



**Monday
November 24
7-9 pm**

Central Library

251 Dundas St.
Wolf Performance Hall

Plight of Pollinators

**making London
pollinator friendly**

World renowned bee expert, Dr. Laurence Packer, will share with us his insights on wild bees and will be joined by an expert panel to discuss conservation and restoration strategies in the city.

2 hours free validated parking in Citi Plaza during library hours.

Co-sponsored by City of London Advisory Committee on the Environment



London
Public Library.ca

Keynote Speaker: Dr. Laurence Packer - York University

Panel moderated by Dr. Brian Branfireun, Western University

- Bryan Gilvesy - YU Ranch
- Chris Hiemstra - Clovermead Apiaries
- Linda McDougall - City of London Ecologist
- Dr. Laurence Packer - York University
- Maureen Temme - Community Gardens London & Pollinator Sanctuary London

Bee all you can bee: Plan calls for London to be a 'pollinator sanctuary'



By Mike Donachie
Metro

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Bees swarm on a honeycomb.

Getty Images

Features



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There are further actions the city can take in order to help the plight of pollinators. Here are our recommendations:

Recommendation 1: Identify London as a Pollinator Sanctuary in the City's Official Plan.

Recommendation 2: Include explicit language throughout the London Plan that reference the importance of creating suitable habitat for pollinators on private and public lands as well as reducing pesticide pressures.

Recommendation 3: Modify City bylaws concerning property standards, streets, trees and parks to reflect the city's proposed status as a Pollinator Sanctuary.

Recommendation 4: Create a Natural Heritage Master Plan which should have an extensive section not just on protecting but also on restoring and creating pollinator habitat across the city.

Recommendation 5: Provide and/or expand more forage and habitat areas in the city, through less mowing and allowing wild flowers and grasses to flourish (in park lands, boulevards, backyards, and rooftops) and support the creation of natural corridors and meadows between forage areas. Plant more native and other plants that support the health of pollinators, such as milkweed.



The term “**ecosystem service**” refers to the delivery, provision, protection or maintenance of goods and benefits that humans obtain from ecosystem functions. (Millennium Assessment, 2003)

Valuing ecosystem services in urban areas

<http://www.urbesproject.org/>

London doesn't have a comprehensive and integrated plan for ecosystem services

- Pollination
- Food production
- Biodiversity
- Carbon storage
- Etc.

