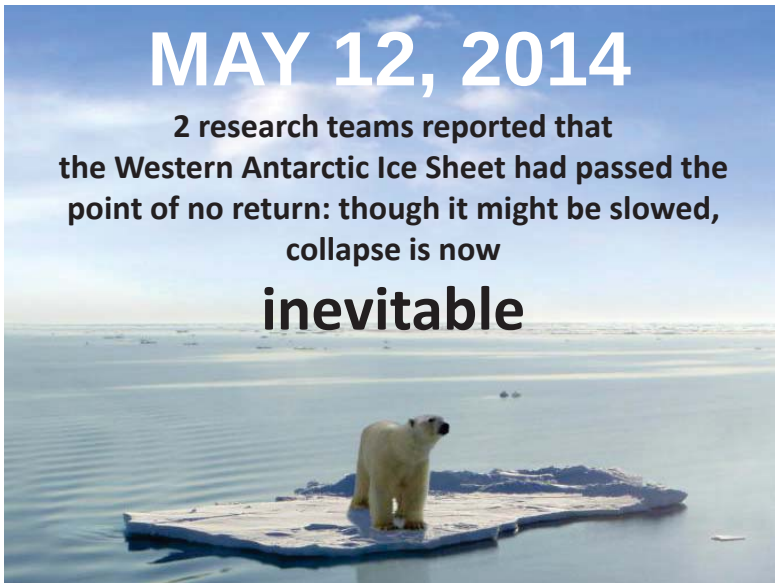
World has 3 large ice sheets (EAIS, Greenland, WAIS)

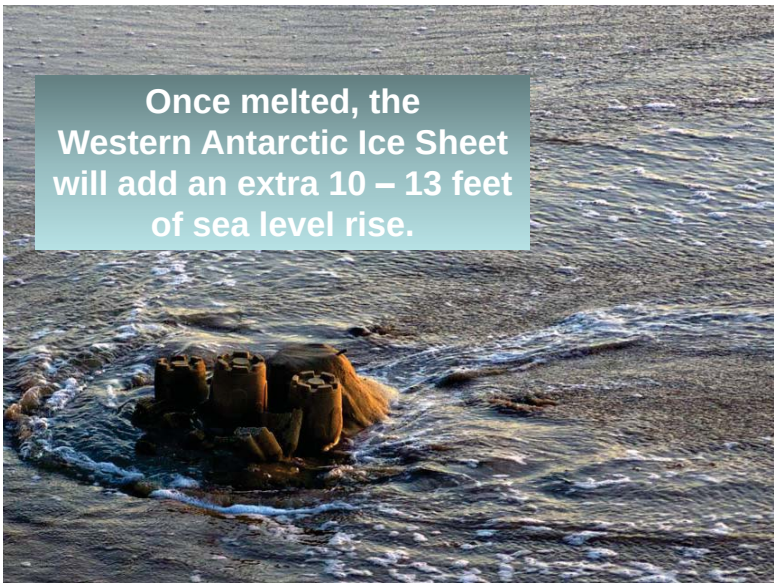
OCEANS & FORESTS are darker & absorb heat/reflect less light (a "low albedo")

MAY 12, 2014

2 research teams reported that the Western Antarctic Ice Sheet had passed the point of no return: though it might be slowed, collapse is now

inevitable





Once melted, the Western Antarctic Ice Sheet will add an extra 10 – 13 feet of sea level rise.

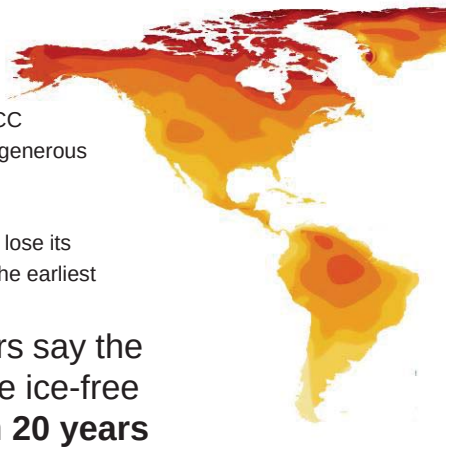
At 1,970,000 km^2, the WAIS is about the **size of Florida**, Contains 2.2 million km^3 of ice, and is up to **2,000 m thick** in some places
(by comparison, the CN Tower is 600 m tall)

The collapse is considered so catastrophic that the IPCC, the UN organization responsible for studying climate change, had never actually factored it in to possible climate change scenarios.

"Based on current understanding,
only the collapse of marine-based sectors of the Antarctic ice sheet,
if initiated, could cause global mean sea level to rise substantially above the likely range during the 21st century."

- Intergovernmental Panel on Climate Change
5th Assessment Report:
Summary for Policy Makers

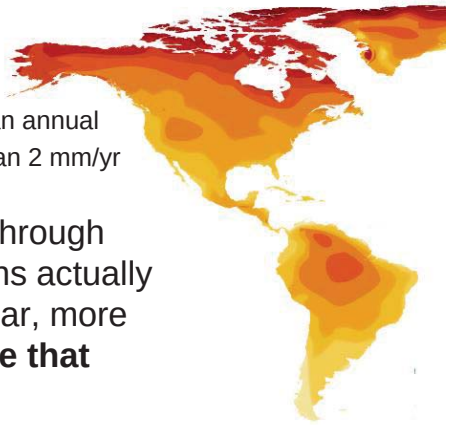
CONSERVATIVE RESEARCH BIAS



- WAIS is not the first time IPCC assumptions have been too generous
- Brysse et al., 2013
- IPCC 2007: Arctic would not lose its summer ice before 2070 at the earliest

Now researchers say the region could see ice-free summers within **20 years**

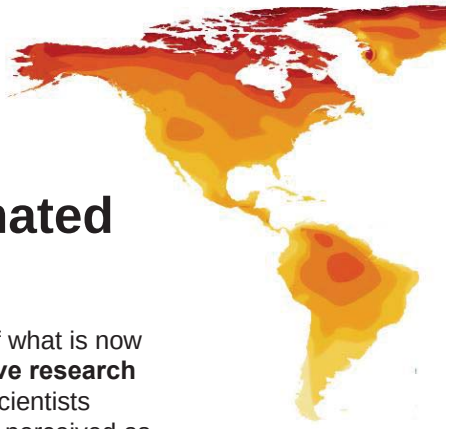
CONSERVATIVE RESEARCH BIAS



- IPCC 2001: Predicted an annual sea-level rise of less than 2 mm/yr

But from 1993 through 2006, the oceans actually rose 3.3 mm/year, more than **50% above that projection**

CONSERVATIVE RESEARCH BIAS



- Climate scientists have consistently **underestimated** impacts

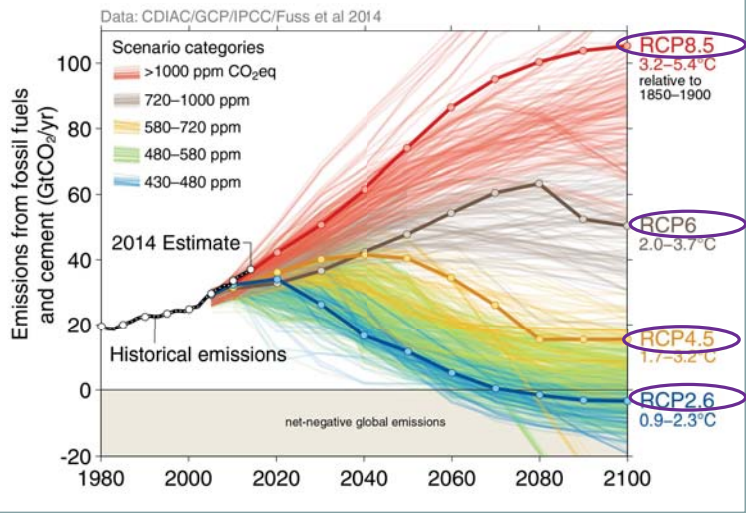
And this is the result of what is now termed **"conservative research bias"**, the result of scientists being afraid of being perceived as "alarmist"

HOW MUCH TIME?

