Clause 8 in Report No. 14 of Committee of the Whole was adopted, without amendment, by the Council of The Regional Municipality of York at its meeting held on October 20, 2016.

8

## Invasive Species Update

Committee of the Whole recommends adoption of the following recommendation contained in the report dated September 22, 2016 from the Commissioner of Environmental Services:

1. Council receive this report for information.

---

Report dated September 22, 2016 from the Commissioner of Environmental Services now follows:

## 1. Recommendation

It is recommended that Council receive this report for information.

## 2. Purpose

This report provides an update on management of Emerald Ash Borer and other priority invasive species in York Region.

## 3. Background and Previous Council Direction

### Province's new *Invasive Species Act, 2015* enters into force November 2016

In spring 2014, the Ontario government introduced the *Invasive Species Act, 2015*, which enters into force in November 2016.

The Act includes provisions to restrict possession, propagation and movement of regulated invasive species and carriers (e.g. wood in the case of invasive wood boring insects), requires management plans be enacted when a regulated species is discovered, and identifies penalties for contraventions. Staff have provided input

through the Environmental Bill of Rights Registry to the new legislation, as well as on procedures for conducting risk assessments to be used by the Province for ranking priority species for regulation under the Act. In early September the Ministry posted the first regulatory proposal for review, listing a variety of fish, plants and invertebrate species for regulation. Staff will continue to participate in the consultation process as species are considered for regulation under the Act. It is anticipated that the Act will have minimal impact on Regional operations.

Ontario has more invasive species than any other province or territory in Canada. The Province does not have a comprehensive list of all invasive species present or posing risks. According to the Ministry of Natural Resources and Forestry, there are over 660 invasive species in Ontario including:

- 440 invasive terrestrial plants and trees (e.g. European buckthorn, periwinkle)
- 180 aquatic invasive species in the Great Lakes Basin (e.g. zebra mussels, water soldier)
- 39 known invasive forest insects (e.g. emerald ash borer, gypsy moth)
- 10 invasive tree diseases (e.g. beech bark disease)

Invasive species in Ontario and York Region are a growing environmental and economic threat. Regional efforts focus on implementation priorities under legislation, including the provision of the *Invasive Species Act, 2015* and the *Weed Control Act, 1990*. In addition, where threats to Regional assets exist, site-specific actions are implemented to mitigate invasive species impacts (e.g. zebra mussels at water intakes, Manitoba maples in the York Regional Forest, etc.).

## In June 2011, Council endorsed an Emerald Ash Borer Management Plan for York Region

At its meeting on June 23, 2011, Council adopted an Emerald Ash Borer Management Plan outlining an active management approach. The plan includes:

- Monitoring the spread of the insect
- Removing and replacing dead and dying infested ash street trees along Regional roads
- Removing hazard trees from the York Regional Forest (e.g. along trails)
- Protecting large, valuable trees on Regional roads and in the York Regional Forest (seed source trees) with an insecticide (TreeAzin™). Protection based on specific criteria (e.g. health, condition, size etc.)
- Providing private land tree planting incentives
- Coordinating the Emerald Ash Borer Technical Working Group and collaborating with local municipalities, agencies and conservation authorities
- Educating residents about the insect's impacts and their options for mitigating its effects

The emerald ash borer infestation has spread northwards across the Region since it was first detected in 2008. Municipalities and residents are choosing to protect some large, healthy ash trees with insecticide. As the infestation progresses, all unprotected ash trees will die. Working closely with the municipalities, education and awareness activities are ongoing throughout the Region.

Emerald ash borer will likely always be present, however over the next 10 to 15 years, with a diminished food supply (ash trees) and the impact of natural and introduced predators (e.g. parasitic wasps), their numbers will likely decline. When the insect population crashes, residents and municipalities may be able to reduce the cycle of insecticide treatments to protect remaining ash trees.

## York Region collaborates with local municipalities, provincial and federal governments, non-governmental organizations and academia to manage invasive species

Since 2008, York Region has worked with its partners to raise awareness of the emerald ash borer and other invasive species in York Region, and to prevent and control adverse effects of invasive species on Regional street trees and the York Regional Forest. Partners include the Invasive Species Centre, Ontario Invasive Plant Council, Forests Ontario, Local Enhancement and Appreciation of Forests (LEAF) and Evergreen.

Staff participate on boards for the Invasive Species Centre and Forests Ontario to influence and inform legislation, policy and priorities, and also participate on the Communications Committee of the Ontario Invasive Plant Council to develop educational materials. The Region also chairs the Regional Public Works Commissioners of Ontario (RPWCO) Urban Forest Sub-committee, which provides a broad forum for the Region to share experiences with other public works jurisdictions in Ontario.

