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## About the Initiative

The **Healthy Trees, Healthy Philadelphia** initiative is a program to improve the health of Philadelphia'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.eddmaps.org/midatlantic/report/>
- Contact PA Department of Agriculture at **(866) 253-7189** or DCNR Bureau of Forestry, Forest Pest Management Division at **(717) 783-2066**
- Email your findings to [Badbug@pa.gov](mailto:Badbug@pa.gov)
- 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 1-1 ½ inch long body
- Shiny black with approximately 20 white spots
- Very long white and black striped antennae
- 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

### Threatened Trees (ordered by threat level)

- Maples (most common)
- Horse Chestnut
- Box Elder
- Buckeye
- Willows (most common)
- Elm
- Aspen
- Ash
- Birch
- Katsura
- London Planetree
- European Mountain Ash
- Poplar (Cottonwood)
- Mimosa



### How to Spot Symptoms

- Dime-sized exit holes chewed into trees
- Eggs are found in small oval depressions chewed in trunks
- Exit holes are easier to find than egg-laying sites
- Damage is easiest to spot in the sun
- Trees usually die back first along the center & top branches
- The rest of the canopy dies as the infestation moves into the outer branches
- Can cause patches of trunk to appear black and covered in sap
- Sawdust may accumulate at the holes, the base of tree or in the branch crotches



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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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## BACTERIAL LEAF SCORCH (BLS)



### How to Identify

- Premature leaf browning, bordered by a pale halo band separating the dead tissue from green tissue
- Leaf discoloration begins at the leaf margin and moves toward the midrib

### How to Spot Symptoms

- Symptoms appear late summer to early fall
- BLS eventually leads to dieback and irreversible decline in shade trees
- Development of scorch symptoms differs depending on host trees affected
- Symptoms reoccur every year, spreading throughout the tree crown, eventually killing host plant

### Threatened Trees (ordered by threat level)

- American Sycamore
- London Planetree
- Northern Red Oak
- Pin Oak
- Scarlet Oak
- Shingle Oak
- Southern Red Oak
- American Elm
- Cedar Elm
- (Less susceptible – Red Maple, Box Elder, Sugar Maple, Flowering Dogwood, Sweetgum, Bur Oak, Live Oak, Water Oak, Willow Oak)



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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, progresses to brown and wilted, and then the 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 (ordered by threat level)

- Black Walnut
- Walnut Hybrids
- Butternut



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## SUDDEN OAK DEATH



### How to Identify

- The most useful diagnostic symptom is the development of cankers on the trunk
- Cankers have red-brown to black discoloration and seep dark black to red or amber sap and usually develop 3 – 6 feet off of the ground
- In later stages, the bark can fracture and seepage occurs both through broken and intact bark
- Complete browning of the crown usually takes place after an extended period of disease and perhaps more than two years from the onset of infection

### How to Spot Symptoms

- Infested oaks develop cankers on trunk with red-brown to black discoloration or oozing, usually 3-6 feet off of the ground
- Rapid browning of leaves
- Shrubs and non-oak trees are affected differently
  - Leaf browning
  - Twig and stem dieback

### Threatened Trees (ordered by threat level)

- White Oak
- Northern Red Oak

- Chestnut Oak
- Sassafras
- Redbud
- Dogwood
- Red Maple

### Threatened Shrubs

- Viburnum
- Common Lilac
- Camelia



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## OAK WILT



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### 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

