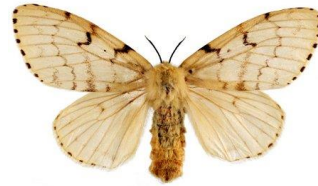


Preserving the Urban Forest: Early Detection of Invasive Pests



CUFC September 2016



Emerald Ash Borer



Emerald Ash Borer

- Kovacs et.al, Ecol. Econ. 2009
 - 25 States
 - 38 million ash
 - Developed land within communities
 - Remove & replace, Treat
 - 2009 – 2019
 - \$10.7 Billion
 - **COSTS UNAVOIDABLE**



Human Health

“Is tree loss associated with cardiovascular-disease risk in the Women's Health Initiative? A natural experiment”

G.H. Donovan et al. / Health & Place 36 (2015) 1–7

Data from the Women's Health Initiative were used to quantify the relationship between the loss of trees to an invasive forest pest—the emerald ash borer—and cardiovascular disease.

Women living in a county infested with emerald ash borer had an increased risk of cardiovascular disease (HR¼1.25, 95% CI: 1.20–1.31).

Invasive Pest Impacts

- Economic
 - \$7.5B/yr CAD in Ag and Forestry
 - \$30M for DED in Manitoba
- Ecological & environmental
 - Species composition & abundance
 - Population declines & extinctions
 - Habitat fragmentation & destruction
- Social & Health
 - Employment, jobs, health (psychological)

The Invasive Threat

Insects (n=502)

- Emerald ash borer
- Asian longhorn beetle
- Gypsy moth
- Brown spruce longhorned beetle
- Hemlock woolly adelgid
- Beech weevil

Diseases (n=92)

- Chestnut blight
- Dutch elm disease
- Sudden oak death
- Butternut canker
- Beech bark disease
- 1000 Cankers disease

Plants (n=1214)

Value at Risk: Potential Impact Oakville's Urban Forest (UFORE 2006)

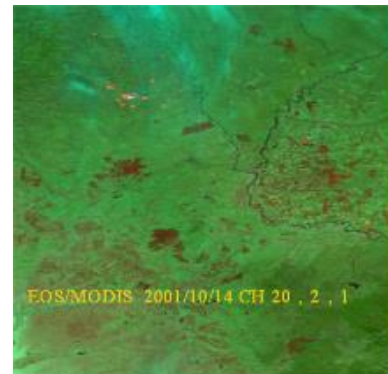
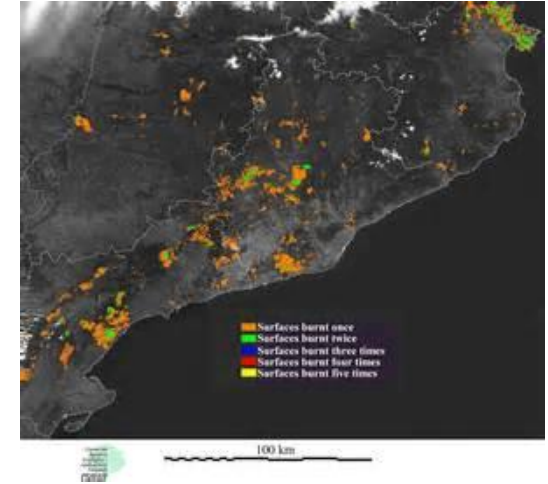
Pest	Tree Value (\$ millions)
Dutch Elm Disease	14.5
Emerald Ash Borer	86.1
Gypsy moth	264.5
Asian Longhorned Beetle	456.7
Total	821.8

This is not a option!



Fire

Forest fires cost millions of dollars in damages and claim many human lives every year. Apart from preventive measures, **early detection and suppression of fires is the only way to minimize the damages and casualties.**



Who's Looking: Action Plan for Invasive Alien Terrestrial Plants and Plant Pests

- Federal:
 - ✓ CFIA
 - ✓ Agriculture & Agri-food Canada
 - ✓ Environment Canada
 - ✓ Natural Resources Canada
 - ✓ Parks Canada Agency
 - ✓ Canadian Border Services Agency
- Provincial
- First nations

Action Plan for Invasive Alien Terrestrial Plants and Plant Pests

Municipal governments are particularly well positioned for early detection and should be actively engaged for any rapid response actions against invasive alien species. Provision of adequate information and support is critical for any action to succeed.