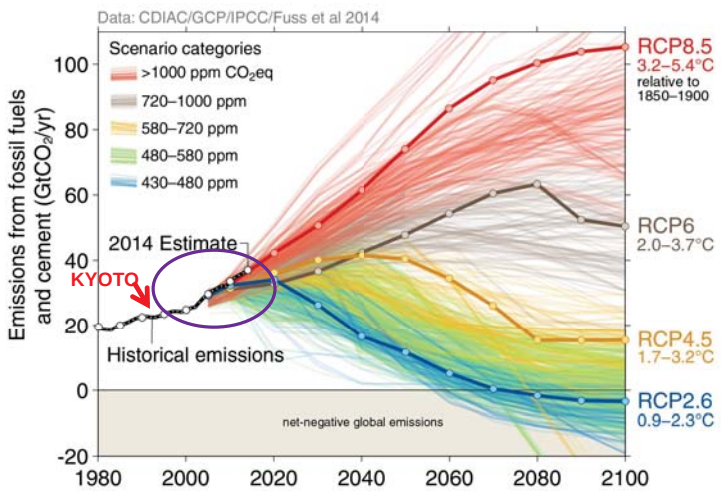
Given the research of Brysse et al., 2013 and that the 5th assessment does not factor in the WAIS, IPCC scenarios **almost certainly** underestimate impacts & overestimate how much time we have to make a change.

But since they are the best available, we will use them.

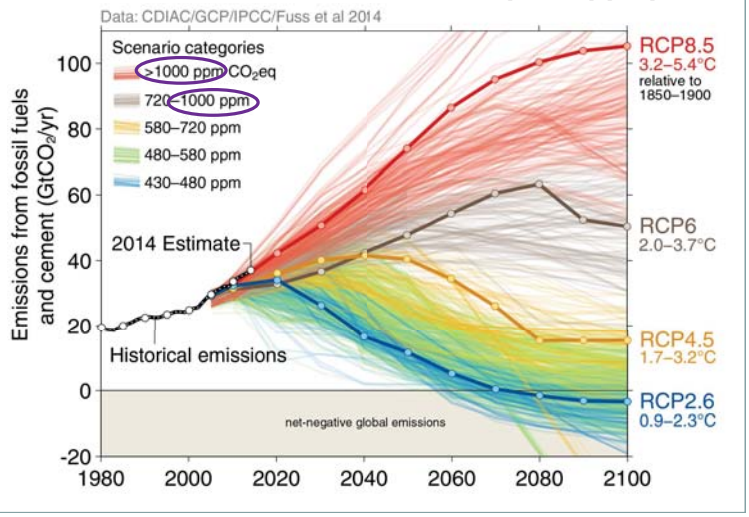
THE IPCC SCENARIOS



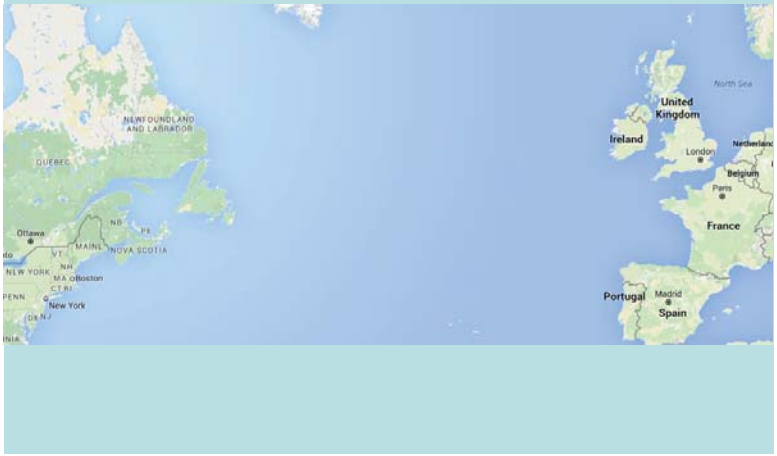
IMPACT OF GLOBAL AGREEMENTS TO DATE



WHAT WE ARE HEADED FOR (1000 ppm)



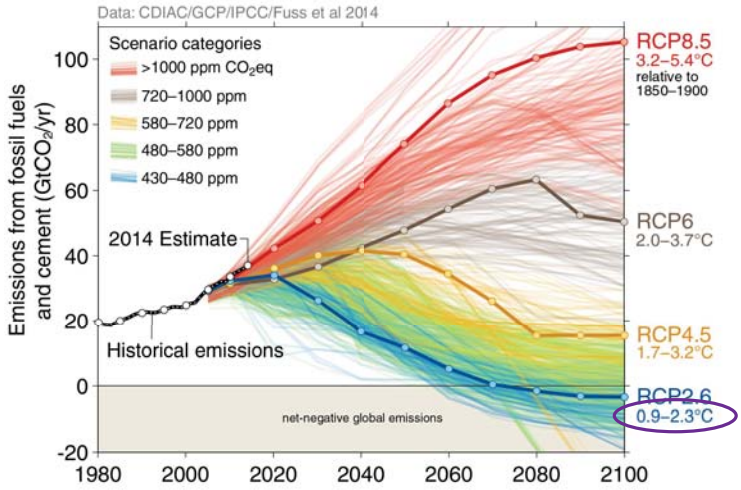
ANOXIC EVENTS (1000 ppm)



DIFFERENT SCENARIOS

- Lead to different levels of **WARMING**
- **PEAK** at different years
- Have different assumptions about ability to go **"NET NEGATIVE"**

THE KEY QUESTION:
WHAT SHOULD WE BE PLANNING FOR?



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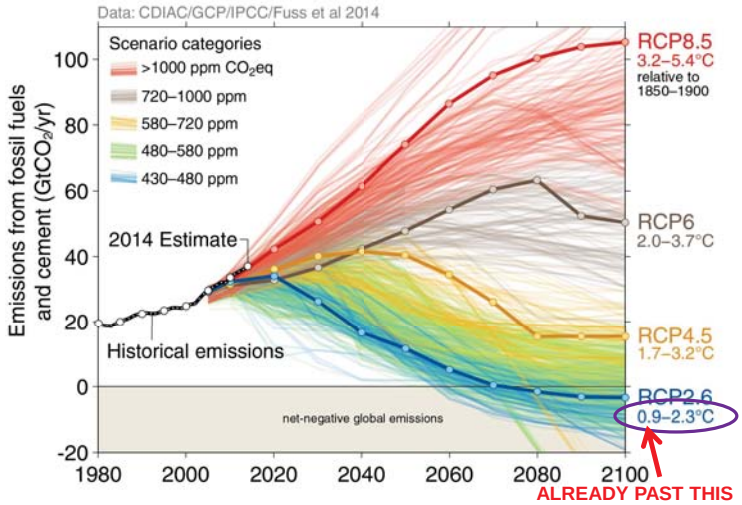

A FAILURE TO ACHIEVE THE RCP 2.6 SCENARIO WILL MEAN RUNAWAY CLIMATE CHANGE, MAKING RCP 8.5 LEVELS OF WARMING ALMOST CERTAINLY INEVITABLE

