



Asian long-horned beetle life stages egg - adult beetle.

Photo Credit: K.R. Law, USDA APHIS PPQ, Bugwood.org

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

**ORIGIN:** Native to Asia, 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 and mountain ash.

**WHERE:** Regulated area in Toronto and Mississauga.

Map: [inspection.gc.ca](http://inspection.gc.ca)

**UPDATE:** Monitoring for 2019 underway, if no new finds, CFIA will declare successfully eradicated.



Emerald ash borer - adult beetle.

Photo Credit: CFIA

### EMERALD ASH BORER (*Agilus 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 and into Quebec and New Brunswick. Satellite populations have been reported in Thunder Bay, ON, Winnipeg, MB and Halifax County, N.S.

**UPDATE:** Confirmed infestation on Georgina Island April 2019.



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 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:** Previously found in isolated locations in Ontario (Etobicoke, 2012 and Niagara Gorge, 2013) where infested trees were removed and destroyed. In 2017, a well-established population was discovered in southwestern Nova Scotia.

**UPDATE:** Two new reports confirmed in Ontario: Niagara Gorge and Wainfleet Township June 2019.

# PRIORITY INVASIVE SPECIES

in York Region



Gypsy moths in the City of Vaughan  
Photo Credit: R. Clark, York Region

## GYPSEY MOTH (*Lymantria dispar dispar*)

**ORIGIN:** Native to Europe and Asia, gypsy moth was first introduced to North America in the late 1860's in Boston and it has been spreading ever since. Gypsy moth was first discovered in Ontario in 1969 however widespread defoliation did not occur until 1981.

**IMPACTS:** This European defoliator feeds on a wide variety of tree species but appears to prefer oak (*Quercus*). The moth's larvae form (caterpillar) feeds aggressively on the tree's leaves, reducing growth and, in severe cases, killing the tree. Gypsy moth outbreaks occur every 7 to 10 years with peak feeding observed in July.

**WHERE:** The distribution of gypsy moth coincides with the range of the insect's preferred host species of oak however, no known populations of the insect have been found in the northern-most part of the oak species' range (e.g. New Liskeard and west of Thunder Bay). The gypsy moth is considered to be present throughout much of southern Ontario.

**UPDATE:** City of Toronto carried out aerial and ground treatments on public and private property from May 26-June 7, 2019. In York Region, staff continue to monitor gypsy moth populations and treatments are not warranted at this time.



Adult Spotted Lanternfly  
Photo Credit: Lawrence Barringer,  
Pennsylvania Department of Agriculture,  
Bugwood.org

## SPOTTED LANTERNFLY (*Lycorma delicatula*)

**ORIGIN:** Native to southern Asia and is often identified by its distinguished colouring.

**IMPACTS:** A significant potential threat to fruit and timber industries through aggressive sap-sucking by both nymph and adult growth stages. If this pest were to be established in Ontario it would have significant impacts on wine, grape, tender fruit, apple and timber (e.g. pine, oak, walnut) industries which have a total estimate economic total of over \$5 billion.

**WHERE:** The first confirmed North American sighting was in 2014 in Pennsylvania, USA. Currently only confirmed in the USA, it has been placed on Canada's regulated pest list to limit the threat of outbreak.

**UPDATE:** A total of \$17.5 million emergency funding was announced by the Pennsylvania Department of Agriculture in early 2018 to stop the spread in southeastern Pennsylvania.

# PRIORITY INVASIVE SPECIES

in York Region



Dense patch of dog-strangling vine in the York Regional Forest

Photo Credit: D. Laxton, York Region

## 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 spreading into 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.



European common reed along road side in York Region

Photo Credit: C. Ogden, York Region

## EUROPEAN COMMON REED (*Phragmites australis*)

**ORIGIN:** Native to Eurasia and introduced to the eastern seaboard of North America 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) 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.

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

**UPDATE:** As of July 2019, staff completed an inventory of populations along Regional roads and will be consulting with the local municipalities to identify priority areas for piloting removal using best management practices.



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 (*Trillium spp.*) 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.