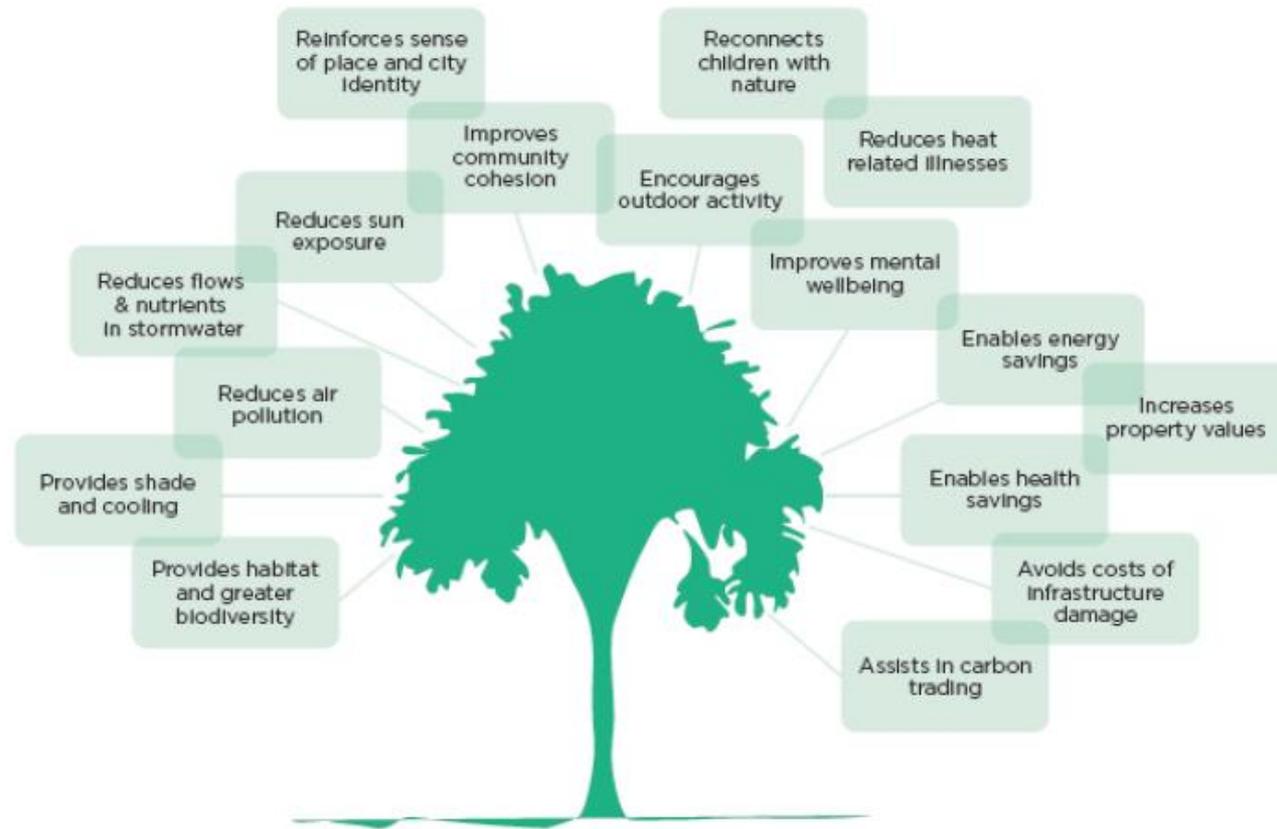
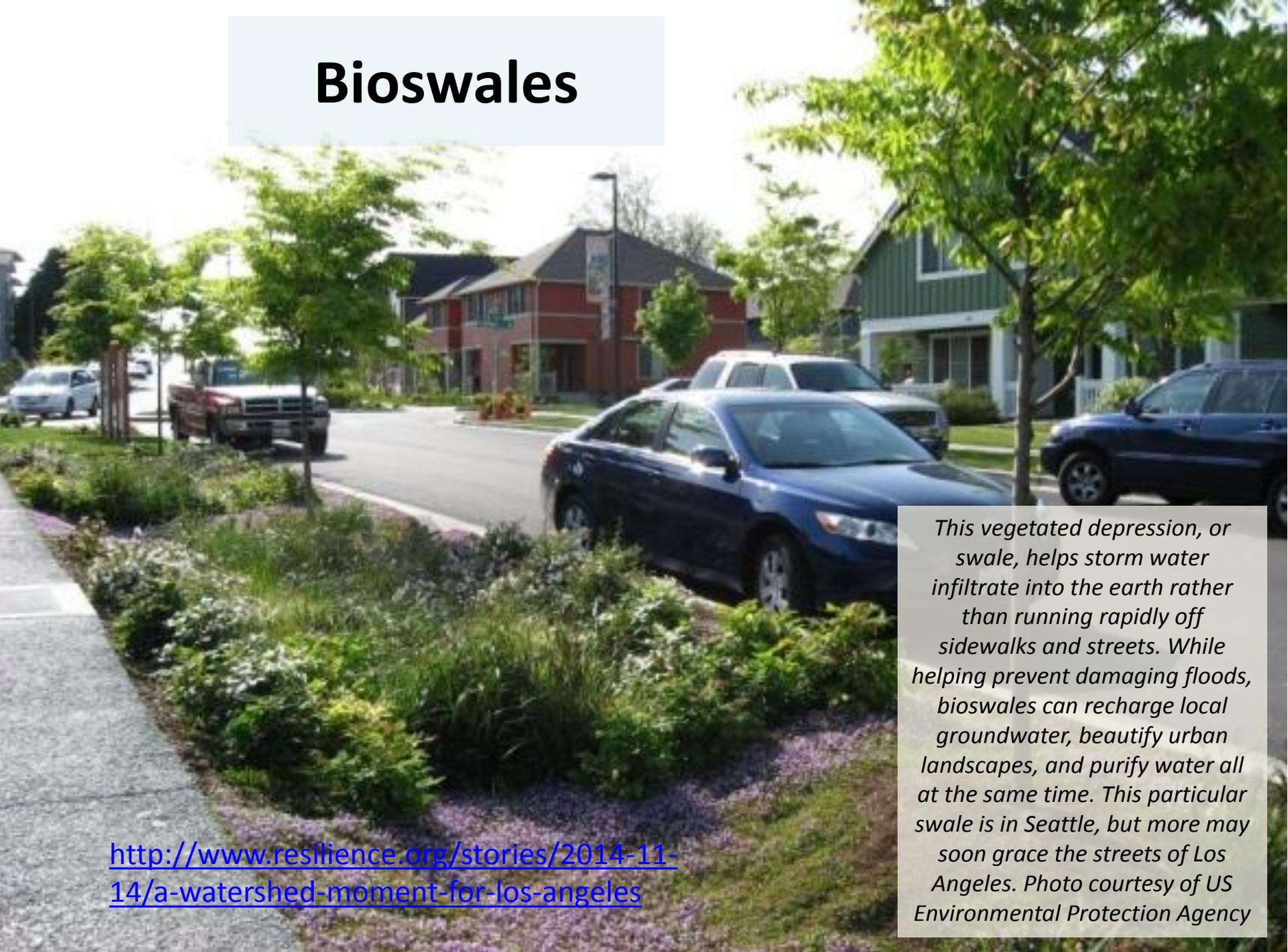