THE KEY QUESTION:
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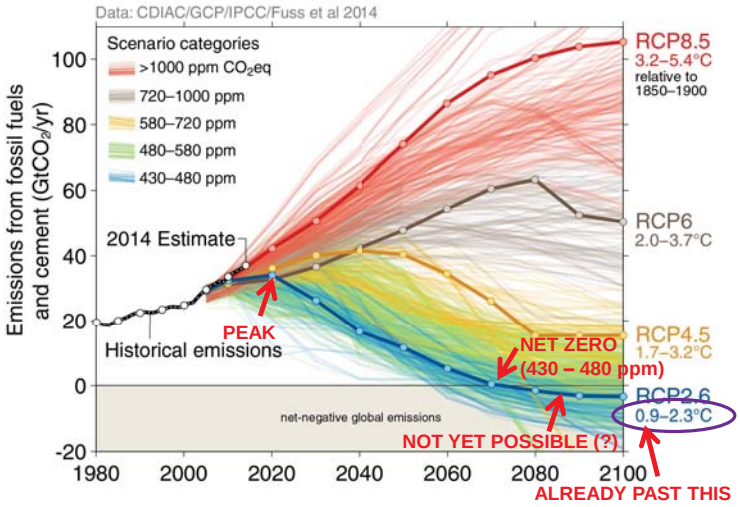


2.7ºC

The sum of commitments at the Paris Conference ("will try to aim for" 1.5 ºC).

Emission cuts not legally binding; assumes emissions can and will be brought to

net 0 by 2050.

CANADA

To hit 0 emissions ourselves, we will need to:

- Get rid of <u>all</u> coal plants
- Replace all vehicles with electric and/or public transit
- Replace all natural gas, oil, and propane home heating systems
- ... **And** produce enough electricity to sustain all that

BUT

Canada produces only ~1.8 % of global emissions (making us the 10th or 11th worst emitter)

Which means have to hope the other 9/10 can pull off net 0 too.

Among the other 9 are the US, China, and India

IT IS NOT A QUESTION

of can or will we reduce greenhouse gas emissions (we will)

But only of
"will we do it in time"?

REGARDLESS OF SCENARIO

Canada warms at ~2x global average.
That means:

RCP 2.6 = 1.8 ºC to 4.6 ºC
RCP 4.5 = 3.4 ºC to 6.4 ºC
RCP 6 = 4.0 ºC to 7.4 ºC
RCP 8.5 = 6.5 ºC to 10.8 ºC

INDIVIDUAL TREES

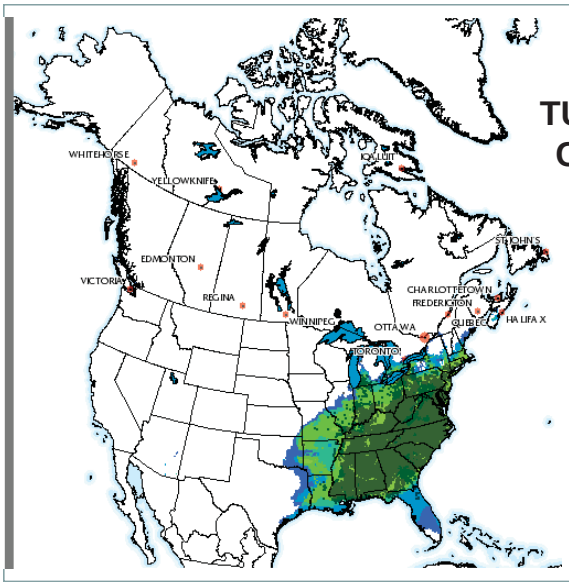
Can't head for air conditioning or migrate north when it gets too hot

Can't change how much water they need to survive

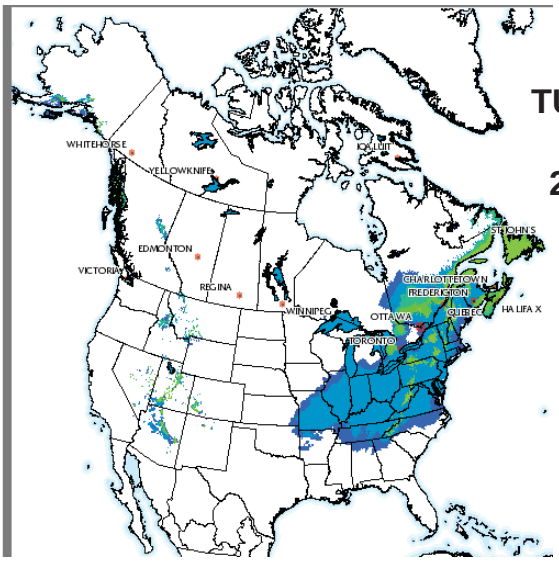
Can take up to 30 years (sugar maple) to reproduce (usually ~10-15)

IMPACTS OF RCP 8.5 ON NATIVE TREES:

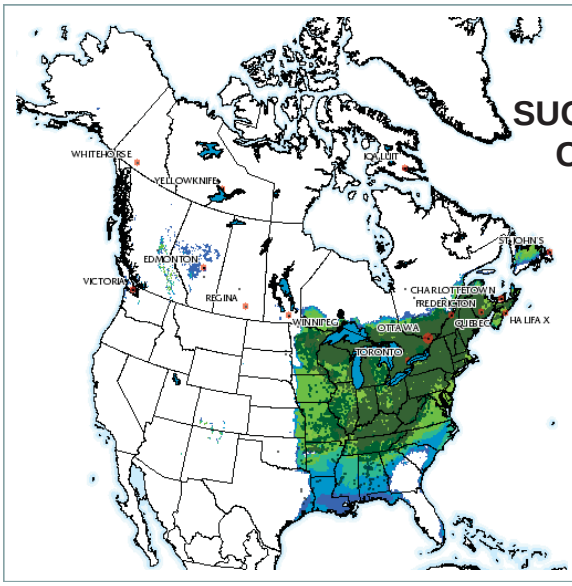
TULIP TREE



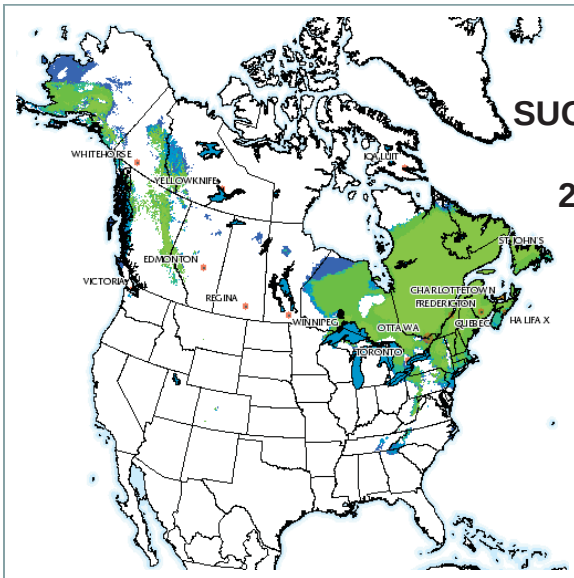
TULIP TREE CURRENT



TULIP TREE RCP 8.5 2071-2100



SUGAR MAPLE CURRENT



SUGAR MAPLE RCP 8.5 2071-2100

ASSISTED MIGRATION

"The movement of species within or beyond their historical range, implemented to conserve species and facilitate adaptation to predicted climate change."

