

Emerald Ash Borer

Managing the impact on the City of Toronto's Urban Forest

TORONTO

Emerald Ash Borer is an introduced, invasive, wood borer insect that kills ash trees







- Native to north-east Asia
- First detected in 2002 in Detroit, Michigan and Windsor, Ontario

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Canadian Food Inspection Agency | Agence canadienne d'inspection des aliments

Emerald Ash Borer Regulated Areas of Canada 2010

Lieux réglementés pour l'agrile du frêne au Canada

Québec

Ontario

Sault Ste. Marie

Gatineau

Ottawa

CANADA

U.S.A É.-U.d'A.

Leeds and/et Grenville

Georgian Bay / Baie Georgienne

Lake Huron / Lac Huron

Lake Ontario / Lac Ontario

Lake Erie / Lac Érié

Lake St. Clair / Lac Sainte-Clair

Michigan

New York

Ohio

Pelee Island

Waterloo

Huron

Perth

York

Durham

Peel

Toronto

Halton

Wellington

Hamilton

Niagara

Brant

Brantford

Middlesex

Lambton

Elgin

Norfolk

Oxford

Chatham -Kent

Essex

LEGEND | LÉGENDE

- Positive site outside of a regulated area | site positif à l'extérieur d'une zone réglementée
- Areas Regulated by Ministerial Orders | Lieux réglementés par des arrêtés ministériels
- ★ Carignan, Saint-Mathias-sur-Richelieu, Chambly, Richelieu and/et Saint-Basile-le-Grand.

Produced by the Canadian Food Inspection Agency, Mapping and GIS Services, London, Ontario
Map Projection UTM NAD 83 Zone 17

Produit par l'Agence canadienne d'inspection des aliments, Cartographie et services SIG, London, Ontario
Projection cartographique UTM NAD 83 Zone 17

YrAn MoM
2010 09

SCALE | ÉCHELLE

0 20 40 80
Kilometres | Kilomètres
0 20 40 60
Miles | Milles

Canada

Canadian Food Inspection Agency | Agence canadienne d'inspection des aliments

Emerald Ash Borer Regulated Areas of Canada — 2011
Lieux réglementés pour l'agrile du frêne au Canada

