



HEALTHY TREES · HEALTHY NEW YORK CITY



Protecting nature. Preserving life.®

[nature.org/nyc](http://nature.org/nyc)

## About the Initiative

The **Healthy Trees, Healthy New York City** initiative is a program to improve the health of New York City's trees by engaging people in early pest detection, tree health monitoring, tree-planting and stewardship.

## Spotting & Reporting Pests

When you identify tree damage or a worrisome pest:

- Take pictures and write down the location and pest/damage information
- Report online: <http://www.nyimainvasives.org/>
- Contact New York State Department of Environmental Conservation's Firewood and Invasive Insect Hotline: Call **(866)640-0652**.
- Download the **Mid-Atlantic Early Detection Network** app for iPhone or Android to report your findings.



Scan this QR code with your smartphone to download the app!

## ASIAN LONGHORNED BEETLE (ALB)



### How to Identify

- Large shiny black body, 1 to 1 ½ inch long with white spots
- White and black banded antennae, up to 2 ½ times the length of body
- Six legs
- Can have blue-ish feet
- Beetles most often seen in late summer (July and August)
- Larvae are white, about 2 inches long, and found deep in the tree's wood

### How to Spot Symptoms

- Exit holes are perfectly round and dime-sized
- Eggs are deposited in small oval depressions or oviposition sites chewed in trunks
- As the beetle tunnels into the tree, it often pushes out sawdust-like material or frass which can accumulate at the oviposition sites, base of tree or branch crotches
- Damage can be easiest to spot in well-lit conditions
- Trees usually die back first along the center & top branches



### Threatened Trees

- Ash
- Birch
- Box Elder
- Buckeye
- Elm
- European Mountain Ash
- Goldenrain tree
- Hackberry
- Horse Chestnut
- Katsura
- London Planetree/Sycamore
- Maples (most common)
- Mimosa
- Poplar
- Willows



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## EMERALD ASH BORER (EAB)



### How to Identify

- Small ½ inch long beetle
- Bright metallic green color
- Coppery-red underside
- Larvae are flat, white, and approximately 1 in. long
- Adults usually emerge during late spring and summer

### How to Spot Symptoms

- D-shaped exit holes
- Splits or cracks in bark and larval tunnels under bark (caused by larvae feeding on inner bark)
- Thinning and dead patches in upper third of tree
- Leafy, misplaced sprouts at base of the tree or roots
- Abundant woodpecker activity
- Wilting and yellowing leaves

### Threatened Trees

- North American Ash (all)\*
- \* Mountain ash is not a true ash and cannot be infested with EAB

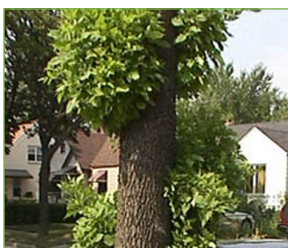


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## HEMLOCK WOOLLY ADELGID (HWA)



### How to Identify

- Eggs are cottony mass
- Adults sometime produce white wool-like covering
- After hatching, nymphs feed on twigs near base of needles

### How to Spot Symptoms

- White woolly mass at base of tree's needles (or underside of needles)
- "Wool" is easier to spot in low light, shady or overcast days
- Look for "wool" or nymphs on trees with graying and dying branches
- Reddish-brown nymphs can be found on twigs at the base of needles during hot months

### Threatened Trees

- Eastern and Carolina Hemlock

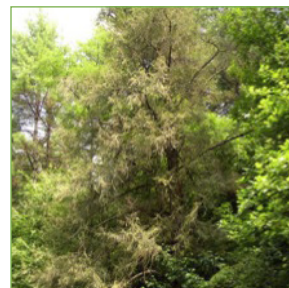


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## GYPSY MOTH (European, Asian and Rosy)