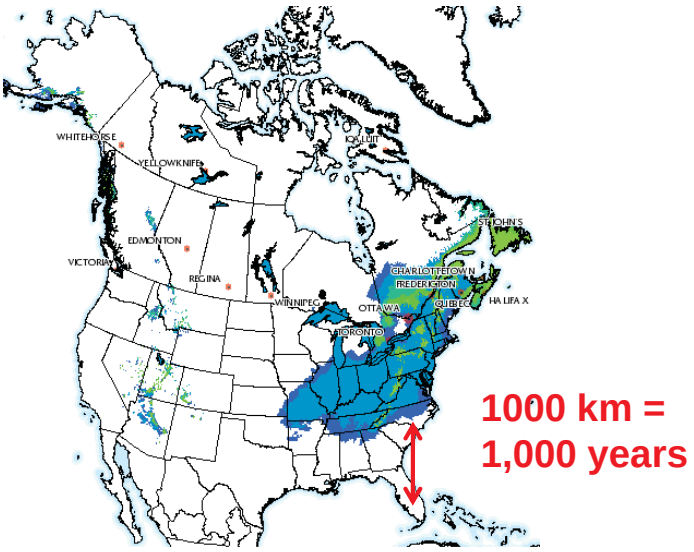
ASSISTED MIGRATION

is essentially a risk management strategy for forests under changing climate

Comes with its own risks: spread of disease, pests, & so most likely to be contentious

RISK ARGUMENTS

- **Risk of Disease, Pests**
  - True. But disease is a better gamble to take than too little water.
  - Anything strongly affected by drought more likely to burn
  - Ways to reduce risk from disease (using species already in Canada, using only seed, etc.)
- **Trees can adapt to new climates (inferred: "Fast enough")**
  - Then why aren't there sugar maples in Texas? (Has had thousands of years)
- **Trees will move north fast enough**
  - Evidence from the end of the last ice age: Nope
  - Insects & animals move much, much faster.



GENERAL RECOMMENDATIONS

- Included in this agenda package, along with track changes proposed for Tree Planting Guidelines
- Summarized in "Policy Memo" by Carol
- Also a backgrounder written by Carol in agenda package
  - Also touches on health impacts for London

GENERAL RECOMMENDATIONS

- City pursue a program for assisted migration (that "updates" as climate change progresses)
- Stop treating American species as "invasive"
- Eliminate non-continental invasives
  - Things bad enough as it is
  - Will need extra space to plant both current & future native species
  - Start by allowing no invasives on "first try" – only for replacements, and only if first tree was **watered**
- Collaborate to create Climate Change Sister Cities initiative

City of London Planting Strategy – Proposed Table of Contents

Prepared by: Craig Linton, Amber Cantell, Jim Kogelhide, Patti Ciufo and Gord Mitchell

Date: Mar. 15, 2016

PLANTING STRATEGY

Proposed Table of Contents

General comments

- The Tree Planting Strategy should focus on planting and related maintenance activities rather than "protect more" items from the Urban Forest Strategy - otherwise, the TPS could get overwhelmingly long. However, it should be recognized that every hectare of forest unnecessarily cut down adds to the number of trees that need to be planted, and so preservation needs to be a priority (while balancing this with the need for higher density within our community to avoid the environmental impacts of sprawl). "Maintain Better" items could become a part of Section 9 on policies, guidelines and processes to support planting, and also be incorporated into the proposal evaluations describe in Section 6.

- Planting targets should be based on a solid understanding of the key factors which result in the total canopy cover in London, namely:

    - New plantings
    - Growth of canopy from existing trees
    - Death of existing trees from natural causes or small-scale cutting
    - Death of trees from large-scale clearing

  Civic administration should provide regular updates on these numbers and estimated progress towards meeting canopy targets.

- It should be recognized that the amount of planting needed will require a dramatic scaling up of planting efforts in the community.

- If the City is going to achieve its planting targets, it will have to depend on extensive collaboration with other planting organizations, volunteers, businesses, schools, community groups and the public, and be willing to direct funding for tree planting outside City Hall. Splitting up the planting work will ensure that the amount of "scaling up" required does not overwhelm any one organization's capacity to do so. This theme should be explicitly woven throughout the Tree Planting Strategy. As part of the strategy, the City should identify what projects it can initiate, control and manage most effectively and efficiently, and what sorts of projects could best be delivered in partnership with the conservation authorities or other community organizations.

- The strength of the Tree Planting Strategy will depend heavily on the methods for identifying and evaluating different planting opportunities. Without a clear and sound methodology, we will not be able to know if the options we are pursuing are best, nor have confidence that they will produce the canopy cover impacts anticipated. There should be some level of certainty that the strategy will provide the most "bang" for the buck.

Consequently, the City should actively seek out and evaluate proposals for planting over the course of the Tree Planting Strategy. This could be done on a seasonal, annual, or multi-year basis (in the latter case, to align with the new budgeting schedule).

- The ability to monitor the effectiveness of all planting efforts and the accuracy of assumptions made with regards to canopy growth, death (both natural & small scale cutting), and clearing, must be integral to the long term vision of the Tree Planting Strategy. Cyclical studies like UFORE provide a means to quantify effectiveness provided specific types of areas or projects are targeted for a higher level of scrutiny. Monitoring should then be able to extrapolate future outcomes from past data to see if we are on target to achieve canopy goals as set out in the UFS previously adopted by council.

  However, we must be careful to not monitor for the sake of monitoring. This can lead to less actual trees in the ground, exhaust existing staff resources. The monitoring in effect must be evaluated as time goes on as well.

- Any calculations done for the Tree Planting Strategy should be included in an appendix of "Calculations" or be worked into the document itself so that there is a clear understanding of how numbers were arrived at, and any assumptions made (something which was missing from the UFS itself).

- The strategy must have some level of flexibility to be able to adapt to and account for sudden changes over the course of time. There is a need to develop a strategy to deal with ice storms for example which could unexpectedly have a significant negative impact upon our canopy cover.

Suggestions for content of specific sections of the strategy as follows:

1. Introduction: Why a Planting Strategy?

- About the Urban Forest Strategy & its call for a planting strategy
- Define what a strategy is
- Why a Planting Strategy is necessary (and what we believe will happen if we fail to plant – projected canopy cover loss and environmental, social, health impacts, etc.)

  (Plan to reference specific UFS tasks as they appear in the TPS (whenever they come up))
- Previous Council directive(s) related to planting and targets
  - e.g. original replacement targets for EAB removals
- Known public expectations from UFS survey and other sources
- Emphasise long term, proactive approach to achieving goals and targets
- Goes hand in hand with protecting more and maintaining better (& how will these be addressed? Will they have their own strategies or a process?)
- Replacing and increasing tree canopy cover
- Having a strategy will help overcome potential barriers to planting (for all stakeholders), potentially including:
  - NIMBY
  - Availability and accessibility
    - Cost of trees, shovels, mulch; also related with disposable income
    - Transit, transport, getting trees safely home
    - Ill health, disability
  - Cost/budget
  - Quality of stock
  - Skilled labour
  - Availability of species
  - Perceived restrictions on landowners with trees on their land
  - Potential fears around the cost to maintain trees

- Although not being dealt with in this strategy, existing City policies need revision to ensure and support greater tree retention, or significant tree planting on private lands: otherwise, the number of trees we must plant will go up. Saving large trees is more effective than planting small ones. That said, it should be acknowledged that intensification (increasing density through infill) ultimately slows the outward growth of our built form (an environmental "good"), and that there is a need to balance intensification and urban forestry goals.

