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# HAZARD TREES FACT SHEET

Department of Inspections & Permits

May, 2022

## Introduction

Hazard trees can be found everywhere in Anne Arundel County and can lead to severe damage to property and threaten lives. Regular monitoring can identify these trees in many cases by knowing the warning signs and safely removing them before they are vulnerable to failure. Hazard trees are defined and procedures for identifying and permitting requirements are presented and discussed.

## Purpose

The purpose of this fact sheet is to educate homeowners, homeowners associations, and citizens about the dangers of Hazard Trees, things to look for, how they can monitor them, and what to do if one is on their property.

## Monitoring your property for hazardous trees

Hazard trees are by definition, a tree that can cause injury or death to people or damage to property. These can be dead trees but can also be trees that are still alive but with damage or defects that may cause the tree to fall. Trees may seem like they will always be there, but like all living things, they have a finite life span. As living things, trees are subject to diseases, physical damage and insect pests. There are abiotic factors too. Physical damage from wind, lightning, and vehicles can have a significant influence on their health. The stress from living in urban settings is also a documented factor. Environmental factors like flooding and drought also put stress on trees. These combined stressors can weaken trees and make them vulnerable to disease and insect pests. As a result, trees can suffer declining health and become subject to diseases that affect their physical well-being, leading to hazardous conditions. Recognizing the conditions as they develop is the best way to prevent tragedy from happening.

## Things to look for:

- ✓ Broken stems or branches.
- ✓ cracks in the trunk, branches.
- ✓ signs the root system is lifting on the opposite side of a leaning tree, indicating a compromised root system.
- ✓ Mushrooms or fungal conks growing from the base of the tree or the stem. (Figure 1) These are particularly important to look for. This usually indicates that the decay involved is advanced and the stability of the tree is potentially compromised.

## What to do if a Hazard tree is present

If any of these are observed on trees on private property, or on community property, the first step is to have an Arborist or Tree Expert examine the tree. Arborists must be licensed in Maryland if they are offering commercial services. Consult with several if possible. If the examination indicates a tree with hazardous potential and is within the 100' Critical Area buffer\expanded buffer, or on a conservation easement, a Vegetation Management Plan (VMP) application (link below) should be submitted to the county to get permission to resolve the issue.

[Veg Management Plan.pdf](#)     [https://dnrweb.dnr.state.md.us/forests/tree\\_expert\\_search.asp](https://dnrweb.dnr.state.md.us/forests/tree_expert_search.asp)

## Monitoring

Make it a point to do a survey of your trees, or have an Arborist do it for you, on at least a yearly basis. Summer and fall are generally the best times to notice fruiting bodies and mushrooms, but they may emerge after a hard rain. Also remember not all mushrooms indicate a disease, some are benign and, in some cases, help the trees to grow. Regular monitoring for the problems mentioned can help detect dangerous conditions before they can happen



Figure 1. Honey mushroom, *Armillaria mellea*

Andrej Kunca, National Forest Centre - Slovakia, Bugwood.org



Figure 2. Artist's conch, *Ganoderma applanatum*.

Joseph OBrien, USDA Forest Service, Bugwood.org

### What can lead to a hazardous tree:

There are many abiotic factors that can severely injure a tree leading to a hazardous condition. Simple physical injuries can allow diseases to become established, setting the process in motion.

**Strong winds and other weather events**, like heavy snowfall, can physically damage the tree by breaking branches and causing cracks in the main stem by twisting.

**Lightning strikes.** Lightning can cause extensive damage to trees with the exposed wood providing an entry way for disease organisms to infect the tree.

**Damage to the base of the tree.** This is the most common way trees get damaged. Lawnmowers and string trimmers can easily knock the bark off the tree and expose the wood. Over-mulching can lead to death of the bark as well or kill the tree outright. This is more of an issue for small trees.

**Construction damage:** Construction that occurs within the critical root zone of a tree can compromise the health of the tree by removing the ability of the tree to function properly. The roots take up nutrients and water necessary for the trees to grow. Removing too much of the root system can lead to

decline of the tree's health and eventually kill the tree. A common way this happens is when driveways are built that paves over the root system. Another common way is constructing trenches to install utilities such as sewer or water lines within the critical root zone. To avoid damaging the tree, no more than 30% of the critical root zone can be disturbed.

**Soil compaction:** Allowing vehicles and equipment to travel over the root system can compact the soil enough that water and oxygen aren't available for the roots of the tree to survive. This can happen with just one event. Foot traffic can do this as well.

**Diseases:** There are numerous diseases, most caused by fungal pathogens, that can cause significant damage to living trees. The most common are decay fungi that can infest the heartwood of a tree. The fungus feeds in the dead wood and can lead to structural instability. These are known by most people as hollow trees where the center of the tree is gone with only the outer sapwood holding the tree up. If more than two thirds of the tree's wood is gone or compromised based on the diameter of the tree, it is at risk of failure. These fungi enter the tree through wounds on the stem, often at the base of the tree. Preventing injuries to the bark will avoid this.

Root decays are particularly troublesome. (See figures 1 & 2) Root decay fungi also enter the tree through wounds in the bark at the base of the tree but also through damaged roots. Severing roots during trenching or other construction activities can provide an opening for the fungus to enter. Most root decay fungi consume the heartwood in the roots thereby weakening their ability to provide support. There are some like the *Armillaria spp.*, that kill the roots and tree outright. When the whole tree falls over, always suspect a root decay.

**Insect pests:** Most insects that are found on trees are not troublesome if the tree is relatively healthy. If a tree is stressed by drought or disease problems such as the root decay organisms mentioned above, certain insects will colonize the tree and hasten its decline. Trees in this condition should be closely monitored as a dead tree can cause a hazard. Insect pests that will kill a tree are fortunately fewer in number but are not uncommon. These are mostly the exotic insects like the Spongy moth (formerly Gypsy moth) and the Emerald Ash borer. The granulate Ambrosia beetle (figure 5) or Asian ambrosia beetle is a pest on many trees. These may kill healthy trees as well. One native species of note is the Southern pine beetle (figure 4). This bark beetle, which is the size of a pencil point, will aggressively colonize both stressed and healthy pines such as loblolly, Virginia, and pitch pines.



Figure 3 Spongy moth, formerly Gypsy moth - *Lymantria dispar*, female and egg mass.  
Karla Salp, Washington State Department of Agriculture, Bugwood.org



Figure 4 Southern pine beetle - *Dendroctonus frontalis*, pitch tubes.  
E. Reaves AA County



Figure 5 Ambrosia beetle - *Xylosandrus crassiusculus*, frass tubes  
Jim Baker, North Carolina State University, Bugwood.org

## Resources:

### Insect Pests

[Spongy\gypsy-moths-and-caterpillars-trees](#)

[MDA Documents/southernpinebeetle.pdf](#)

[Granulate Ambrosia beetle USFS](#)

### Diseases:

[Armillaria-root-rot](#)

[Ganoderma.shtml](#)

[Black crust root-butt-rot-caused-by-kretzschmaria-deusta](#)

[Weeping canker/oak-bracket /](#)

Not an endorsement of Davey Tree Co.

[hypoxylon-canker-of-oaks.pdf](#)

[extension.umd.edu/resource/bacterial-leaf-scorch-trees](#)

## Summary

Unsafe trees are always going to be present in our forests and neighborhoods. These tree that may pose a threat to life or property should be identified and then removed or otherwise treated by careful pruning to eliminate potential risks. Prevention and monitoring are the surest way to eliminate the risks before they cause problems.