Québec

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Sault Ste. Marie

Georgian Bay / Baie Georgienne

Lake Huron / Lac Huron

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New York

Pennsylvania

Ohio

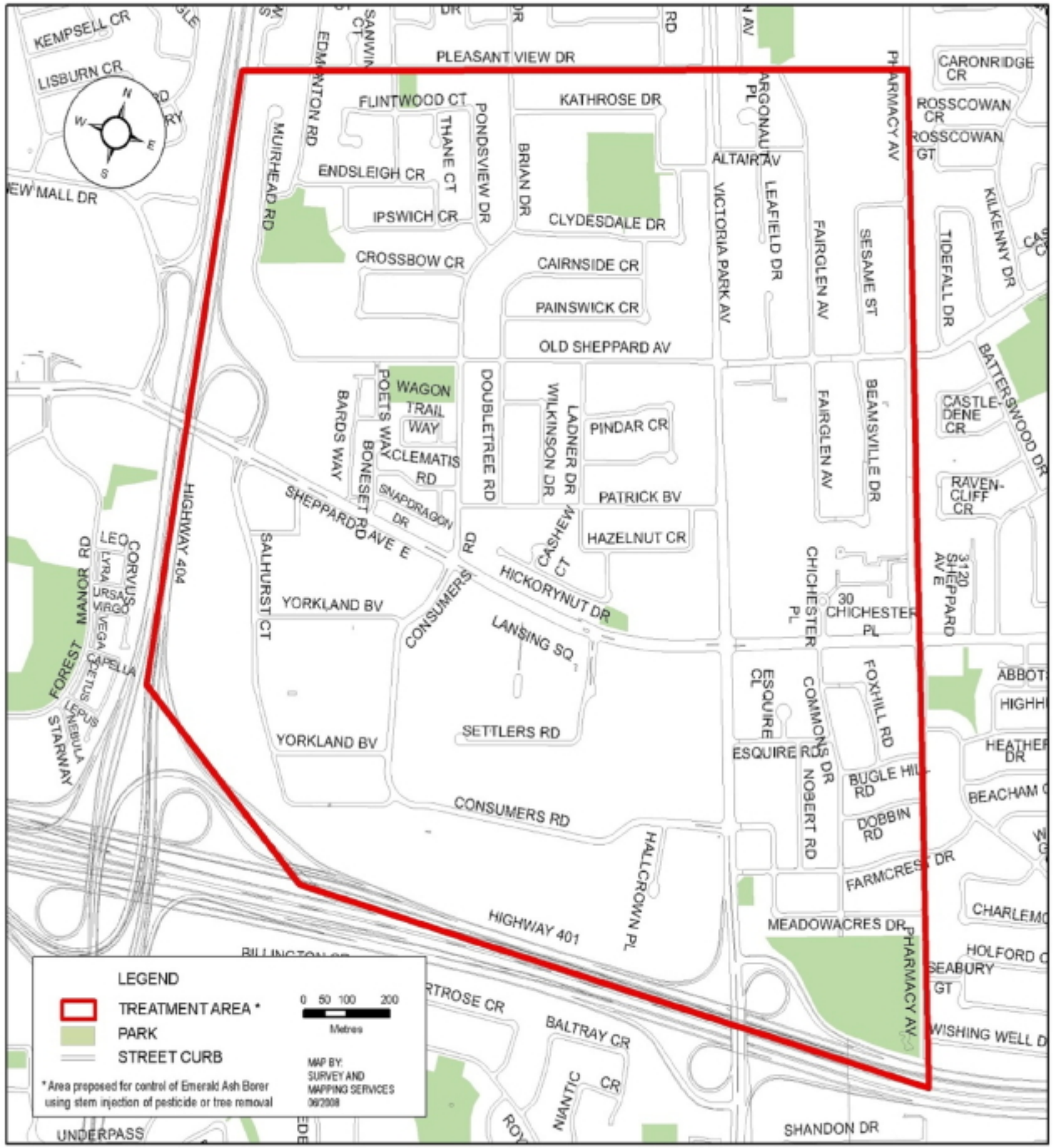
Pelee Island

LEGEND | LÉGENDE

Areas regulated by ministerial order | Lieux réglementés par l'arrêté ministériel

* Carignan, Saint-Mathias-sur-Richelieu, Chambly, Richelieu and/et Saint-Basile-le-Grand.

SCALE | ÉCHELLE


LEGEND
TREATMENT AREA *
PARK
STREET CURB
* Area proposed for control of Emerald Ash Borer using stem injection of pesticide or tree removal
0 50 100 200
Metres
MAP BY: SURVEY AND MAPPING SERVICES 06/2008
PLEASANT VIEW DR
KEMPSELL CR
LISBURN CR
FLINTWOOD CT
KATHROSE DR
ENDSLEIGH CR
IPSWICH CR
CLYDESDALE DR
CROSSBOW CR
CAIRNSIDE CR
PAINSWICK CR
OLD SHEPPARD AV
WAGON TRAIL WAY
CLEMATIS RD
SNAPDRAGON DR
PINDAR CR
PATRICK BV
HAZELNUT CR
HICKORYNUT DR
YORKLAND BV
LANSING SQ
SETTLERS RD
CONSUMERS RD
HIGHWAY 404
HIGHWAY 401
SHEPPARD AVE E
MUIRHEAD RD
EDMONTON RD
PONDSVIEW DR
BRIAN DR
THANE CT
VICTORIA PARK AV
LEAFIELD DR
FAIRGLEN AV
SESAME ST
BEAMSVILLE DR
PHARMACY AV
ALTAIR AV
CARONRIDGE CR
ROSSCOWAN CR
ROSSCOWAN GT
TIDEFALL DR
KILKENNY DR
BATTERSWOOD DR
CASTLE-DENE CR
RAVEN-CLIFF CR
3120 SHEPPARD AV E
CHICHESTER PL
30 CHICHESTER PL
ESQUIRE CL
COMMONS DR
FOXHILL RD
ESQUIRE RD
NOBERT RD
BUGLE HILL RD
DOBBIN RD
FARMCREST DR
MEADOWACRES DR
HALLCROWN PL
BALTRAY CR
SHANDON DR
UNDERPASS
MANOR RD
FOREST
STARWAY
LEO
CORVUS
LYRA
URSA
VIRGO
VEGA
CAPELLA
CETUS
LEPUS
NEBULA
BARDS WAY
POETS WAY
BONESET RD
DOUBLETREE RD
WILKINSON DR
LADNER DR
CASHEW CT
SALHURST CT
CONSUMERS RD
NIANTIC CR
HOLFORD
SEABURY GT
WISHING WELL D
BEACHAM
HEATHER DR
ABBOT
HIGHH
CHARLEMO
N
S
E
W