2. Canopy Cover Goals

- What is canopy cover
- Why are we measuring success in terms of cover
- How much space UFORE said was available; hardscape assessment to determine if the UFORE plantable area numbers seem reasonable / reaffirm validity of these canopy cover goals.
- What are our canopy cover targets (28% by 2035; 34% by 2065)
- How were the original scenarios (the red/yellow/green figure in the UFS) developed, and what were the underlying assumptions to be able to say "if we do nothing, this is what we expect canopy cover to be in a few decades". Understanding this will be important for enabling testing of these assumptions as time goes on.
- How will we develop achievable tree canopy cover targets by Placetype (London Plan), and why?
- How will "Woodland Cover" ultimately be incorporated into the Tree Planting Strategy, and when? (As discussed in the UFS?) How will plantings be designed to enhance actual woodland cover, as opposed to just canopy? How will woodland cover targets be developed?

3. How Many Trees Do We Need to Plant?

- Provide estimated annual and combined planting targets, and show how those numbers were reached at.

- To increase canopy cover from ~22% (2015) to the target of 28% by 2035, we need to cover an extra 6% of land within the Urban Growth Boundary (23,591* ha) with tree canopy.

  0.06 x 23,591 ha = 1,416 ha

  (by comparison, Victoria Park: 6 hectares, so this would require an area equal to 236 new Victoria Parks under canopy cover). Some of that increase will come from new plantings; some will come from the growth of existing trees.

  At the same time, we must plant enough to *compensate* for the loss of trees due to small cuts because of natural death (old age, disease) or landowner preference (building pools, aesthetic preferences, etc.) as well as large scale clearing for major developments (new subdivisions, conversion of woodlots to farms, etc.)

New plantings + canopy growth must be shown (via modelling) to exceed the loss due to death, cutting and clearing in order to achieve the increase in canopy cover as identified in the UFS.

- Estimating / Calculating the Three Other Variables (Growth, Cutting, Clearing): As long as the City only looks at total canopy cover change over time (through five year air photo assessment) without breaking it down into these four sources of change, **we won't understand the underlying drivers of canopy and what the best strategies will be for increasing canopy cover** (plant more, or protect more?)

- For example, if cutting was very high (Londoners are just inclined to cut down lots of trees because they want sunnier yards), the City may wish to consider prioritizing a private tree by-law. If cutting and clearing were both seen as being within acceptable limits, then just focusing on planting might make sense. Breaking canopy impacts down into these four components also allows the City to better estimate the impacts of different policy approaches. (For example, would implementing a private tree by-law significantly affect tree preservation relative to program cost? Are the gains greater than what could be achieved through more planting?) It would also give us a base line for understanding the impacts policy changes could have (if you don't know how many private trees are being cut down before implementing a private tree by-law, you won't be able to track how effective or ineffective it was in changing those numbers).

- Collecting baseline data for these 4 variables is therefore key. Some ideas for measurement which the City could consider include:

    - **Planting:** Data from the MTC can provide good insight into what tree planting is occurring across London each year

    - **Growth in Canopy Cover from Living, Existing Trees:** Could use random dots across map (itree style): where it lands on a clear tree, measure growth in cover; where it lands in middle of a woodlot, mark = 0. (Because growth in trees in the

middle of woodlots does not lead to increased canopy coverage as a woodlot is already "fully canopied" save on the edge).

- **Cutting:** Check air photos for disappearing trees outside of new developments, and/or ask tree cutting companies to estimate (anonymously) number they cut per year (check number responding versus number asked to estimate "missing number")

- **Clearing:** City of London presumably has records of all major developments under taken each year: could look at site plans to estimate clearing. Another option would be to use air photos, comparing large parcels (over a certain threshold) between 2008 and 2015. It has also been suggested that tracking land subject to zoning changes may also work, but this would likely be less accurate than the other two proposals.

- If a methodology could be formalized, this could be a good task for a summer student each year (for monitoring changes over time).

- **Planning for emergencies:** how will the City handle a major pest outbreak (ALB, EAB?) as it relates to planting targets?

EXAMPLE: Calculating how many trees we'd need to plant – if we could plant them all in the first year: *(actual numbers for the TPS should assume planting every year and decreasing gains from newer plants over time as they have less time to grow between date of planting and 2035)*

If we assumed between 2016 and 2035 (19 years):

Canopy growth for living trees	Est. across all land uses, on average, = + 1% / year (starting with 5,190 ha cover in year 1, by year 19 we would have 6,208 ha of canopy cover, before any losses from cutting or clearing) = an increase of 1,018 ha (noting that trees in the middle of a forest do not contribute to canopy cover growth!)
Cutting of dead or undesired single trees	If we estimate that 1 in 50 homes cuts down a mature tree / year = 30,322 trees cut down over 19 years, with an area of (117 m^2 x 30,322 = 3,547,674 m^2 = 355 ha) (Based on 79,794 residential parcels in ~2012, when Amber last looked into it)
Clearing	= Estimated at 50 ha / year; 1,900 ha over 19 years (Note: even as an estimate, this number may well exceed the total privately owned woodland left in the City, which could be used to create a theoretical maximum)

Then the amount of land we would need to plant would =

New plantings (TBD) + growth (1,018 ha) = 6% canopy cover target (1,416 ha) + compensation for cutting (355 ha) + compensation for clearing (1,900 ha)

New Plantings + growth (1,018 ha) = 3,671 ha

In this scenario, New Plantings must therefore equal the number of trees to be sufficient to cover <u>2,653 ha</u> of land with canopy by 2035

We can use these numbers to determine how many trees we would need to plant in 2016 to hit the 2035 target. Staff could further use an estimate modifier to say "for every year after Year 1, estimate impact down ~ 5%

	Scenario 1: Plant All Trees in Year 1 (# of trees needed, using only large stature shade trees in this example, = 117 m^2 at maturity = 0.0117 ha)	**Scenario 2: Plant over 20 years, but estimating (5%) less canopy cover impact for every year after year 1 (# of trees needed)**	**Scenario 2: Canopy impact each year (in ha)**
2016	226,752 trees planted	(117 m^2 per tree in canopy by 2035) 21,500 trees	251.55
2017	0	(111 m^2 each by 2035) 21,500 trees	238.65
2018	0	(105 m^2) 21,500 trees	225.75
2019	0	(99 m^2) 21,500 trees	212.85
2020	0	(94 m^2) 21,500 trees	202.1
2021	0	(88 m^2) 21,500 trees	189.2
2022	0	(82 m^2) 21,500 trees	176.3
2023	0	(76 m^2) 21,500 trees	163.4
2024	0	(70 m^2) 21,500 trees	150.5
2025	0	(64 m^2) 21,500 trees	137.6
2026	0	(58 m^2) 21,500 trees	124.7
2027	0	(53 m^2) 21,500 trees	113.95
2028	0	(47 m^2) 21,500 trees	101.05
2029	0	(41 m^2) 21,500 trees	88.15
2030	0	(35 m^2) 21,500 trees	75.25
2031	0	(29 m^2) 21,500 trees	62.35
2032	0	(23 m^2) 21,500 trees	49.45
2033	0	(18 m^2) 21,500 trees	38.7
2034	0	(12 m^2) 21,500 trees	25.8
2035	0	(6 m^2) 21,500 trees	12.9
Total Canopy Impact	**2,653 ha (226,752 standalone trees in total)**		**2,640 ha (430,000 standalone trees in total)**

Note: Assumption in this example that a tree would reach mature canopy size in 19 years, which is likely unduly generous and should be revisited in future work – included here only as an example

Ideally, the scenario would go one step further and then explore of the trees needed, how many the City believes are *already* being planted by residents, private businesses, etc., based upon what available data (some of which can be provided through the Million Tree Challenge, Parks Planning's annual Community Projects Report, and other sources). What is left would represent the "extra" plantings needed to reach the canopy cover targets.