### How to Identify

- EGM: Eggs are buff-colored velvety masses and caterpillars are 1 ½ - 2 ½ in. long with dark tufts of hair on each segment and blue and red dots on backs
- Male moths have 1 ½ in. wingspan - light tan to brown wings with dark wavy bands
- Female moths have a 2 ½ in. wingspan and are off white (flightless despite their wings)
- AGM: Egg masses covered by yellow fuzz
- Adult females can fly and are creamy-white with a wingspan up to 3 ½ in.
- Adult males are grey-brown with a wingspan of 2 in.
- RGM: Male wingspan 1 ½ - 2 in. – forewings brown and hind wings yellow
- Female wingspan 3 – 3 ¾ in. – forewings are white with dark markings, hind wings pink
- Egg masses are flat with irregular edges. At a distance, eggs are visible as white, fluffy patches against dark-colored bark.

### How to Spot Symptoms

- Whole trees may be defoliated
- Eggs can be found stuck to outdoor objects such as rocks, trees, cars, etc.
- Up to 1,000 eggs can hatch in April or May
- Small holes in leaves chewed by young larvae
- Older larvae consume entire leaves except for larger veins and midribs

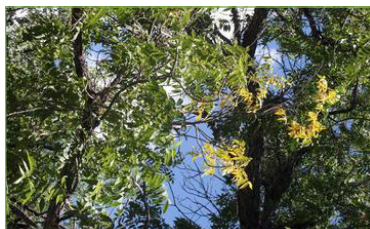
### Threatened Trees

- Oak
- Apple
- Alder
- Basswood
- Birch
- Poplar
- Sweet Gum
- Willow
- Hawthorn
- (Less favored – hickory, maple, cherry, cottonwood, elm, black gum, larch, sassafras, hornbeam, white pine)



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## THOUSAND CANKERS DISEASE



### How to Identify

- The three major symptoms of this disease are branch mortality, numerous small cankers on branches and the bole, and evidence of tiny bark beetles
- The earliest symptom is yellowing foliage that progresses rapidly to brown wilted foliage, then finally branch mortality
- Numerous tiny bark beetle entrance and exit holes are visible on dead and dying branches and bark beetle galleries are often found within cankers
- In the final stages of disease, even the main stem has beetle attacks and cankers

### How to Spot Symptoms

- Yellow leaves high on the tree become brown and wilted, and eventually whole branch dies.
- Look for dead or sickly branches
- New leafy branches may sprout on the base of the trunk
- Numerous tiny bark beetle holes on dead and dying branches
- Black walnut trees die in approximately 3 years

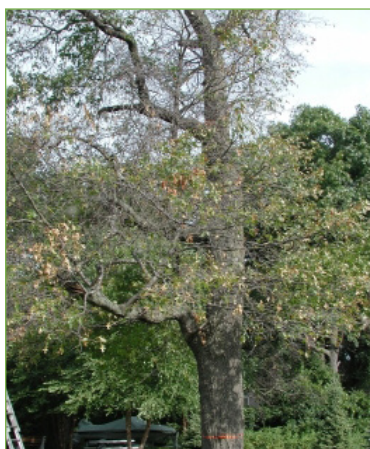
### Threatened Trees

- Black Walnut
- Walnut Hybrids
- Butternut



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## OAK WILT



### How to Identify

- Fungus that causes this disease can overwinter under bark of living trees and fungus mats under bark on dead trees
- As fungus mats enlarge, bark splits and releases odor, smelling like apple cider
- Odor attracts insects, usually sap beetles, to feed on fungal mats

### How to Spot Symptoms

- Red oak symptoms occur as early as May with leaves turning dull green or bronze before wilting and becoming yellow or brown
- Symptoms affect leaf tip and margins first as they move inwards toward the midrib and leaf base
- Wilted leaves will curl around the leaf midrib
- Leaf symptoms intensify within weeks and leaves at end of branches often show heavy defoliation

### Threatened Trees

- Red Oaks
- White Oak
- Shingle Oak
- Post Oak



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