York Region staff chair the Emerald Ash Borer Technical Working Group that includes representatives from local municipalities, Regional Municipality of Durham, Cities of Toronto and Peterborough, Simcoe County, Toronto and Region Conservation Authority (TRCA), Lake Simcoe Region Conservation Authority, Ontario Ministry of Natural Resources and Forestry (the Ministry), and the Canadian Food Inspection Agency (CFIA). This forum facilitates open discussion and encourages sharing of best practices. Topics also include updates on other priority invasive species e.g. Asian long-horned beetle, hemlock woolly adelgid, and dog strangling vine.

## 4. Analysis and Implications

### Monitoring surveys confirm Emerald Ash Borer infestation covers entire Region

Monitoring for the presence and distribution of emerald ash borer in the Region was first initiated in 2011. Annual surveys were conducted to track the spread of emerald ash borer northwards until 2015, when the insect was confirmed throughout the Region. The Region and local municipalities continue to manage the impacts of dying ash trees with local municipal tree removals reflecting the severity of the infestation across the Region (see Attachment 1).

### Regional street trees are proactively managed by timely removal of dead and dying ash trees and replacement planting

Once infested an ash tree can die within two to three years. Declining street trees are hazards to public safety. Removing and replacing street trees are priority actions to mitigate risk and maintain the environmental, health and social benefits street trees provide to the Region's communities. If not removed, most ash trees on Regional roads would be dead by 2018.

There are 39,674 Regional street trees in urban areas. Prior to 2012, ash represented 10 per cent of the urban street tree inventory. Ash tree removals are currently on track with the current forecast and proceeding as planned. Between 2012 and 2015 York Region has removed a total of 10,600 ash street trees with an additional 912 removed in 2016. A final assessment of the Regional road network for ash street trees will be completed in 2017.

### Large, healthy ash trees with high landscape value along streets and in York Regional Forest are being protected with the natural insecticide TreeAzin™

For large (>25 cm diameter) healthy ash trees with high landscape, environmental and social value, tree protection can be a cost effective alternative to removal and replacement. At a cost of approximately $155 per tree, insecticide treatments with TreeAzin™ are repeated every two years, with some annual treatments being required when infestation pressure is at a peak. In 2016, the Region treated 88 large ash street trees, and 123 ash trees in the York Regional Forest so they can provide seeds to regenerate ash trees in the future. Treatment of these select ash trees is expected to continue for approximately 10 years. After that time scientists predict emerald ash borer populations will crash as ash trees (un-treated ash trees) become scarce.

## Research site for biological control of Emerald Ash Borer located in the York Regional Forest

Staff have been working cooperatively with researchers from the Canadian Forest Service to provide a suitable release site in York Region for parasitic wasp species known to prey on emerald ash borer larvae or eggs. The York Regional Forest is home to a release site as a part of a larger biological control program for emerald ash borer being led by Natural Resources Canada (Attachment 2). The tiny (2–4mm), stingless wasps have been approved for release in Canada and pose no threat to humans. Although not an immediate solution, biological control can be an effective part of the solution in controlling the populations of introduced invasive species and has been successful in the past (e.g. purple loosestrife, gypsy moth).

## Sustainable forestry practices help manage the impact of Emerald Ash Borer in the York Regional Forest

Sustainable forestry practices including selective harvest, planting, seeding and invasive plant control will continue to be employed to promote the resiliency and diversity of the York Regional Forest, and to ensure it can recover from the loss of ash trees. The York Regional Forest contains approximately 65,000 mature ash trees, representing approximately five per cent of all the trees in the Forest's overstory (large trees), while seedlings and young ash trees make up 20 per cent of the understory (young regenerating forest). Management operations have been planned and are being implemented for areas containing particularly high proportions of ash, with management activities such as selective harvest and under-planting to help off-set the decline of ash trees.

To minimize risk to the public due to declining ash trees approximately 13,500 hazard trees have been marked for removal near trails, parking lots, and shared boundaries of the York Regional Forest. These trees are being removed proactively in advance of the trees becoming a hazard. To-date a total of 1,345 ash trees have been removed in these areas.

## Ash wood repurposing piloted in York Region by the Town of Richmond Hill and the City of Markham

Throughout York Region, tree maintenance contractors are responsible for disposal of removed ash trees. Most, if not all ash wood from removal efforts, is re-purposed for mulch to be used to benefit newly planted street trees or for other landscape purposes. Larger (>40 cm diameter) ash trees are often used for firewood. With the large volume of ash wood being removed, the idea of reusing the material is being discussed with potential industry partners.