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Overview Map of Emerald Ash Borer Research Locations in the City of Toronto

Kilometres

0 0.5 1 2 3

HIGHWAY 407

HIGHWAY 401

HIGHWAY 2A

DON VALLEY PKY

Survey methods







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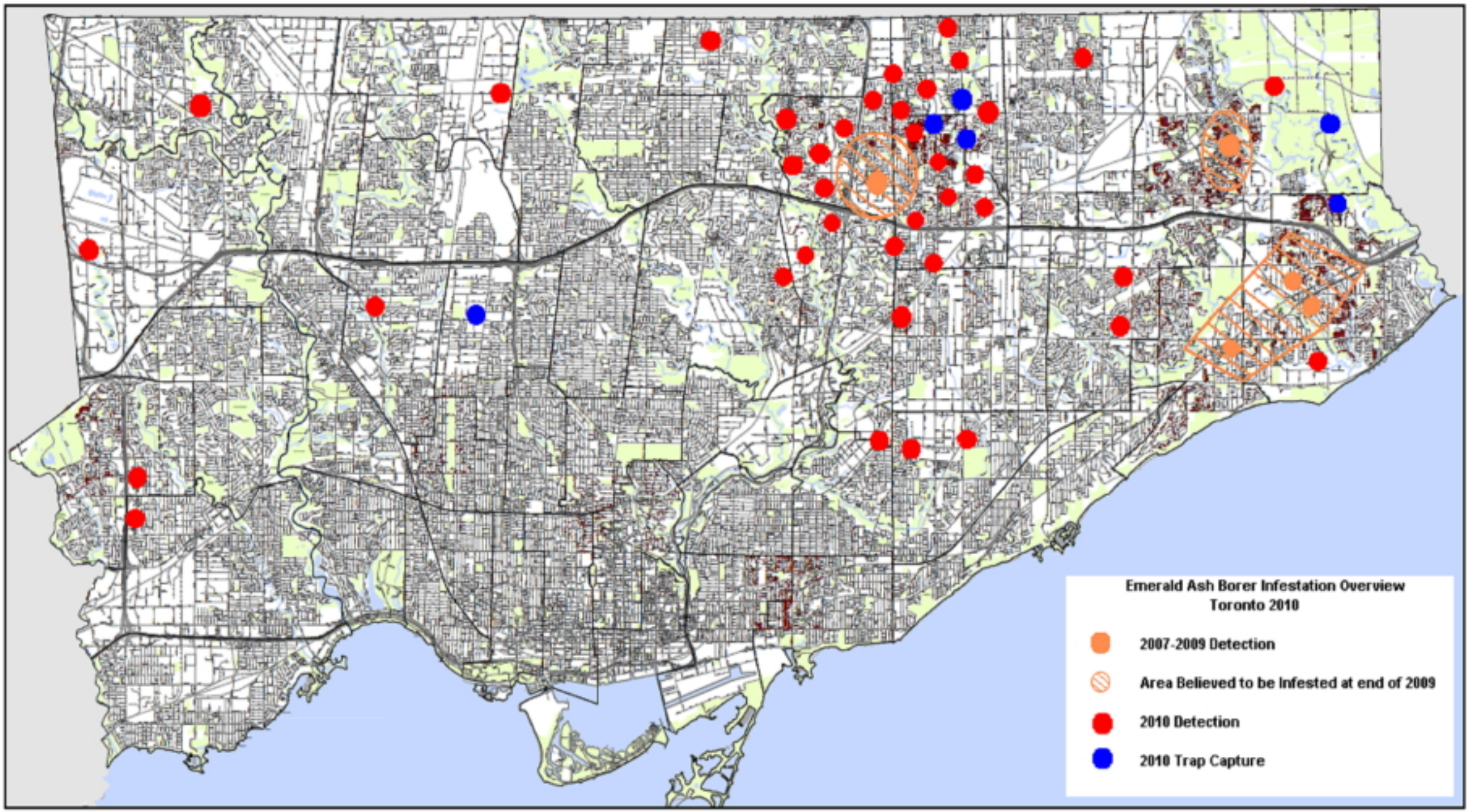
Emerald Ash Borer Infestation Overview
Toronto 2010
2007-2009 Detection
Area Believed to be Infested at end of 2009
2010 Detection
2010 Trap Capture