Figure 3. Overview of the benefits provided by urban forests.⁵

Multi-functional landscapes



Bioswales



This vegetated depression, or swale, helps storm water infiltrate into the earth rather than running rapidly off sidewalks and streets. While helping prevent damaging floods, bioswales can recharge local groundwater, beautify urban landscapes, and purify water all at the same time. This particular swale is in Seattle, but more may soon grace the streets of Los Angeles. Photo courtesy of US Environmental Protection Agency

<http://www.resilience.org/stories/2014-11-14/a-watershed-moment-for-los-angeles>



Butterfly corridors

Ecological Applications, 15(1), 2005, pp. 250–257
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LOW-QUALITY HABITAT CORRIDORS AS MOVEMENT CONDUITS FOR TWO BUTTERFLY SPECIES

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Abstract. Corridors are a primary conservation tool to increase connectivity, promote individual movement, and increase gene flow among populations in fragmented landscapes. The establishment of effective conservation corridors will depend on constructing or preserving connecting habitat that attracts dispersing individuals. Yet, it remains unclear whether corridors must necessarily be composed of high-quality habitat to be effective and promote dispersal and gene flow. We address this issue with two mobile, open-habitat butterfly species, *Junonia coenia* Hübner and *Euptoieta claudia* Cramer. Using experimental landscapes created explicitly to examine the effects of corridors on dispersal rates, we show that open-habitat corridors can serve as dispersal conduits even when corridors do not support resident butterfly populations. Both butterfly species were rare near forest edges and equally rare in narrow corridors, yet both species dispersed more often between patches connected by these corridors than between isolated patches. At least for species that can traverse corridors within a generation, corridor habitat may be lower in quality than larger patches and still increase dispersal and gene flow. For these species, abundance surveys may not accurately represent the conservation value of corridors.

Key words: butterfly; connectivity; conservation; corridor; dispersal; *Euptoieta claudia*; fragmentation; gene flow; habitat quality; *Junonia coenia*; landscape experiment; small populations.

<https://www.youtube.com/watch?v=zGH3Lkr0vso>



Food forests

A lush garden scene featuring a variety of plants. In the foreground, there are clusters of bright orange flowers and some dark red, spiky flowers. The middle ground shows a mix of green foliage and more orange flowers. In the background, a house with a grey roof is partially visible, surrounded by dense trees and a white pedestal on a lawn.

Biodiversity gardens

<http://www.biodiversitygardening.com/blog>



Tall grass prairie

What this means for London:

- Ecological processes and associated services are 'occurring' everywhere not just in the Natural Heritage System.
- There are many places where they could be enhanced or restored (e.g. boulevards, yards, parks, stormwater management ponds, infrastructure corridors, even some rooftops).
- We need a management plan for this, one that combines the protection, enhancement and restoration of natural heritage features and processes.





We need London's version of ...

**NATURAL HERITAGE AND
ENVIRONMENTAL MANAGEMENT
STRATEGY**

Session – May 15th, 2013



brampton.ca

BRAMPTON
Flower City

Purpose of Strategy

- Identify opportunities to more fully integrate natural heritage and environmental management considerations into City planning and operations
- Understand and develop opportunities for shared ownership and partnerships
- Empower community members to take action on their own properties

