



# Replanting Weston

HELPING TREES SURVIVE STORM SEASON & BEYOND

# Replanting Weston



When you buy a high-quality tree, plant it correctly, and treat it properly, you and your tree will benefit greatly in many ways for many years.

Due to the damage and loss of landscaping from Hurricane Wilma, many residents are “replanting Weston.” In the last edition of the Weston Announcer we supplied residents with a recommended Residential Replanting List. This list is now available on our web site. An important factor in trees sustaining a storm is in their quality and if they were planted correctly. Whether replanting now or in the future: When you buy a low-quality tree, you and your tree will have many costly problems even if you take great care in planting and maintenance.

## What Determines Tree Quality?

### *A High-Quality Tree Has:*

1. An adequate-sized root ball. If possible, check to ensure there are enough sound roots to support healthy growth.
2. A trunk free of mechanical wounds and wounds from incorrect pruning.
3. A strong form with well-spaced, firmly-attached branches.

### *A Low-Quality Tree Has:*

1. Crushed or circling roots in a small root ball or small container.

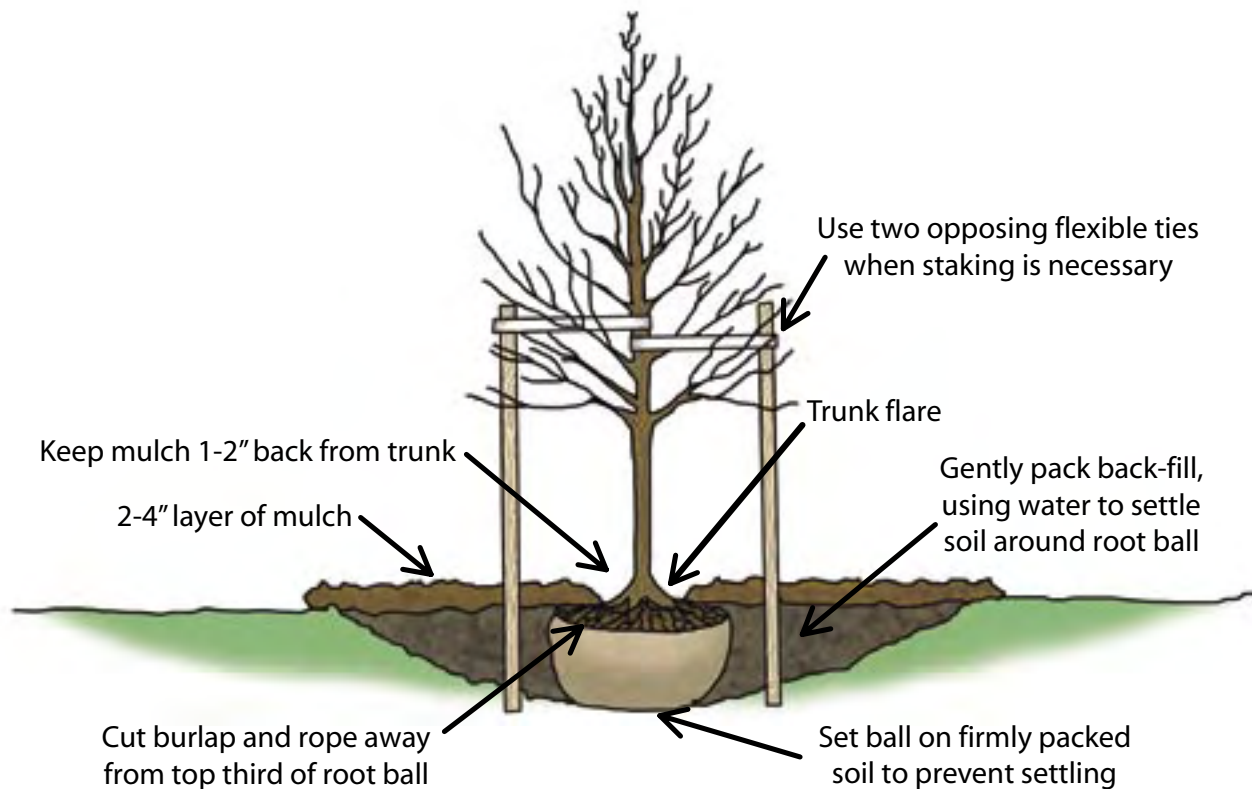
2. A trunk with wounds from mechanical impacts or incorrect pruning.

3. A weak form where multiple stems squeeze against each other or where branches squeeze against the trunk.

## Planting Your Tree

Before you begin planting your tree, be sure you have had all underground utilities located prior to digging. If the tree you are planting is balled and burlapped, or bare rooted, it is important to understand that the tree's root system has been reduced by 90-95% of its original size during transplanting. As a result of the trauma caused by the digging process, trees will commonly exhibit what is known as transplant shock (TS). TS is indicated by slow growth and reduced vigor following transplanting. Proper site preparation before and during planting, coupled with good follow-up care will reduce the amount of time the plant experiences TS and will allow the tree to quickly establish in its new location. Carefully follow eight simple steps and you can significantly reduce the stress placed on the plant at the time of planting.

“It's better to put a \$100 tree in a \$200 hole than to put a \$200 tree in a \$100 hole.”



