

Summary of June 6, 2013 Workshop

Participants

Ivan Listar – Manager, Urban Forestry, City of London
Joy Jackson - Risk Manager City of London
Mark Shifflett - Senior Water Resources Engineers UTRCA
Pat Donnelly - Watershed Programme Manager City of London
Sara Rowland - Urban Forestry Planner City of London
Bonnie Bergsma - Ecologist Planner City of London
Kaitlin Richardson – Urban Forestry Technician City of London
Rick Postma - Forestry Technician, City of London
Andy Beaton - Forestry Supervisor, Planning Environmental & Engineering Services
Linda McDougall - Ecologist Planner City of London
James Voogt - Associate Professor Department of Geography, University of Western Ontario
Iqbal Kalsi - Manager of Environmental Health City of London
Barry Sandler - Executive Director Veterans Memorial Parkway Community Program
Tara Tchir - Project Manager, Thames River Water Management Plan, UTRCA

Discussion and Preliminary Results

The following table shows the climate change assumptions

Table 1: A modest climate scenario for London (Southern Ontario)

		<i>Projections for 2080 by the GCM2 – Canada model</i>	
		<i>A2 scenario</i>	<i>B2 scenario</i>
		<i>High GHG Emissions</i>	<i>Low GHG emissions</i>
<i>Climate Variables</i>	<i>Mean Winter temperature</i>	+6°C	+ 4-5°C
	<i>Mean Summer temperature</i>	+ 5°C	+ 3-5°C
	<i>Total Winter precipitation</i>	- 10-20%	- 20%
	<i>Total Summer precipitation</i>	- 10%	- 20%
	<i>Total Precipitation</i>	n.a.	n.a.

Legend: + = Increase, - = Decrease

(Based on Colombo et al, 2007; IPCC, 2007)

The workshop approach was semi-structures and the information was mostly qualitative looking at characteristics, sensitivities and adaptive capacities of specific tree species using the best information available from leading professional and technical specialists.

Overarching issues included:

1. Susceptibility to insects and diseases as climate change can trigger an outbreak. Climate change can increase the size and speed of infestations
2. Juvenile survival rate is also one of the most affected features, and in general it decreases under the climate change assumptions
3. Specific exposures do not happen in isolation of each other but can act in combination (e.g. flooding and high heat; wind and high heat).
4. Exposures that were not included were UV radiation increases and carbon dioxide fertilization, as the impacts of these effects in the urban forest are uncertain.

Two main adaptive capacities of the London urban forest were recognized:

- Plans and resources that are already in place for Emerald Ash Borer (EAB) management.
- Eastern white cedar because of its abundance and location mostly in private areas, the tree is influenced by people's private care more than any other tree (e.g. people put resources to water it and keep it healthy).

Adaptive Strategies focused on the following approach:

1. What could you do about the vulnerability of urban forests
2. What should you do
3. Is doing this consistent with good urban forest management without climate change?
4. What resources are needed and are they available

The most effective strategies identified were:

- Diversification of species
 - Species and cultivars
 - Age/size
 - Hardwoods and conifers (where applicable)
 - Density of trees
 - Distribution of the urban forest
- Assisted migration of species
 - Expand the seed zone ranges of some tree species at the northern edge of the range but use local seed provenances
- Tree species selection
 - Favour native species where possible and rare and SAR

- Governance
 - Tie climate change forestry issues to other global issues such as human health and municipal initiatives
- Public and Corporate buy-in
 - Align Short-term strategies with Long-term outlook
 - Promote and utilize our brand as “The Forest City”
 - Increase awareness of climate change impacts and adaptation strategy
 - Improve the public awareness of the value of the urban forest through analyses such as the Urban Forest strategy and UFORE/i-Tree analyses

Conclusions

Due to our size and amount of forest/tree cover, London is well-positioned to combat climate change. Our forest is moderately vulnerable due to the few species of trees that dominate the landscape as well as summer drought, snow damage, wind throw, invasive species, insects and diseases. Other factors such as poor survival of young trees and poor growing conditions will increase the vulnerability. Utilizing the strategies identified and coordinating them with the City of London adaption strategy will help London adapt to the predicted climatic changes and help ensure a healthy and resilient urban forest in the future.