In 2015, the City of Markham (90 trees) and the Town of Richmond Hill (500 trees) worked on a pilot with a local contractor and portable saw mill to process merchantable ash wood from harvested trees. Neither pilot project generated positive revenue. The high cost transporting logs to processing locations makes the economic viability a challenge at this time. Wood storage and processing sites have been established through TRCA jurisdiction, City of Toronto (2015) and City of Mississauga (2016) on a trial basis.

The volume of ash wood in York Region is anticipated to increase significantly as emerald ash borer continues to impact northern areas where ash is more prevalent. Staff have been monitoring the pilot projects and will continue to collaborate with industry, conservation authorities, and local municipalities to review options and potential opportunities.

## Region keeps informed of emerging invasive species threats

Other invasive insects and plants continue to impact or pose a threat to the Region's urban landscapes and natural areas. Priority invasive species in York Region are identified where they pose a significant risk based on potential impacts to residents, Regional assets, natural heritage and public health.

Staff liaise with agencies including the Canadian Food Inspection Agency, Ontario Ministry of Natural Resources and Forestry, Ontario Invasive Plant Council, Invasive Species Centre, the Ontario Federation of Anglers and Hunters and other municipalities, to keep informed of the status of invasive species across Ontario. Staff review science and best practices to ensure the Region remains proactive in its approach to assess, prevent and mitigate the impacts of invasive species. See Attachment 3 for fact sheets on priority invasive species in York Region.

## Asian long-horned beetle Regulated Area close to York Region border is currently being monitored by the federal government

Previously, in 2003 the Asian long-horned beetle, an invasive wood-boring beetle from Asia that attacks and kills many species of hardwood trees including maple, birch, poplar and elm, was detected in York Region. A Regulated Area was established that also included parts of the Cities of Vaughan and Toronto. In spring 2013, following extensive tree removal and monitoring, the CFIA declared the Asian long-horned beetle eradicated from York Region and the Regulated Area designation was removed.

However, in late 2013 a new Asian long-horned beetle infestation was confirmed in the City of Mississauga near Pearson International Airport. A new Regulated Area encompassing parts of the Cities of Toronto and Mississauga was established to prohibit the movement of potentially infested materials. Twenty-five infested trees and an additional 7,500 potential host trees were removed and a monitoring program is currently in place. The quarantine will be lifted by 2019 if no new finds

are detected. In the United States, New York, Ohio and Massachusetts, a total of 258 square miles, are currently under quarantine for Asian long-horned beetle. Staff will continue to monitor the situation.

### York Region participates in hemlock woolly adelgid (invasive insect) working group

Hemlock woolly adelgid is tiny (0.8 mm) invasive insect that has killed billions of hemlock in the northeastern United States over the past few decades. In recent years it has been found at two sites in southern Ontario (Niagara and Etobicoke). All infested trees were destroyed and the sites are being monitored by the CFIA. It is reasonable to expect that hemlock woolly adelgid will eventually spread throughout Ontario. Hemlock is a common and ecologically important tree in southern Ontario forests. Though hemlock is not planted as a street tree, it is found in forests throughout York Region and is present in 13 per cent (290 hectares) of the York Regional Forest.

Staff participate in a working group to gather and share information on the threat of this insect to southern Ontario forests and how best to detect it, prevent its spread and manage its impacts.

### Invasive plants continue to threaten natural landscapes in York Region

Invasive plants, including giant hogweed, dog-strangling vine, European buckthorn and garlic mustard, impact natural and agricultural areas throughout York Region. Communication initiatives provide timely information to the public on existing and emerging threats through a variety of mechanisms (e.g. website, information sessions, publications, etc.).

More recently, an increase in observations of wild parsnip, Phragmites and Japanese knotweed along Regional road right-of-ways have been documented. Staff are working in partnership with Roads Maintenance staff on implementation of best practices on a priority basis to reduce the impact of these species on Regional road right of ways.

Invasive plant control in the York Regional Forest has been on-going since 2014 with success in treated areas, particularly for dog-strangling vine. In 2016, control efforts took place in a total of six York Regional Forest tracts following best management practices. Additional areas will be targeted for invasive plant control in 2017.

## Conservation Ontario petitions the Province to support collaboration amongst provincial agencies in the battle against invasive Phragmites

In a January 21, 2016 letter to Premier Wynne, copied to all Conservation Authorities in the province (letter provided to Council April 2016), Conservation Ontario stated the need for collaboration among Provincial agencies in the battle against invasive Phragmites (European common reed). The organization outlined that effective and environmentally responsible control efforts have been hampered by the lack of appropriate herbicides to deal with infestations in wet areas, and that there is no coordinated plan to stop the plant's continued spread. Conservation Ontario is the non-governmental organization that represents the 36 Conservation Authorities in the province.