Survey locations in Canada



Awareness and training

Guildwood *News & Views*

Fall 2010

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News & Views is available in colour on our website

Please check the GVCA website ***www.guildwood.on.ca*** for information updates between newsletters.

Emerald Ash Borer (EAB) in Toronto

Emerald Ash Borer (EAB) is an introduced wood-boring beetle native to northeastern Asia that poses a significant threat to all ash species in North America. EAB was discovered in North America in Detroit, Michigan, in 2002 and in Windsor, Ontario, in 2003. Since its discovery in southwestern Ontario, EAB has spread quickly – likely through the movement of ash firewood and nursery products. EAB was confirmed in Toronto in Fall 2007 and has subsequently been found in surrounding municipalities: Ottawa, Sault Ste. Marie and parts of Quebec. EAB is also established in certain northeast and midwest states in the USA.

All species of ash (Fraxinus spp.) are susceptible to EAB and, once established, EAB has proven impossible to control. Eradication of EAB is not possible and all efforts at eradication made previously by the Federal Government have been abandoned. No other tree species are known to be susceptible to this pest.

It is expected that EAB will spread throughout Toronto over the next decade and significant losses to tree canopy will result. Approximately eight per cent of Toronto's trees are ash, representing about 850,000 trees that are vulnerable to EAB.

EAB in the Guildwood Area

EAB was recently confirmed adjacent to the intersection of Kingston Road and Galloway Road in some private trees. To date, this is the closest confirmed infestation to Guildwood parks. It is expected that EAB will be confirmed within the Guildwood Village area as soon as 2011.



Dying, EAB infested ash tree. August 2008

Many parts of Guildwood Village have almost 100% ash tree canopy on the road allowance, in parks and on private property. The loss of ash trees will be particularly devastating to these neighborhoods.

Can trees be treated against EAB?

High-value ash trees may be protected through the use of an insecticide injection.

Through Emergency Use registration from the Pest Management Regulatory Agency (PMRA) of Health Canada, TreeAzin is the only insecticide registered in Canada that has been shown to be effective in providing control of EAB in ash trees. For 2011, it is expected that TreeAzin will have either full registration or receive Emergency Use registration again.

TreeAzin is a systemic, bio-insecticide containing Azadirachtin, an extract from the Neem tree. A liquid formulation has been developed for stem injection by the Canadian Forest Service in collaboration with BioForest Technologies Inc. which