General notes regarding achieving goals via assessment methodologies: considerations for projecting change in canopy cover should include (but not be limited to):

- Assume existing natural areas are simply fixed in canopy cover. Natural areas must be presumed to not become larger if they are on table lands (developable lands). Only areas which are clearly in undevelopable areas (hazard lands, flood plain, not already forested park space etc) can be reliably identified for increase in natural area tree canopy cover (think "woodland") through naturalization

- We have heard recently that the City may not track how many trees are cut down in roads and parks (by the City's contractors) every year. If this is true, it should be rectified as soon as possible, as it will be important to assessing canopy changes in street trees over time and how much plantable space will be in boulevards over the next 20 years.

4. Where Should We Plant? Identifying Plantable Spaces

- Generally: How much plantable space do we currently believe exists, and why? (I.e., UFORE)

    - The plan to assess impermeable/built area via air photo analysis to provide one way of helping test our "available plantable space" assumptions and (hopefully) confirm their validity should be discussed. *(Testing and updating assumptions should be a recurring theme).*

- Explicitly recognize that opportunities to plant on City lands will diminish over time

- How much is private, and how much is public? How much is in each "place type"?

- How, through what process, and with who, will the City identify future plantable spaces? (Will there be different approaches for public vs. private land?) All at the start, or on some sort of annual or monthly basis? Once identified, how will the City ensures they are eventually planted, and how will they be prioritized?

- What mapping work has already been done? (Non-park public land assessments with Rick and Thomas; Parks Planning park assessments; ReForest London park assessments; street tree inventory of "potential spots")

- Explain "tree vacancy plans" concept

- Provide a run-down of anticipated possible planting areas – for example, parks, new developments (esp., beyond street trees – for example, by planting buffers), industrial areas, etc., and make general notes concerning each. (Specific barriers, planting organizations active in this sector, etc.)

- How will priorities be defined? (If at all? By neighbourhood, by land use?)

    - May be an algorithm e.g. inverse income x human population x tree vacancy x inverse existing tree canopy cover. Priority must mean priority (for City initiatives at least) – especially with limited resources - recognising competing interests and requests

5. Many Shovels Make Light Work – Engaging Organizations & Individuals to Achieve Our Goals

- Why are partnerships needed?
    - Dividing up the work among the groups willing and able to help will be the other: this collaborative spirit of approach should be reflected throughout the TPS. Even conservative planting estimates would be more than the City could easily do on its own.

- What will the City's role be? What will be left up to others? Effective strengthening of City partnering and afforestation efforts with external stakeholders

    - Could the City help tackle Commercial and Industrial by providing a permanent staff resource to help plan and implement projects? (Seems uniquely positioned to help in these areas, which was hard to raise funds for compared to public land, homes and schools)

- Key Persons – public and private sectors; their position, role in Planting Strategy
- Positive note: demand (= willingness to plant) exceeds supply! (So far. It's worth noting that the # of spots identified in roadways will run out mighty quick at 6,000 new caliper trees per year: the plan should explore this issue)
- The Million Tree Challenge as a valuable means of engaging with Londoners on tree planting (could be the primary vehicle for engagement)
- Education – what tree should be planted?
- Strengthening relationships and removing bureaucratic and other barriers to the tree-planting community.
- Cross-Divisional support
- Commitment to long term budgets

- Seeking and securing grants
- Celebrate success with partners

6. How Will We Plant? Identifying Options & Evaluating Opportunities

- There are many different ways to get trees in the ground: for the City to do all the planting necessary itself would take an incredible amount of "ramping up" and may not be the most efficient or cost effective way to achieve its goals

- Plan for short-term solutions to use the extra funding provided for 2016 (while a more comprehensive/complex plan is developed):
    - kick-start the early years: Parks – plant and maintain additional trees
    - increase street tree planting significantly– and plan to sustain increased levels

        - Over the long haul, we strongly doubt this model (just ramping up City calliper tree planting) will be the best bang for buck, especially given that potted stock catches up to potted stock and costs less. There should be serious consideration given to utilizing the biggest potted stock available for plantings rather than defaulting to caliper trees. If you can get 2 or 3 for the price of one and see the same canopy size 5 years later (due to less transplant shock), you are significantly ahead of the game. As another example: RFL is going to be going door to door (10,000 homes) and doing giveaways in all wards this year with volunteers, and are going to do about 5,600 trees for about $175,000. By comparison, 4,500 caliper trees will cost the City about ~$900,000 (@ $200 / tree) before any administrative costs. This is why there is concern among TFAC members about the City just doing "what is easiest" before comparing available options. In addition to RFL, the CAs, Scouts, and VMPCP could also come up with some ideas to do more with less because of the different models they use to plant.

- For 2017, begin implementing longer term solution: less focus on street trees (e.g. spread out the 30,000 spots over the first 10 years, rather than trying to use them all up in the first two or three) and collaborate more to get more trees in the ground. It is better (and generally more successful) to create stable planting systems long-term (that do less per year) than it is to try and rush to do everything of one type in one year.

- Invite potential planters to submit ideas for funding using a consistent template which relates project back to canopy cover impact. Actively solicit proposals from potential partners: ask each of the local planting organizations what their best one or two "bang for the buck" proposals would be and get those on the table as a starting point (rather than just directing the majority of funds to street tree planting, which may produce

smaller gains because of the emphasis on relatively high cost calliper trees). See what capacity is out there for everyone to work together and get planting quickly.

- Determine how projects will be evaluated, and by who

- Schedule for evaluation: designed to align with the City's multi-year budget system (similar to what is currently going on with the Community Grants Program) or more frequent than that? (Annual, semi-annual?)

- How will "TreeME" fit in? (May want to keep TreeMe for smaller community groups/projects and have a more advanced system for working with the major planting organizations in town on large-scale initiatives to support canopy cover targets)

- Information/criteria to be considered in evaluation template
    - Type of stock being used (bareroot, potted, calliper)
    - Type of planting (standalone vs. new forest)
    - Area targeted (land use and/or neighbourhood)
    - Estimated survival rate of trees
    - Survival factors: resistance to pests (esp. ALB), likelihood of still having a natural range in London area by end of century, species selection suitable to site conditions
    - Aftercare / maintenance: not less than annual inspections during warranty period (where applicable), and an aftercare program (structural pruning, weeding, watering, mulching, fertilising, timely removal of ties, stakes, guards, etc.) wherever possible
    - Estimated canopy cover impact over a 20 (?)-year period (so we are always comparing apples to apples)
    - Cost per hectare of canopy cover (after 20 years) using this model
    - Capacity of the proponent to carry out the planting proposed. (Why do we think this type of planting is possible at this scale? Have one of the local planting orgs delivered it before, or has it be done successfully elsewhere?)
    - Urban Forest Strategy "Strategic Actions" addressed through the proposal (if any)
    - Does the proposal help overcome barriers to planting? (If so, which ones?)
    - Special considerations (may not apply to all projects; maybe offered as a checklist + "please explain"):
        - Targeting the Urban Heat Island Effect
        - Projects to increase food security
        - Targeted mitigation of human health risks (e.g. shade trees reduce skin cancer and heat-related complaints, esp. in high traffic/use areas)
        - High visibility (e.g., gateway projects)
        - Addresses accesibility barriers
        - Addresses language barriers

    - Etc.