The Minister of Natural Resources and Forestry responded on behalf of the Premier and expressed a shared concern regarding the threat Phragmites poses to natural resources, biodiversity and the economy of Ontario (Attachment 4). The letter outlined a pilot project underway to enable aerial application of a herbicide in shoreline and wetland areas, and confirmed that the government will continue to provide funding support for community group and municipal projects through existing programs including the Ministry's Land Stewardship Habitat Restoration Program and the Ministry of the Environment and Climate Change's Great Lakes Guardian Community Fund. The Ministry also entered into an agreement with the Ontario Invasive Plant Council to help support the development of best management practices for control along roadways and to conduct education and outreach across Ontario.

## Advancing biological control of dog-strangling vine in the York Regional Forest and beyond

A biological control insect that feeds on dog-strangling vine has been approved for release by the CFIA. The Hypena moth caterpillar carries out its lifecycle by feeding only on dog-strangling vine, greatly reducing its growth and ability to produce seed. In 2015 and 2016 Hypena caterpillars were released at sites in the York Regional Forest as part of a research project partnership with the University of Toronto, Agriculture and Agri-Food Canada, and a private company. These sites will be monitored to assess their effectiveness.

### Extensive public outreach educates residents, providing tools and options to help manage the Emerald Ash Borer and other invasive species

Emerald ash borer information is available at www.york.ca/eab. Invasive species awareness and education are also integrated into Environmental Services public outreach programs. The Region hosted 37 public education and outreach events over the past four years, engaging over 1,500 residents. Events have included invasive plant and emerald ash borer management workshops for woodlot owners and information sessions for urban residents.

Landowners in East Gwillimbury and the Town of Georgina have a particularly high proportion of ash trees, in some cases greater than 70 per cent ash. In 2016, the Region enhanced a partnership with Forests Ontario to assist woodlot owners impacted by emerald ash borer. Through this program, Forests Ontario will be a key point of contact for woodlot owners seeking information and advice.

Through a partnership with LEAF, the Region provides a subsidized tree-planting program for residents to offset the loss of ash trees by replanting with different tree species. The partnership also supports a workshop component where LEAF staff raise awareness with school and community groups on the impacts of invasive insects, and what they can do to help stop the spread of these pests. In 2016, LEAF hosted 15 in-class invasive insect workshops and planted 404 trees and shrubs in York Region through the backyard tree planting program. In 2017 the Region will explore additional planting opportunities to help offset tree canopy loss.

## 5. Financial Considerations

### Budget supports overall program and priority removal and replacement of ash street trees

The impact of emerald ash borer will continue to have significant financial implications for the Region and its residents. Currently, the majority of costs are related to protecting public safety by removing and replacing ash trees along Regional roads. The overall 10 year budget forecast (2012–2021, $10 million) for emerald ash borer management remains unchanged. The accelerated pace of ash tree mortality was reported in the November 2013 Emerald Ash Borer Update to Council and based on this report the budget outlook for 2014 and beyond was adjusted. Removing and replacing ash trees on Regional roads is on track and on budget. From 2012 to the end of 2016, approximately $5.34 million will have been spent as the Region manages through the peak of the infestation.

### Invasive species budget forecast for 2017 remains unchanged

For 2017, $1.22 million in operating and capital funding is proposed to advance invasive species management activities including ash street tree removal and replacement, the increased hazard tree removals in the York Regional Forest, and public outreach and education activities. The 2017 funding requirement is on track with the forecast. Any additional budget pressures associated with emerging invasive species impacts will be brought forward for Council's consideration as a part of future budget processes.

## 6. Local Municipal Impact

All nine local municipalities have Emerald Ash Borer Management Plans in place which align well with Regional interests, or are working on implementation strategies. The Region focusses on managing impacts to Regional assets (e.g. street trees along Regional roads, York Regional Forest properties) and local municipalities focus on their street trees on local roads, parklands, etc. Jurisdictions work collaboratively on communications and outreach initiatives. Most local municipal plans include removing and replacing trees, with some protection of select trees with insecticide.

The Emerald Ash Borer Technical Working Group provides a forum for sharing knowledge about emerald ash borer as well as other invasive species. York Region staff will continue to collaborate with local municipalities in monitoring, prevention, education and outreach activities related to invasive species and share the latest knowledge and best management practices.

## 7. Conclusion

Emerald ash borer is present throughout York Region and is killing millions of ash trees in urban and natural landscapes. Efforts to manage and mitigate the emerald ash borer's impacts will continue by implementing the Emerald Ash Borer Management Plan, including removing and replacing street trees and mitigating the impact on the York Regional Forest, as well as public education and outreach.