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Ash tree mortality



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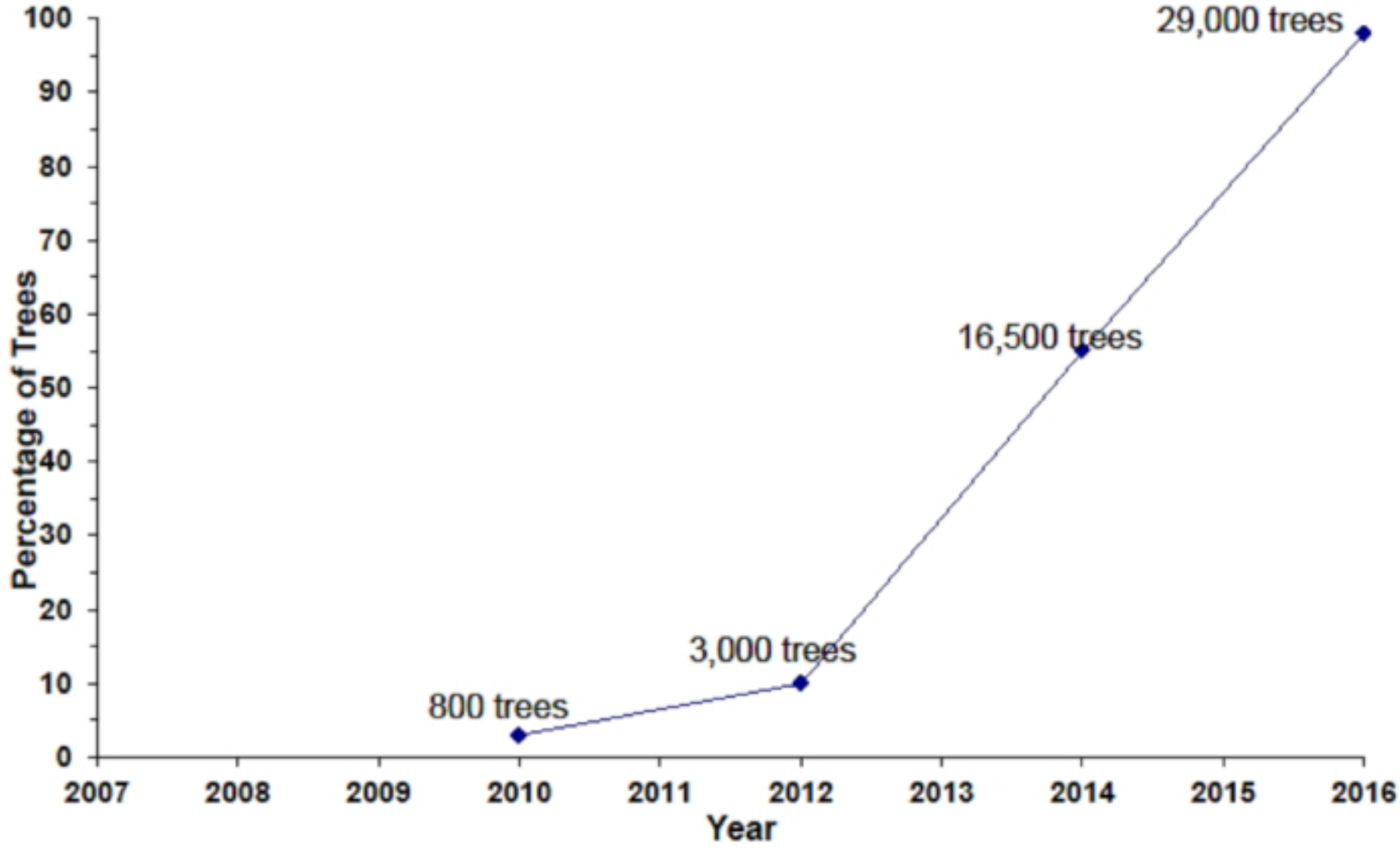
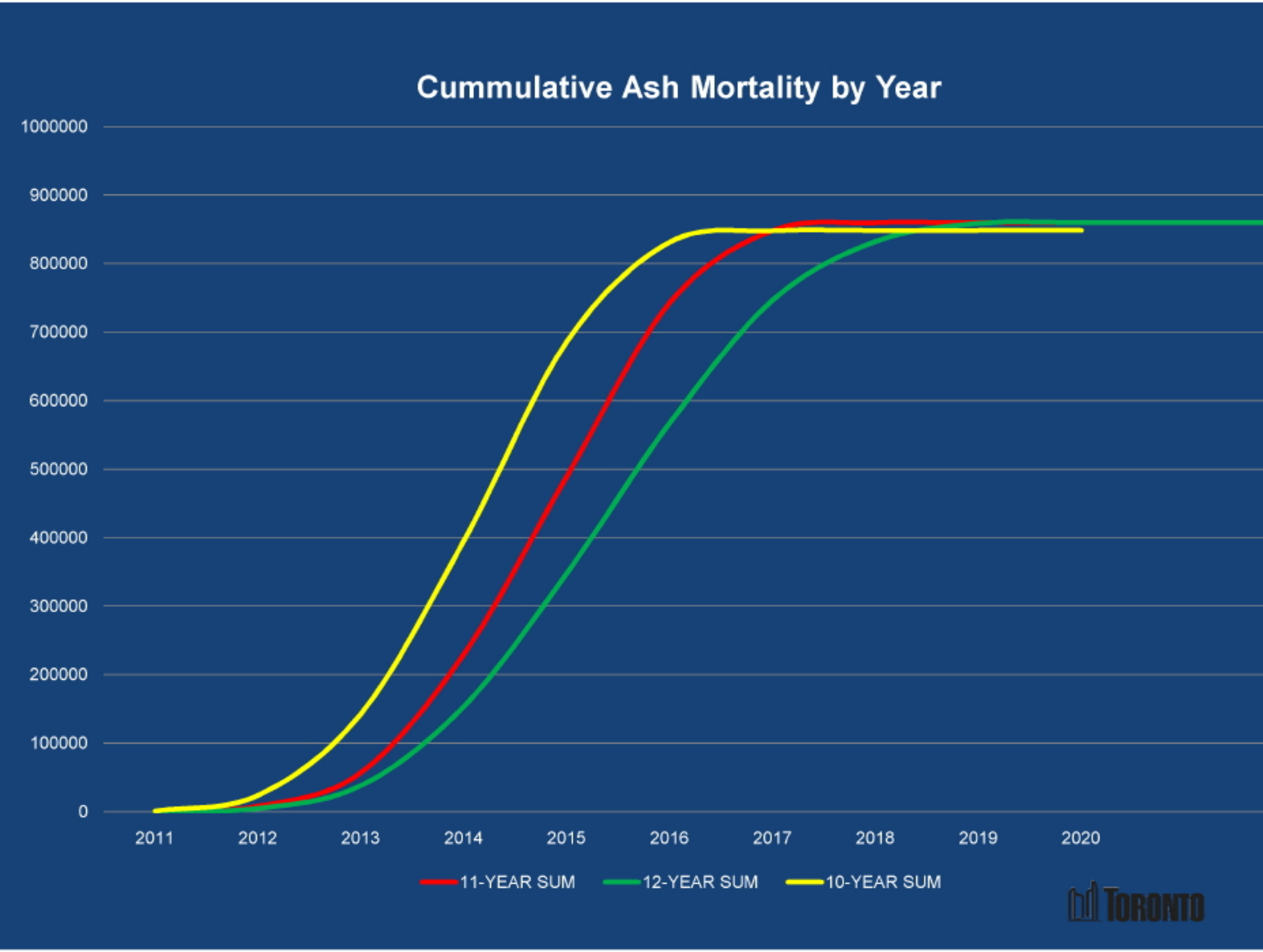
Predicted Ash Mortality of City of Toronto Street Trees