- **De-prioritize** plantings that provide very little canopy impact relative to cost (e.g., parking lots) or limit the amount of funding that can be directed towards these

- Allow presentation of options to **save more** and thereby reduce the number of trees that need to be planted. These could potentially include more generous parkland dedications (giving better value ratios for well treed land than untreed land) or mitigation banking. (Investigate other municipalities best practices and approaches to this, and their experiences with it).

- City should include its own activities in the set of proposals for the year, and try to ensure that they emphasize planting activities which other planting organizations are unlikely to be able to assist with (for example, street tree plantings) or for which the City is in a unique position to be able to address (for example, a long-term program to encourage planting on industrial land)

- City also needs a way to check that the various "action items" from the UFS are being accomplished... but not if it means putting weaker ideas/proposals ahead of stronger ones. How "action items" will be monitored should be noted. (Probably best done through an annual UFS progress report, so all types of actions can be tracked simultaneously).

7. Checking Assumptions & Measuring Progress

- City should regularly be checking estimates on death, small scale cutting, clearing, and planting to update planting targets as needed. Define how this will be done, how often, and by who.

- UFORE as an opportunity to "ground truth" estimates over the intervening 5 years.

- We would propose using an assumed lifespan for all street trees of 60 years (based on the length of time before major road work where they dig up all the pipes). Note that average lifespan of a tree depends heavily on its environment. Park/woodland trees would be expected to live much longer than a street tree in the downtown core.

- How size of tree (by species) will be factored in. Promote planting the largest tree possible as per "right tree right place" idealogy. Model different outcomes for different strategies. For example, show the difference between bare root stock trees versus caliper trees. This could provide a very clear cost benefit evaluation.

- Give consideration to how leaf-on air photos will be used. Will they just be used for assessing total canopy cover at the end of the day, or could they also be used to fact-check projections for different types of plantings and projects, and thereby inform future projections?

Action: Remove barriers to success e.g. tracking, monitoring and reporting system (adaptive management) and measure success in achieving goals - to include measuring mortality rate –

Action: Issue Request for Proposal for modelling of canopy growth

8. Sharing Our Results: Reporting

- How often will TPS results be provided? (We would suggest annually at the spring UFS update to TFAC)
    - A UFS/TPS update presentation should be provided to PEC as well (if they wish), along with a copy of the report

- TFAC would like the chance to comment on a reporting template once developed

- Also want to consider how to "market" the plan from the get-go: working with media to raise awareness of the TPS and what it is trying to achieve, so the later reports don't seem "out of the blue". (+ Consider whether or not the TPS perhaps needs another section to deal with trying to tackle NIMBYism?)

- Plan ahead and better coordinate efforts with internal Divisions and external stakeholders e.g. Conservation Authorities, ReForest London, School Boards, Provincial/Federal Ministries and agencies with London offices or land, First Nations, development community, residents, special interest groups, community programs, industrial landlords and industry owners, commercial enterprises (e.g. through Chamber of Commerce) and agricultural (e.g. Farmers unions)

- Action: Rewards program (recognition of outstanding achievements under the Strategy) – could again be tied to the Million Tree Challenge as a way of involving the community and engaging partners.

- It would be good to see an appendix with a table showing past planting and cutting numbers, and then an annual update each year (similar to the MTC "dashboard"), to help TPS participants and stakeholders understand progress over time.

9. Making Connections: Policies, Guidelines & Processes to Support Planting

(RTRP, by-laws, growing contracts, assisted migration guidelines, soil specifications, etc.)

- Start with recognizing that tree planting can be supported through a variety of policies guidelines and processes.

- Get into what ones the City is anticipating need to revise or create: list
    - Define what year over the next 5 different policies will be looked at: create a schedule and ensure that it is met

- Develop criteria to guide or define "right tree, right place" – species/cultivar selection is a design – function decision process *(the largest stature tree possible for that location might not be the correct choice)*

    - It should be noted that in order to achieve canopy cover goals, we must be planting the largest stature tree suitable to the situation (and finding ways to ensure this actually happens). The trend towards tiny ornamental trees in London is troubling and may have serious long-term impacts on the viability of the Urban Forest Strategy.

    - May also wish to give consideration to underplanting / mixing plants of different ages

- Watering program for street and park trees.

- Develop a shade policy similar to Toronto's an official part of the TPS.

- Develop a policy to ensure woodlands newly dedicated to the City are not cut down.

- Update soil specifications

- **Growing contracts:** If City looks into contract growing, CAs and NGOs might be interested in "piggybacking".
    - Action: Enforce contracts – e.g. accept no substitutes (especially when subs are smaller stature than what was requested)

- **Invasives:** How will the use of non-continental invasives be minimized across all planting projects (whether City or partner led)? ("Second shot only" trees – a non-invasive must always be planted and tried first) If I recall correctly, invasives weren't even covered in the UFS - a substantial short coming.

- **Assisted Migration:** Develop an Assisted Migration policy to begin adapting to climate change. Early migration strategies could deal with integrating genetically "southern" individuals from species already growing here into the planting program: riskier strategies, such as bringing in new species from nearby or distant areas could be evaluated in later decades as our success or failure at reaching the targets set out in Paris are revealed.

- Policies to address competition for space: Boulevard parking permits, encroachments, retrofitted sidewalks, street furniture, utilities, infrastructure renewal, road widening and rapid transit. Could we explore wider boulevards, planting on the "inside" side of the sidewalk, underground hydro, etc.? *(Often urban design requirements conflict with street tree plantings. Buildings encouraged to be at the property line, leaving less and less room for trees to be visible by everyone)*

- **Replacement Trees:** Property Standards By-law? Zoning By-law, Boulevard Tree By-law and Tree Conservation By-law, etc. need revision to ensure replacement tree(s) are required and planted. The City should ensure that a tree has been watered if it needs to be replaced. (Replacements shouldn't be allowed as a way to avoid watering).

- **Hydro Lines & Impacts:** Research how other communities deal with trees under hydro lines: what different options are available. If maybe 1/3 of London roads have hydro lines over them, there is potentially for a huge (negative) impact on canopy cover here as large trees that were trimmed before are replaced by small-stature species

- No Net Loss Policy (we would like this to involve public consultation)
    - We must be careful to not place undue burdens on property owners who need to maintain their existing trees – if something needs to come down, then remove barriers (as they may come up in private tree by-law)

10. Paying it Forward: Budgets & Funding

- What City does now, with what budget
- How much money will be needed for planting; how much can be leveraged from the community
- What special options (if any) are there to help fund the Planting Strategy?

11. Looking to the Future: Planning Beyond 5 Years

- How we will prepare for the next phase of the TPS: what we need to know, how we will use that information

Appendix A: Other Example Planting Scenarios

- For the sake of understanding how the canopy cover targets in the UFS were reached, we would like to see one or two scenarios which would show year by year (for example), how many trees you want to plant (e.g., in a caliper-tree exclusive program) and how that would impact canopy cover over time. A second scenario could deal with naturalizations, third could be hybrid.

  These scenarios should help readers understand A) the impacts of delaying planting and that B) there are different ways to meet our targets. So, in that sense, another good example would be one that shows what happens if we only plant half as much as we need to for the first ten years).

- Do there exist other studies which show differences in tree canopy cover by utilising different plantings (caliper versus bare root stock?) which we can apply in a general sense? This must come with the provision that the existing studies come from climates similar to ours of course.

- Appendix should essentially state "there are many ways planting could be used to help reach our canopy target goals. Here are a few different examples of possible strategies."