Other invasive insects and plants such as Asian long-horned beetle, hemlock woolly adelgid, dog-strangling vine, and Japanese knotweed continue to emerge as real or potential threats to the Region's urban and natural areas, or as with giant hogweed and wild parsnip, can pose threats to health of residents.

Staff remain vigilant and continue to work with local municipalities, other levels of government and non-profit organizations to review emerging threats and work proactively to prevent and respond to the impacts of invasive species.

For more information on this report, please contact Ian Buchanan, Manager, Natural Heritage and Forestry at ext. 75204 or Laura McDowell, Director, Environmental Promotion and Protection at ext. 75077.

The Senior Management Group has reviewed this report.

September 22, 2016

Attachments (4)

#7035830

Accessible formats or communication supports are available upon request

# Emerald Ash Borer

## impact across York Region

**Relative impact of the emerald ash borer based on the number of ash trees removed by the local municipalities and the Region to-date.**

Lake Simcoe

Town of Georgina

Town of East Gwillimbury

Town of Newmarket

Township of King

Town of Aurora

Town of Whitchurch-Stouffville

Town of Richmond Hill

City of Vaughan

City of Markham

Greater than 10,000 trees removed

Greater than 1,000 trees removed

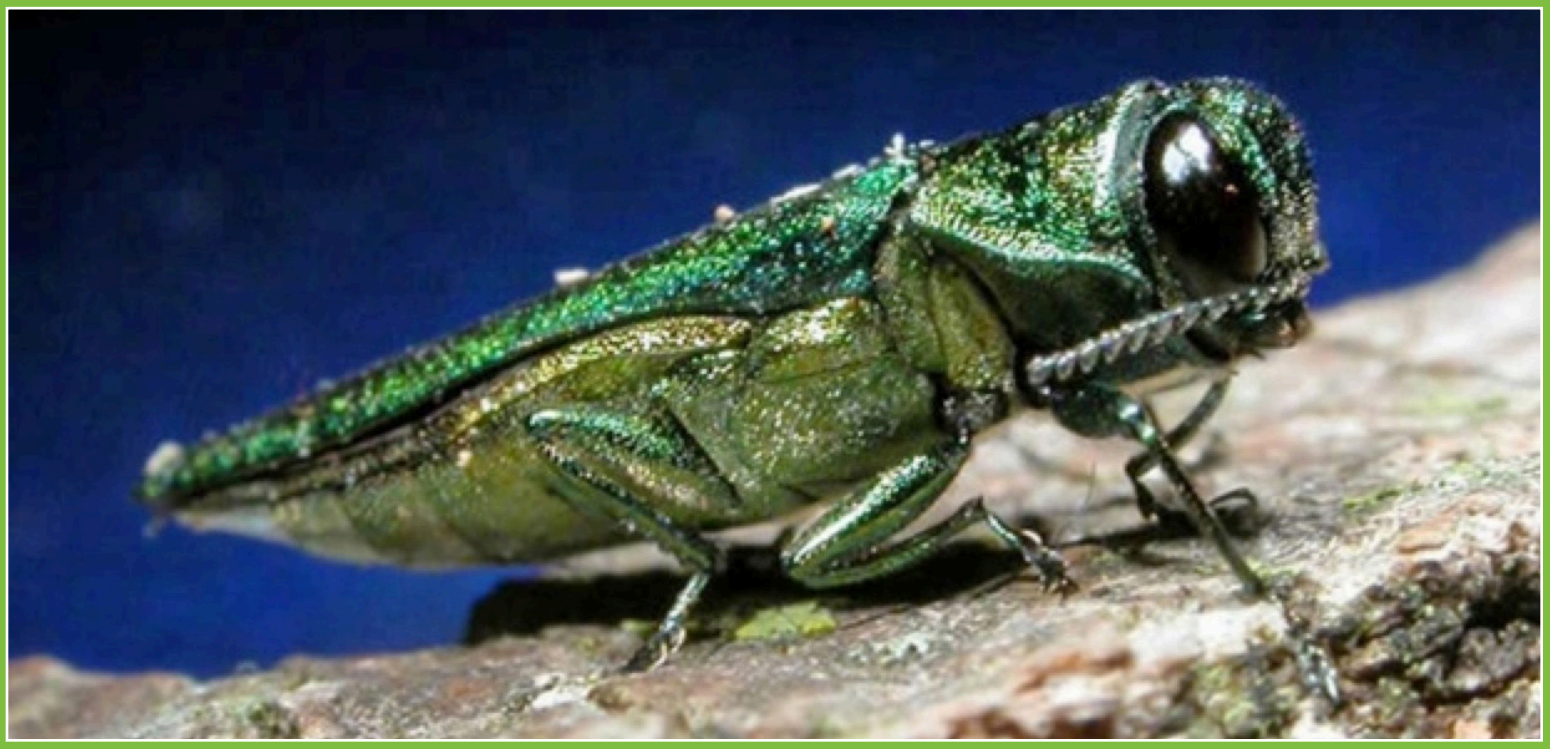
Less than 500 trees removed

Represents the number of ash trees removed along roads and in parklands by local municipalities and the Region.