Cummulative Ash Mortality by Year
1000000
900000
800000
700000
600000
500000
400000
300000
200000
100000
0
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
11-YEAR SUM
12-YEAR SUM
10-YEAR SUM
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	Annual Mortality of Ash		
	10 years	11 years	12 years
2010	102	76	39
2011	2221	697	475
2012	**11522**	**4760**	**3211**
2013	24379	16713	11165
2014	28089	25084	18765
2015	14029	24459	21175
2016	1613	10195	17322
2017	36	1092	8262
2018	7	25	2559
2019	1	5	131
2020		1	4
2021			1

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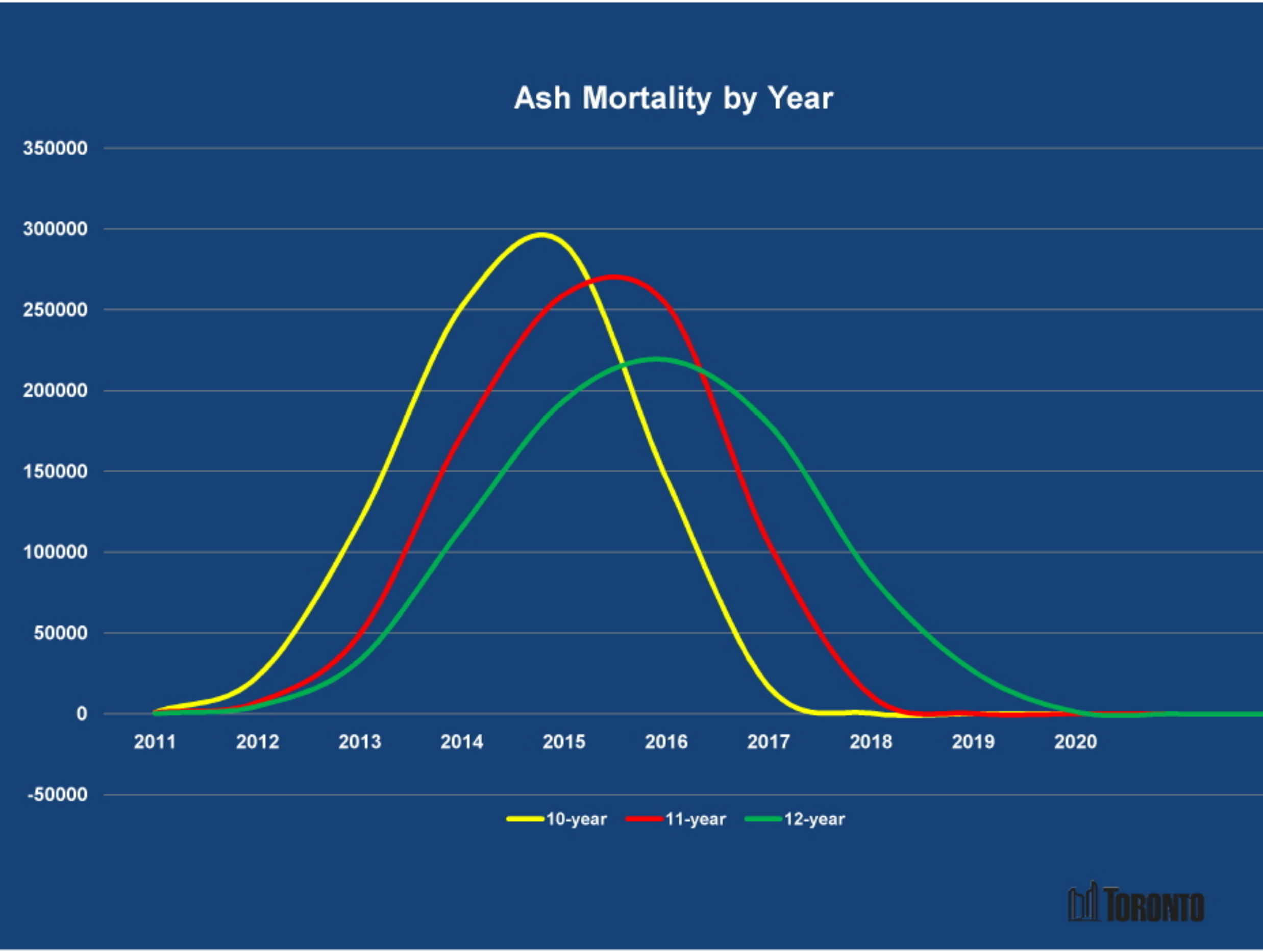
Ash Mortality by Year
350000
300000
250000
200000
150000
100000
50000
0
-50000
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
10-year
11-year
12-year
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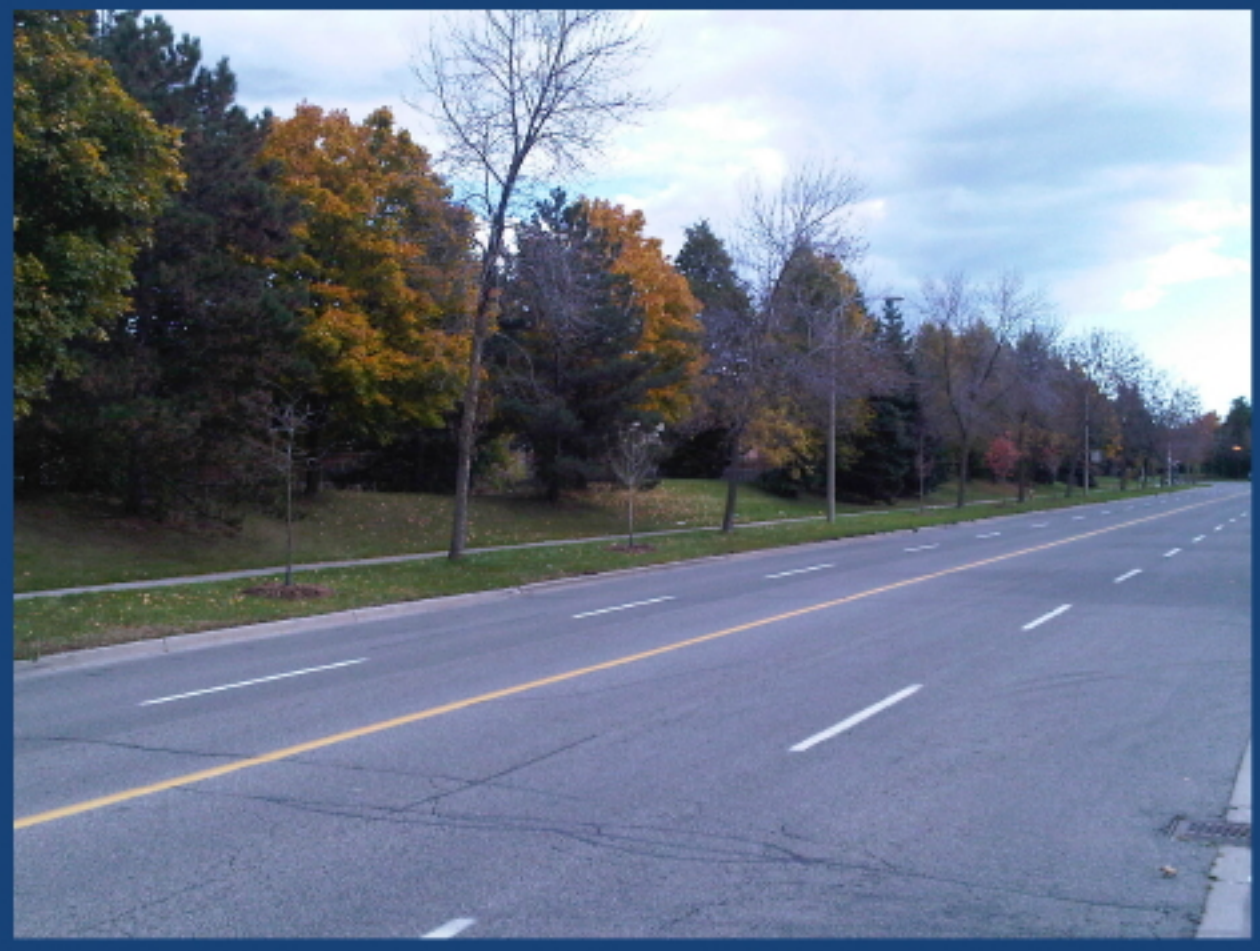
EAB Management Plan

- detection survey
- inventory
- planned removal of trees
- pesticide treatment
- planting
- community engagement
- collaboration with other organizations



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