# PRIORITY INVASIVE SPECIES

in York Region



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: K. Reese, York Region

## 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.

**UPDATE:** York Region staff are working with local municipalities to monitor the distribution of this plant in York Region. Mapped locations are being compiled.



Wild parsnip along road side in York Region

Photo Credit: C. Ogden, York Region

## 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.

# PRIORITY INVASIVE SPECIES

in York Region



Photo Credit: Ontario Federation of Anglers and Hunters

## WATER SOLDIER (*Stratiotes aloides*)

**ORIGIN:** Plant is native to Europe and Northeast Asia. Likely introduced as an ornamental water plant sold for water gardens. It is submerged most of the year and rises to the surface in summer months.

**IMPACTS:** Water soldier decreases plant diversity by forming a dense vegetative mat and crowding out other aquatic plant species. Its presence can change water chemistry and influence populations of important aquatic organisms. The plant has sharp, serrated leaves which can be harmful to those who handle it. Dense patches can also obstruct recreational activities such as swimming and fishing.

**WHERE:** The only known populations in North America occur in the Trent River (east of Peterborough, ON) and the Black River (Sutton, ON). No new sightings of plants have been observed in the Black River since 2016, while the population in the Trent Severn continues to spread. Provincial and local partners are currently monitoring known populations and attempting to control the spread of this plant.

**UPDATE:** A new population of water soldier was reported in a large pond on private property within the floodplain of the Black River in the Town of Georgina. The Ministry of Natural Resources and Forestry, and the Ontario Federation of Angler and Hunters are working with the landowner to remove the plants to prevent introduction to the Black River and Lake Simcoe.



Photo Credit: Ohio State University, USDA Forest Service, Bugwood.org  
Water Soldier

## BEECH LEAF DISEASE

**ORIGIN:** The first detection of beech leaf disease was in Ohio, USA in 2012 and has spread rapidly since. The cause and method of spread is unknown.

**IMPACTS:** American beech trees are already at risk from beech scale and beech bark disease. Beech leaf disease shows characteristics of an invasive pathogen and is thought to affect the ability of the tree to photosynthesize. It first appears as dark bands on the leaf, later causing leaves to shrivel and dry.

In areas where the disease is established; close to 100% of American beech trees are affected. It also makes trees more susceptible to other pathogens and pests. After several years with the disease, the tree will die.

**WHERE:** First discovered in Elgin County in 2017 but has not been detected in York Region.

# PRIORITY INVASIVE SPECIES

in York Region



Photo Credit: D.W. French, University of Minnesota, Bugwood.org

## OAK WILT (*Fungus: Bretziella fagacearum*)

**ORIGIN:** First reported in Wisconsin in 1942 however, its origin is technically unknown.

**IMPACTS:** All oak species are at risk. The red oak is the most susceptible with mortality occurring the most rapidly (as soon as 30 days). White and bur oak appear to be slightly more resistant. Oak trees are a highly valuable resource and play a significant ecological role which includes providing food for many forms of wildlife.

**WHERE:** Oak wilt has spread throughout the Eastern United States. In 2016, Oak wilt was confirmed on Bell Isle in the Detroit River less than 1 kilometer from the shores of Windsor. Oak wilt is not currently known to be present in Ontario.

**UPDATE:** St. Clair Region Conservation Authority and Ministry of Natural Resources and Forestry have partnered to trap nitidulid beetles (who spread the fungus) to monitor for oak wilt in St. Clair Township.



Quagga mussels (left) Zebra mussels (right).

Photo Credit: Centre for Invasive Species Research, University of California, Riverside

## ZEBRA MUSSELS (*Dreissena polymorpha*) & QUAGGA MUSSELS (*Dreissena rostriformis bugensis*)

**ORIGIN:** Both mussel species originated from Europe and were introduced to North America in the 1980's by boats travelling between the continents.

**IMPACTS:** Firmly cling to materials and other organisms causing clogs in pipes, motors and other water-related equipment or infrastructure. They live in abundant clusters, taking away food sources for phytoplankton-dependent species and limiting biodiversity of native mussels, clams, turtles and crustaceans.

**WHERE:** Both mussel species are found throughout the Great Lakes Basin, including Lake Simcoe.