# 1,600 Parasitic wasps released in ontario, quebec to fight off emerald ash borers

## Wasp larva kill emerald ash borers, which have destroyed 260,000 hectares of forests in ontario

**BY JUSTIN LI, CBC NEWS POSTED: AUG 17, 2016 3:52 PM ET**
**LAST UPDATED: AUG 17, 2016 5:03 PM ET**



Emerald ash borers, native to China, were accidentally introduced to North America two decades ago, likely through unsecured shipping crates involved with international trading. (Minnesota Department of Natural Resources via AP)

The Canadian Forest Service announced Wednesday it is releasing parasitic wasps in Ontario and Quebec this week in an effort to control the population of emerald ash borers.

Krista Ryall, a research scientist for the Canadian Forest Service, told CBC News that 1,600 of the non-stinging wasps native to China are meant to combat the emerald ash borers that have killed ash trees in more than 260,000 hectares of Ontario forests.

http://www.cbc.ca/news/technology/emerald-ash-borers-beetle-wasp-tree-ontario-quebec-1.3725061

Emerald ash borers, also a native to China, were accidentally introduced to North America two decades ago, likely through unsecured shipping crates involved with international trading, says Ryall.

The CFS says emerald ash borers kill up to 99 per cent of ash trees in infested areas, because they have no natural predators here.

“When the species was introduced to a new environment, it found no natural enemies,” says Ryall.

Not anymore, it seems.

Emerald ash borer larva are removed from an ash tree at in Saugerties, N.Y. (Mike Groll/Associated Press)

## ‘It’s a fairly long-term project’

Although 1,600 wasps have been released this time around, Ryall says CFS will release wasps nine times over the summer and have already released tens of thousands since 2013, when efforts to curb the population of emerald ash borers first started.

The wasps were supplied by the U.S. Department of Agriculture, after an environmental assessment was conducted to ensure the wasps will adapt to the climate and not impose undue environmental risks.
Oobius agrili non-stinging parasitic wasp fights emerald ash borer eggs

One species of the wasp, the *Oobius agrili*, will lay their eggs inside the eggs of the emerald ash borer and consume the larva from the inside, eventually emerging from the egg as an adult wasp.

Another, the *Tetrastichus planipennisi*, inserts its larva into the larva of the beetle, which, when they hatch, consume the ash borer larva. They are released across 12 locations in southern Ontario — including Ottawa, London and Newmarket — and three locations in Quebec, one in Gatineau and two in Montreal.

Ryall says progress has been made, but adds the process to control emerald ash borers will take time.

“It’s a fairly long-term project,” she says. “Could be decades.”

One species of the parasitic wasps released, the Oobius agrili, will lay eggs inside the eggs of the emerald ash borer. (Houping Liu/ Michigan State University)

http://www.cbc.ca/news/technology/emerald-ash-borers-beetle-wasp-tree-ontario-quebec-1.3725061

# PRIORITY INVASIVE SPECIES
in York Region

**Attachment 3**

Asian long-horned beetle life stages egg - adult beetle.
*Photo Credit: K.R. Law, USDA APHIS PPQ, Bugwood.org*

Round exit holes (six-14mm) made by adult beetles emerging from the trees.
*Photo Credit: K. Bolte*

## ASIAN LONG-HORNED BEETLE *(Anoplophora glabripennis)*

**ORIGIN:** Native to Asia and can be introduced into Canada with infested wood packaging material (e.g. wooden pallets, crates, boxes, etc.).

**IMPACTS:** Adults lay their eggs in hardwood trees, and larvae then tunnel through the living tissue of the tree stopping the flow of water and nutrients, killing it.

Host tree species preferred by Asian long-horned beetle include birch, maple, elm, poplar, willow, mountain ash and poplar.

**WHERE:** Regulated area in Toronto and Mississauga
map: *inspection.gc.ca*

*M. Prue, Ohio Department of Natural Resource*

## EMERALD ASH BORER *(Agrilus planipennis)*

**ORIGIN:** Native to Asia, proven to be highly destructive in its introduced range.

**IMPACTS:** Adults lay their eggs in ash trees, and larvae then tunnel through the living tissue of the tree stopping the flow of water and nutrients, ultimately killing it, usually within three years.