What Can Municipalities Do: Forest Health Volunteers (Citizen Scientists)

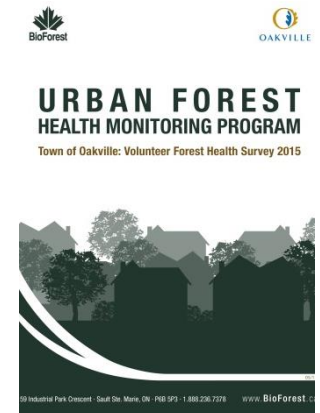
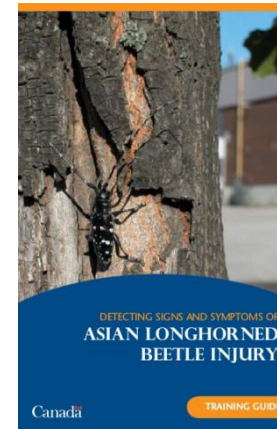
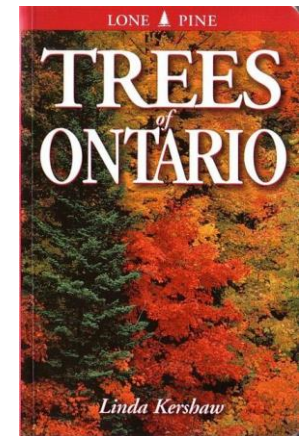
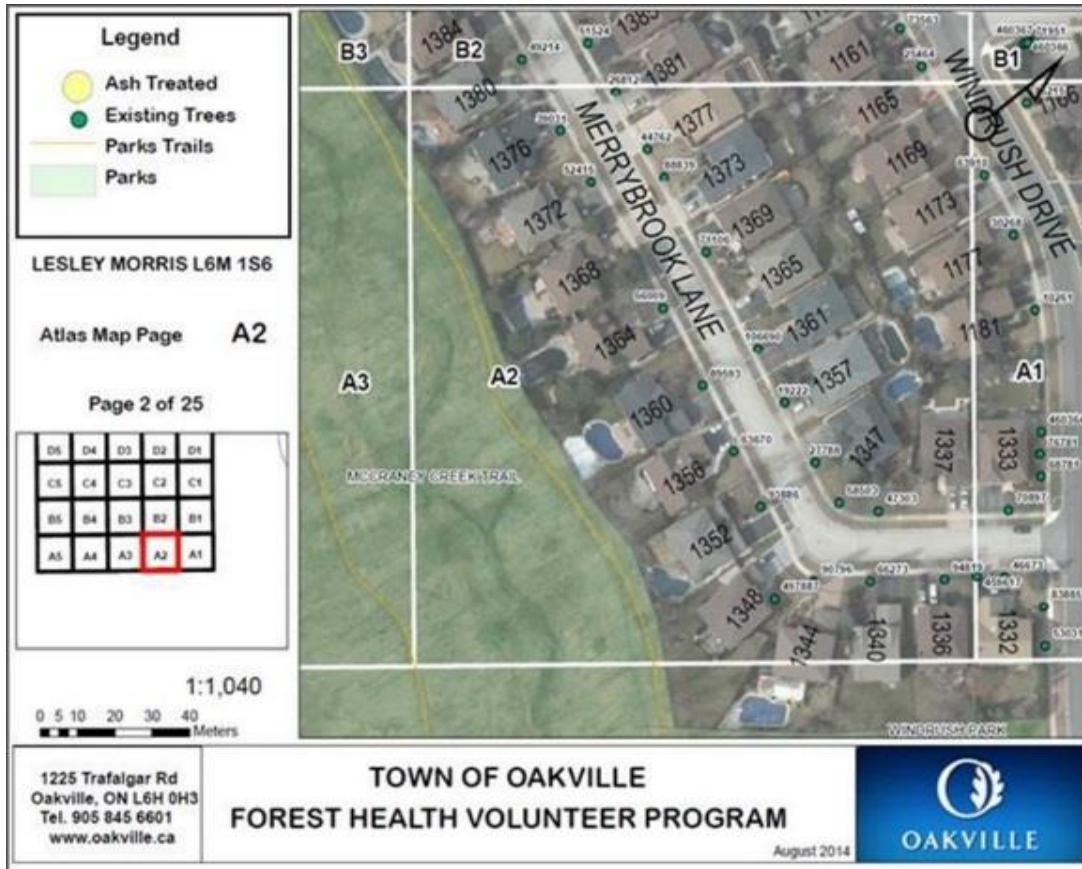