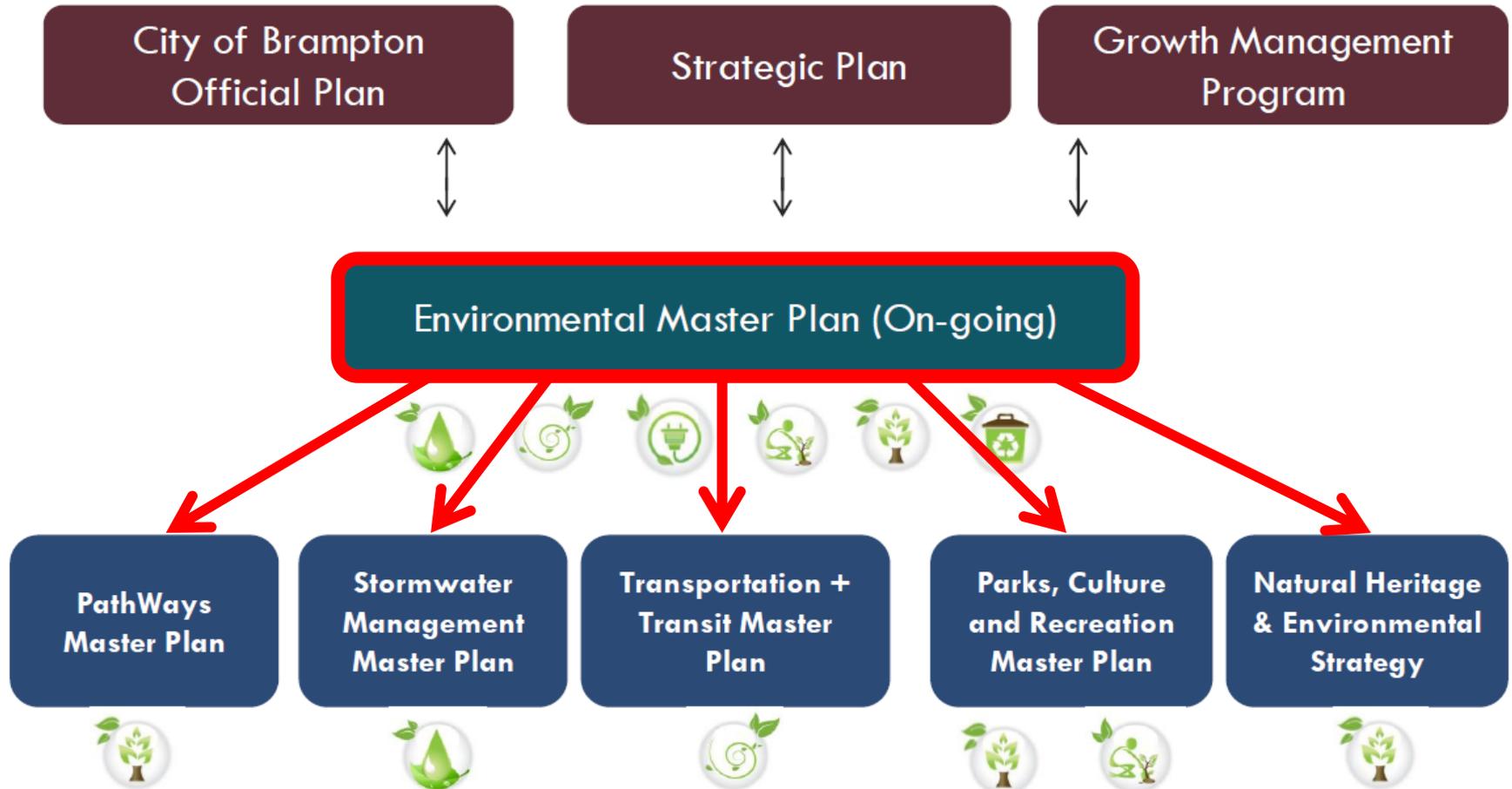


<http://www.brampton.ca/EN/residents/Environment/Documents/NHEMS%20-%20Stakeholder%20Presentation%20-%20May%202015.pdf>

For EEPAC's consideration

- London Plan
 - Ask for stronger language on ecosystem services that are provided by “green” areas of the city in London Plan
 - Ask for Natural Heritage Master Plan but we need to enlarge meaning on Natural Heritage
- ‘Natural Heritage Master Plan’
 - ACE, EEPAC, TFAC could work on this together, if council decides this is the way to go...

Relation to Other Plans and Policies



References

- Andersson, E. et al. 2014. **Reconnecting Cities to the Biosphere: Stewardship of Green Infrastructure and Urban Ecosystem Services.** *Ambio*, 43:445-453.
- Gomez-Baggethun, E. et al. 2013. **Urban Ecosystem Services.** In T. Elmqvist et al. (eds.), *Urbanization, Biodiversity and Ecosystem Services: Challenges and Opportunities: A Global Assessment*, DOI 10.1007/978-94-007-7088-1_11.
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- Schewenius, M. et al. 2014. **Opportunities for Increasing Resilience and Sustainability of Urban Social–Ecological Systems: Insights from the URBES and the Cities and Biodiversity Outlook Projects.** *Ambio*, 43:434-444.