Host tree species preferred by emerald ash borer are green, black, white, blue and European ash (Fraxinus spp.)

**WHERE:** Spreading north throughout Ontario (regulated area includes Sudbury, ON)

# PRIORITY INVASIVE SPECIES
in York Region

Adelgid nymph feeding on hemlock leaves (black spots)

Adelgid nymphs with white woolly covering feeding on underside of hemlock needles
*Photo Credit: Connecticut Agricultural Experiment Station, Bugwood. org*

## HEMLOCK WOOLLY ADELGID *(Adelges tsugae)*

**ORIGIN:** Native to Asia

**IMPACTS:** The hemlock woolly adelgid nymph feeds on the tree's stored starches, depleting its energy stores and thus damaging to the tree.

The insect is inactive through much of the summer, resuming feeding and development in the fall. During this time, the nymph produces its distinctive woolly white covering. Hemlock woolly adelgid are small in size and only their woolly coverings are easily visible to the naked eye.

**WHERE:** Found in isolated locations in Ontario in 2012 and 2013, but these infested trees were removed and the adelgid is not yet known to be established in eastern Canada.

Dense patch of dog-strangling vine
*Photo Credit: A. Hicks, Ontario Federation of Anglers and Hunters*

Seed Pods
*Photo Credit: G. Bales, MNRF*

## DOG STRANGLING VINE *(Vincetoxicum rossicum)*

**ORIGIN:** Native to Eurasia, introduced to the northeastern United States in the mid 1800s for use in gardens.

**IMPACTS:** Forms dense stands that overwhelm and crowd out native plants and young trees, preventing forest regeneration. This is a serious concern for the conifer plantations in the York Regional Forest.

Leaves and roots may be toxic to livestock. Deer and other browsing animals also avoid dog strangling vine, which can increase grazing pressure on more palatable native plants.

This vine also poses a threat to monarch butterfly populations; butterflies lay their eggs on the plant but, the larvae are unable to successfully complete their life cycle.

**WHERE:** Currently it is finding its way into our backyards and natural areas across York Region at an alarming rate, as it produces seeds that are easily carried by the wind over great distances.

# PRIORITY INVASIVE SPECIES
in York Region

*Photo Credit: D. Cappaert, Michigan State University, Bugwood.org*

## GARLIC MUSTARD *(Alliaria petiolata)*

**ORIGIN:** Herb native to Europe

**IMPACTS:** Can invade relatively undisturbed forests. Once established it can displace native wildflowers like trilliums and trout lily (Erythronium americanum). It hinders other plants by interfering with the growth of fungi that bring nutrients to the roots of the plants.

Threatens several of Ontario's species at risk, including American ginseng (Panax quinquefolius).

**WHERE:** Established in southern and eastern Ontario (throughout York Region) as far north as Sault Ste. Marie, in parts of Quebec, and south to North Carolina and Kentucky in the United States.

*Photo Credit: J. Ferreira, City of Brampton*

## GIANT HOGWEED *(Heracleum mantegazzianum)*

**ORIGIN:** Southwest Asia (Caucasus Mountains)

**IMPACTS:** Poses a significant threat to human health. Giant hogweed sap can cause a condition called phytophotodermatitis, which makes skin extremely sensitive to sunlight, and can result in severe burns and blisters. It also outcompetes native plants, reduces biodiversity and degrades the quality of riparian habitats (the zone of land along or around a body of water). Giant hogweed can negatively impact agriculture and is listed as a noxious weed under the Weed Control Act.

**WHERE:** Sparsely scattered throughout York Region (and all of Southern Ontario). Confirmed reports as far north as Sudbury and Elliot Lake.

*Photo Credit: R. Westbrooks, Invasive Species Prevention Specialist, Bugwood.org*

## JAPANESE KNOTWEED *(Fallopia japonica)*

**ORIGIN:** Plant is native to eastern Asia and was first introduced into North America in the late 1800s.

**IMPACTS:** Commonly invades disturbed areas with high light, such as roadsides and stream banks. Reproduction occurs both vegetatively (rhizomes) and seeds, making this plant extremely hard to eradicate. The dense patches shade and displace other plant life and reduce wildlife habitat.

**WHERE:** Increased sightings throughout York Region, road sides and fields.

# PRIORITY INVASIVE SPECIES
in York Region

*Photo Credit: Miriam King, Bradford Times/ Sun Media*

## EUROPEAN COMMON REED *(Phragmites australis)*

**ORIGIN:** Native to Eurasia but introduced to the eastern seaboard in the early 19th century.

**IMPACTS:** An aggressive perennial grass that has been damaging ecosystems in Ontario for decades. The plant grows very quickly to heights of almost 5 metres (15ft) tall which crowds out native vegetation resulting in decreased plant biodiversity in turn impacting native wildlife populations. Dense stands of the plant can even lower water levels in ponds and wetlands. Along roads, the plant can pose as a safety hazard by covering road signs and blocking sight lines.