Appendix B: Key Facts

- Total Size of London: 42,298 ha
- Total Size of London, Within Urban Growth Boundary: 23,591 ha* (*2008, based on UFORE)

- Starting land with canopy cover (~22% of UGB in 2015): 5,190 ha

- Starting woodland in London (amount that would potentially be "available" for clearing):

- UFORE estimate of total plantable space: 4,400 ha within the study area (the UGB)

- # Detached or Semi-Detached Homes in London: (TBD)

- Square metres in a hectare: 10,000 m^2

- Size of a Sugar Maple (Large Stature, Deciduous Tree) @
  - 20/30/40 (...) 100 Years Old: (TBD)

"40–50' at maturity"
(https://www.arborday.org/trees/treeguide/treedetail.cfm?itemID=870)

40' spread gives 20' radius gives 1256.64 sq. ft. area
Or: 116.7 m^2, which could be rounded to 117 m^2.

Therefore, to fill one hectare (10,000 m^2) with canopy, you would need 85 *mature* sugar maples.

If you estimate that in 20 years, a newly planted tree will only have a canopy half the size (by area) of "at maturity", then you to plant would need 170 sugar maples.

- Maximum Life Span of a Street Tree: Assumed to be 60 years, based on frequency of major road work (replacing underground pipes + the road itself). Many street trees live shorter lives due to location (e.g. downtown) or species.

- Typical naturalization (potted stock) tree planting density: 1080 trees (saplings) per ha (ReForest London uses 1,080 saplings + 720 shrubs / ha for a combined stem count of 1,800 stems / ha)

- Typical naturalization (seedling) tree planting density: 2,000 seedlings / ha (UTRCA, though needs confirmed)

- Cost of restoring *canopy* to a hectare of land (2015) over an unlimited period of time: $21,250 (before any administration costs) – based on planting tall stature calliper trees at $250 each, having a canopy of 117 m^2 when mature.

Appendix C: History of Pre-Strategy Planting Efforts in London

- Planting statistics (years x to y; trends) – ideally going back at least 3 years (the MTC has data going back to 2011 about citywide trends which could come in handy)
- Budget for City planting over that same period, and results

Appendix D: Calculations

Miscellaneous Comments:

- We see low value in retro-planting in parking lots (at least while there are other plantings that could have larger impact at lower cost to be done in the short-term) and for focusing on "neighbourhood character". We would see value in increasing the number of trees being installed in any *new* parking lots (through design standards, etc.)

- City of Montreal has a Canopy Action Plan – may be worth seeing how they've approached the canopy cover question

CITY TREE PROTECTION BYLAW:

At the Planning and Environment Committee on February 2, 2015 (agenda item 9), City of London staff submitted a proposed "City Tree Protection Bylaw" to replace the current "Boulevard Tree Protection Bylaw", reflecting an interest in protecting all City-owned trees, regardless of whether they fall within boulevards or not.

In addition to the expanded scope, many of the proposed revisions included in the most recent draft for the City Tree Protection Bylaw constitute a significant step forward for protection of City-owned trees in our community, particularly with regards to tree valuation.

At the Feb. 2, 2015 meeting, the by-law was referred back to the Civic Administration for consideration of the comments made at the public participation meeting. Of the four verbal presentations made, Dean Sheppard of ReForest London spoke in support of the by-law; Jim Kennedy of the London Development Institute spoke generally in favour, but noted that LDI would have liked the consultation phase to have been a bit longer; Maureen Temme made notes concerning the need for more public discussion before cutting takes place and some concerns she had regarding the cost of some of the fees to residents; and Gabor Sass requested that the planting of trees in boulevards and on City land be made easier.

Mr. Sass' request to make planting easier received particular interest from councillors, but a review of the proposed by-law shows that the only requirement of residents wishing to plant on City land is that they receive permission from staff before doing so (sec. 3.1). Given that poor planting choices could potentially lead to safety issues (if small-stature trees are planted immediately in front of key traffic signage), maintenance issues (if a species which has limbs which break easily is planted, creating extra cost for the City) or negative environmental impacts (if invasive species are planted), the current by-law wording seems to already be the bare minimum that we would recommend be used.

Should there be ideas for how to make it easier for residents to plant trees on City land (for example, an online request form or a public workshop on how to plant in parks), these could be developed outside of the by-law itself.

On further inquiry from TFAC regarding how to make planting in boulevards easier, staff explained that the vast majority of requests they get from citizens to plant trees in boulevards are *not* actually for infill, but for planting in new subdivisions where the current planting process (that tree planting is not conducted until the subdivision is assumed means that residents can go for several years without having trees along the roadway. In addition to the impact on residents, this delay in planting trees on what will inevitably be City-owned land and streetscape has a negative impact on canopy cover, as trees planted today will have more of an impact on London's canopy than trees planted tomorrow.

Craig Linton, LDI's representation on TFAC, has consulted with London's development community on this issue and confirmed that they would be happy to have trees planted sooner in subdivisions under development, with two plantings (one at 50% build-out on streets where the homes are already sold and occupied and one once all homes are completed) being proposed. This idea was anticipated by the Urban Forest Strategy, which included the following strategic action:

"2.8 Apply existing guidelines to plant new subdivisions in phases prior to assumption so that tree planting can occur in a timelier manner before the last phase of development is finished."

Therefore, it is recommended that:

1) The City Tree Protection Bylaw be approved (and the current Boulevard Tree Protection Bylaw be repealed);

2) Civic Administration be requested to collaborate with the London development community to develop and implement a process through which some street trees can be planted part-way through the development process on streets which are already "move in ready", so as to get trees into the community faster and while substantially reducing the number of individual requests for tree planting in new subdivisions coming into City staff.

Table 1: A comparison of the main differences between the existing Boulevard Tree Protection By-law P.-69 and proposed City Tree Protection By-law *(excerpt from the Feb. 2, 2015 PEC Agenda)*

Existing Boulevard Tree Protection By-law P.-69	**Proposed City Tree Protection By-law**
Protect City-owned trees in a boulevard	Protect City-owned trees on any public property, including City Boards and Commissions, but not including lands that are Parks (Parks are covered by a separate Bylaw)
Administered and enforced by the General Manager of Environmental and Engineering Services and any employee acting under his/her direction	Administered and enforced by the Managing Director, Planning and City Planner or his/her designate, or enforced by an officer appointed by Council
Silent with regard to criteria for assisting the General Manager in his/her decision to allow, or refuse to allow, a tree to be planted or removed by request of a third party (consensual removal)	Sets out criteria for assisting the Managing Director in his/her decision to allow, or refuse to allow, a tree to be planted or removed by request of a third party (consensual removal). Criteria are based on values of public interest (wildlife, environmental, social, heritage, etc.)
No exemptions	Exemptions: Emergency work; temporary attachment of objects, where the Managing Director has approved
No set fines, therefore no Part 1 Offence Notices (“tickets”) may be issued	Introduce set fines to enable issuance of Part 1 Offence Notices (“tickets”)
Schedule B: Set fees for tree removal range from $500 to $3,300	Tree removal fees shall remain the same, ranging from $500 to $3,300 per tree but are in addition to the appraised asset value that shall be an additional fee
No consensual removal application process defined	Application process defined for injury, destruction or removal of a tree at request of a third party; requires an arborist report and tree appraisal to be submitted by the person making the request, for approval by City staff
Too many defined terms e.g “trim”; “prune”; “cut”; “topping”; “deface”	Simplification of defined terms e.g “injury” includes cutting, pruning, trimming, topping, defacing, etc.
No discretion to avoid charging of fees for consensual removal requests	Discretion where a tree is discovered to be a significant hazard to the public and its removal would be necessary