Oakville, ON Urban Forest Ambassador Program (2014-2016)

Forest Health Volunteer Program

- Goals:
 - Generate awareness
 - Engage residents in the urban forest
 - More “eyes on the ground” for early detection
 - Support environmental initiatives
 - Opportunity to engage high school students through achievement of community service hours
- Methods:
 - Educate and train volunteers on invasive insects, disease, and general tree health
 - Volunteers conduct annual neighbourhood tree health surveys

Support Resources





WHAT INVASIVE SPECIES
ARE IN YOUR COMMUNITY?

Subscribe to the EDRR Network today!

www.edrrontario.ca

- Workshops
- Events
- Invasive Species News

Forest Health Volunteer Program

- Established with the Town of Oakville in 2014
- Low cost & Effective
- Program has doubled in participation
 - Tripled in the number of trees surveyed from 2014 to 2016

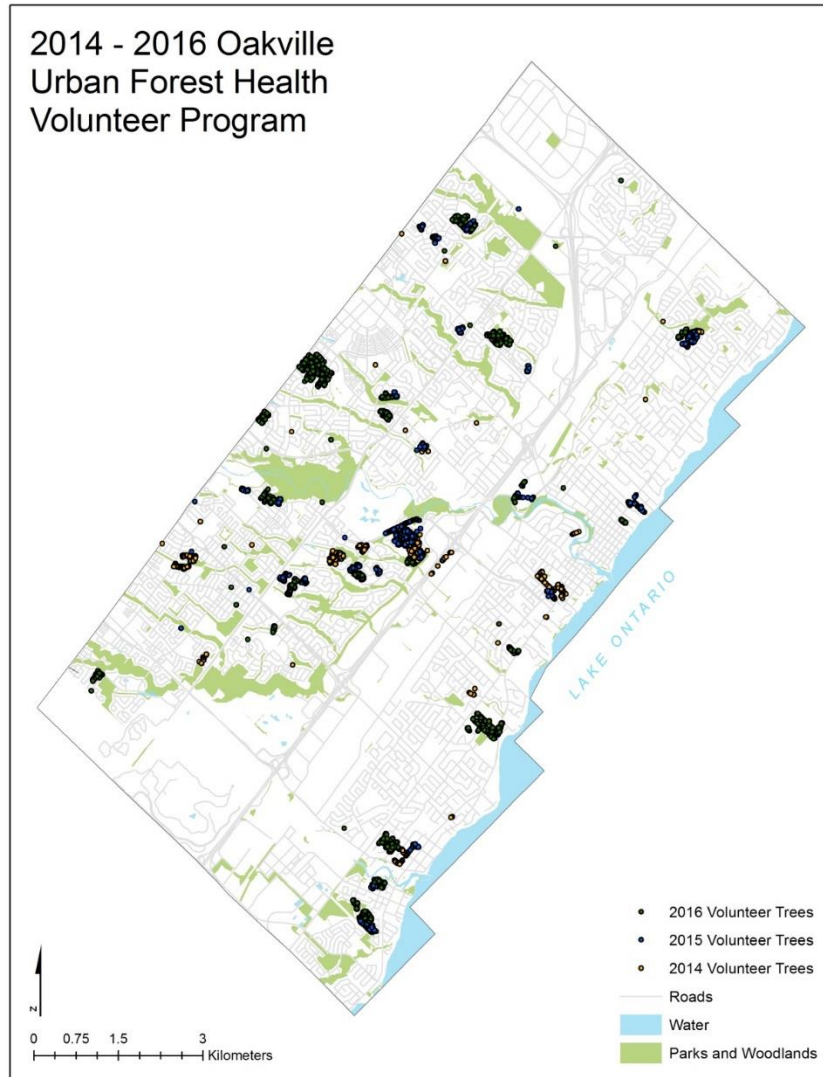


Forest Health Volunteer Program

- 2016 Data:
 - 1735 trees surveyed



From 2014 to
2016 a total of
3227 trees
surveyed!



Forest Health Volunteer Program

- Volunteer Appreciation Night at the end of the survey season
- 2016: Data reviewed and tree planted in an area harvested due to mortality from EAB



Thank You/Merci