**WHERE:** Increased sightings throughout York Region most prominently along road sides and in ditches.

*Photo Credit: J. Mehrhoff, University of Connecticut, Bugwood.org*

## WILD PARSNIP *(Pastinaca sativa)*

**ORIGIN:** Native to Eurasia. Likely brought to North America by European settlers, who grew it for its edible root.

**IMPACTS:** Can form dense stands and spreads quickly in disturbed areas such as abandoned yards, waste dumps, meadows, open fields, roadsides and railway embankments. Its seeds are easily dispersed by wind and water and by mowing or other equipment.

Like giant hogweed and other members of the carrot family, it produces sap containing chemicals that can cause human skin to react to sunlight, resulting in intense burns, rashes or blisters.

**WHERE:** Spreading rapidly in southern Ontario, with an increase in sightings along roadsides in York Region

**Attachment 4**

**Ministry of Natural Resources and Forestry**

Office of the Minister

Room 6630, Whitney Block
99 Wellesley Street West
Toronto ON M7A 1W3
Tel: 416-314-2301
Fax: 416-314-2216

**Ministère des Richesses naturelles et des Forêts**

Bureau du ministre

Édifice Whitney, bureau 6630
99, rue Wellesley Ouest
Toronto (Ontario) M7A 1W3
Tél.: 416-314-2301
Téléc.: 416-314-2216



Ontario

FEB 2 5 2016

MNR5805MC-2016-93

Mr. Dick Hibma
Chair
Conservation Ontario
120 Bayview Parkway
Newmarket ON L3Y 3W3

Dear Mr. Hibma:

Premier Kathleen Wynne has shared with me your letter regarding phragmites. I commend the work of Conservation Ontario, and its member Conservation Authorities in the control and management of invasive phragmites across the province. As my ministry is the provincial government lead for invasive species, I would like to take this opportunity to provide you with information.

The Ontario government shares your concerns regarding the threat that phragmites poses to our natural resources, biodiversity and economy of Ontario. In November 2015, our government passed the *Invasive Species Act* and in doing so has taken strong action to combat the ecological and economic threats that invasive species pose to our natural environment.

My ministry is aware that the lack of registered herbicides for the control of phragmites in aquatic environments is a significant impediment to its management. The registration of new pesticide products in Canada is a federal matter and is based on an application by the pesticide manufacturer to Health Canada's Pest Management Regulatory Agency (PMRA).

The Ministry of Natural Resources and Forestry (MNRF) is working with the Ministry of the Environment and Climate Change (MOECC), along with a herbicide manufacturer, and several conservation organizations to explore options for the control of phragmites. In January 2016, MNRF submitted an emergency use registration application to PMRA to enable the aerial application of a herbicide in shoreline and wetland areas in a pilot project at Long Point and Rondeau Bay. If the application is approved, MNRF will develop an implementation plan in consultation with the local community, the MOECC and conservation groups. The pilot project will include an environmental survey to monitor the project, and to help inform future considerations by the regulatory agencies, if an application for a full registration by a herbicide manufacturer is made.

Our government is also taking a number of additional actions through the Ontario's Invasive Species Strategic Plan. Programs like the MNRF's Land Stewardship and Habitat Restoration Program and the MOECC's Great Lakes Guardian Community Fund, our government is assisting municipalities and community groups by funding control of invasive plants such as phragmites.

.../2

My ministry also entered into an agreement with the Ontario Invasive Plant Council to help support the development of best management practices for control of phragmites on roadways and to disseminate provincial outreach on prevention and management to ensure consistent and effective control of this invasive plant across Ontario. This collaborative work is being shared with Ontario's inter-ministerial invasive species working group, which includes the MOECC and the Ministry of Transportation, as well as the Ministry of Agriculture, Food and Rural Affairs for their consideration.

If you require additional information, please contact Ala Boyd, Manager, Natural Heritage Section, at (705) 755-5088 or ala.boyd@ontario.ca.

Thank you for writing.

Sincerely,

Bill Mauro
Minister of Natural Resources and Forestry

c: Premier Kathleen Wynne
The Honourable Glen Murray, Minister of the Environment and Climate Change
The Honourable Steven Del Duca, Minister of Transportation
The Honourable Jeff Leal, Minister of Agriculture, Food and Rural Affairs
Ala Boyd, Manager, Natural Heritage Section, MNRF