

## IMA Q/A's: Tree Questions

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Let's answer some questions several KPW residents had about trees!

Q: Why did this past winter's snow storm cause so much tree damage?

A: The damage was not as prevalent as it was noticeable. Before continuing further, the following statements are generalizations with exceptions expected. Heavy, wet snow inflicts the most damage on soft wood trees, such as pines and cedars, especially species with branches pointing up in a "V" shape. The needles catch ice, adding to the weight. Evergreens native to Northern climates survive heavy snows because their branches droop downward in an "A" form, enabling accumulated snow to slough off.

Yet KPW saw a number of hardwoods lose branches, especially maples. Here is a list of conspiring factors leading to the big breakage:

- 30-40 years ago, KPW developers planted a shade tree in nearly every front yard—a conspicuous location. Common selections were either the red or the silver maples (*Acer rubrum* and *A. saccharinum* respectively)—both natives to Fairfax County.
- Like grading lumber hardness for furniture and floors, maples are much softer than oaks and hickories.
- Front yard shade trees grow in the open, uninhibited by neighboring trees. Next time you go to a forest, notice how much closer wild tree branches are to the trunks than landscaped specimens of the same species. [Note that the few broken limbs occurred in the new-growth forests and were mostly soft wooded pines, maples, and tulip poplars]. Elementary physics says carrying a weight closer to the center is easier than further away—just as holding a heavy bag with a straight arm horizontally is more difficult than keeping that arm up or down at a 30° angle to the body.
- Early in life, these sapling branches had spring, so storms impacted minimally. Mature branches can support more mass than saplings but snap after snow buildup exceeds the weight-bearing capacity.

Other species suffering storm damage included the Southern magnolia, which has both weak branches and broad, evergreen leaves. Frozen precipitation easily accumulates on the foliage and the limbs soon split. Deciduous magnolias, such as sweetbay magnolias (*Magnolia virginiana*), bigleaf magnolias (*M. macrophylla*), and umbrella-trees (*M. tripetala*), are better suited for Northern Virginia's climate. Bradford pear is another brittle species; for problems with this invasive menace, please see my *Herald* article, [Invasive Species Profile: Bradford Pear](#) (March 2011).

To stay ahead of storm damage brought about by next winter, now is the time to consult with a trained, certified, and licensed arborist. This professional can assess a tree's health and determine which branches need trimming. For many reasons, avoid the unlicensed "woodchucks" who drive around the neighborhood asking if you need tree work. If you plan to plant new shade trees, consider a slow-growing native hardwood. Remember that all trees die sooner or later, so plant tall species a safe distance from the house!

Q: I heard about the blight infecting American chestnut trees, but the ones at the Grassy Knoll (park entrance at Gainsborough Drive near Claridge Court) look fine. What gives?

A: Those trees are Chinese chestnuts (*Castanea mollissima*) which someone planted, not wild American chestnuts (*C. dentate*), a formerly dominant upper canopy species. Most experts agree that the Chestnut Blight Fungus (*Cryphonectria parasitica*) was introduced to the United States from Japanese chestnuts (*C. crenata*) in the late nineteenth century. Both Japanese and Chinese chestnuts evolved with the disease to become blight-resistant.

Marketed as bigger than the native American counterparts, Asian chestnut distribution ballooned thanks to the at-the-time new business practice: mail-order. These nursery trees carried the disease everywhere they were shipped. The first blight signs appeared in 1904 at the Bronx zoo. Soon after, the blight

decimated American chestnut forests. While some American chestnuts still exist, the species is “functionally extinct” since they cannot fill their previous, major ecological niche. Most of the ones clinging to life are sick and unable to mature. There is no realistic chance of ever purging the fungus from North America, especially since it lives on oaks without causing injury; the only hope for the American chestnut’s comeback is discovering a blight-resistant strain.

Here are great links to learn more about identifying different chestnuts:

<http://www.mindspring.com/~psisco/www/overview.html>

<http://dendro.cnre.vt.edu/comparison/>

<http://www.vatacf.org/treeid/MegaTIDvue.pdf>

For additional information on the chestnut blight:

<http://www.columbia.edu/itc/cerc/danoff->

[burg/invasion\\_bio/inv\\_spp\\_summ/Cryphonectria\\_parasitica.htm](http://www.columbia.edu/itc/cerc/danoff-burg/invasion_bio/inv_spp_summ/Cryphonectria_parasitica.htm)

<http://www.biology.duke.edu/bio217/2002/bmm10/blight.htm>

To learn more about trees, the environment, and proper land stewardship, join an Invasive Management Area (IMA) workday for firsthand experience! IMA volunteers were active during the first half of the year but we still have more work to do. Send an e-mail to [greg@grsykes.com](mailto:greg@grsykes.com) asking to be added to the volunteer list.

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