1. **Dig a shallow, broad planting hole.** Make the hole wide, as much as three times the diameter of the root ball, but only as deep as the root ball. It is important to make the hole wide because the tree roots on the newly establishing tree must push through surrounding soil to establish. Breaking up the soil in a large area around the tree provides the newly emerging roots room to expand into loose soil to accelerate establishment.
2. **Identify the trunk flare.** The trunk flare is where the roots spread at the base of the tree. This point should be partially visible after the tree has been planted. If the trunk flare is not partially visible, you may have to remove some soil from the top of the root ball. Find it so you can determine how deep the hole needs to be for proper planting.
3. **Place the tree at the proper height.** Before placing the tree in the hole, check to see that the hole has been dug to the proper depth, and no more. The majority of the roots on the newly planted tree will develop in the top 12" of soil. If the tree is planted too deep, new roots will have difficulty developing due to a lack of oxygen. It is better to plant the tree a little high, 1-2" above the

base of the trunk flare, than to plant it at or below the original growing level. This will allow for some settling. To avoid damage when setting the tree in the hole, always lift the tree by the root ball, and never by the trunk.

- **Straighten the tree in the hole.** Before you begin backfilling have someone view the tree from several directions to confirm the tree is straight. Once you begin backfilling it is difficult to reposition.
- **Fill the hole, gently but firmly.** Fill the hole about 1/3 full and gently but firmly pack the soil around the base of the root ball. Then, if the tree is balled and burlapped, cut and remove the string and wire from around the trunk and top 1/3 of the root ball (see diagram). Be careful not to damage the trunk or roots in the process.

Fill the remainder of the hole, taking care to firmly pack soil to eliminate air pockets that may cause roots to dry out. To avoid this problem, add the soil a few inches at a time and settle with water. Continue this process until the hole is filled and the tree is firmly planted. It is not recommended to apply fertilizer at the time of planting.

# Weston's Master Re-landscaping Plan is in Design

City staff has completed the hurricane cleanup and assessment portions of this major undertaking.

The Buffer Restoration – Tree Assessment – Major components of the assessment can be viewed by residents in an informational PowerPoint presentation on the City's web site at [www.westonfl.org](http://www.westonfl.org).

Go to any of the following departments: Parks & Recreation, Development Services, Communications or Building. Here you will find everything under "Replanting Weston – Master Re-Landscaping Plan".

We are placing all informational pieces on our website to keep you updated and informed on the City's progress. The massive scale of replanting and the costs associated with it (detailed in the assessment presentation) will require a multi-year approach for completion.

## QUICK STATS:

7,844 Trees Removed (FEMA)

4,044 Large Trees

3,800 Small Trees

4,000 Trees Braced (Saved)

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202,723 LF (61%) of None/Minor Damage-  
"Plug-ins" (0%-25% damage)

57,148 LF (17%) of Moderate Damage (26%-50%  
damage)

39,626 LF (12%) of Severe Damage (51%-75%  
damage)

32,078 LF (10%) of Total Damage (76%-100%  
damage) = 6 MILES

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331,575 Total LF (100%) of Roadway = 63  
MILES

(LF=lineal feet)

- **Stake the tree, if necessary.** If the tree is grown and dug properly at the nursery, staking for support is not necessary in most home landscape situations. Staking may be required on sites where lawn mower damage, vandalism or windy conditions are concerns. If staking is necessary for support, two stakes used in conjunction with a wide flexible tie material will hold the tree upright, provide flexibility, and minimize injury to the trunk. Remove support staking and ties after the first year of growth. Leave protective staking in place as long as necessary.
- **Mulch the base of the tree.** Mulch is simply organic matter applied to the area at the base of the tree. It acts as a blanket to hold moisture, protect against harsh soil temperatures, both hot and cold, and reduces competition from grass and weeds. A two to four inch layer is ideal. When placing mulch, care should be taken so that the actual trunk of the tree is not covered. This may cause decay of the living bark at the base of the tree. A mulch-free area, one to two inches wide at the base of the tree, is sufficient.
- **Follow-up care.** Keep the soil moist but not soaked. Water trees at least once a week, barring rain, and more frequently during hot weather. When the soil is dry below the surface of the mulch, it is time to water.

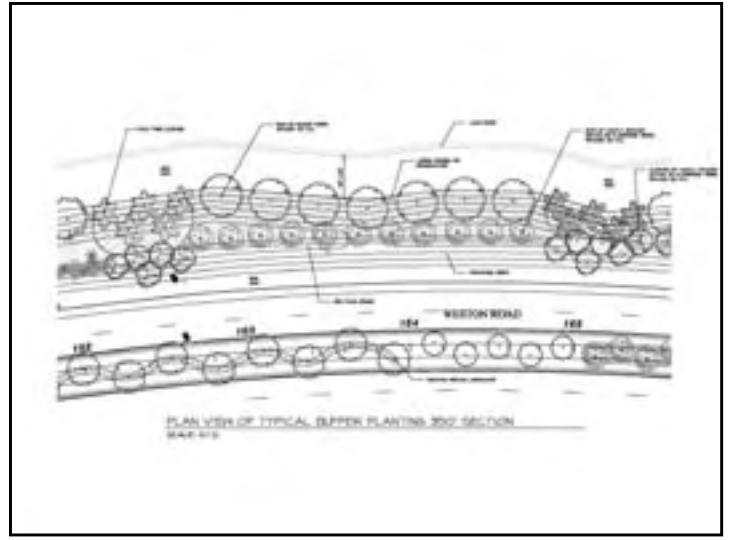
*After you've completed these eight simple steps, further routine care and favorable weather conditions will ensure that your new tree or shrub will grow and thrive.*



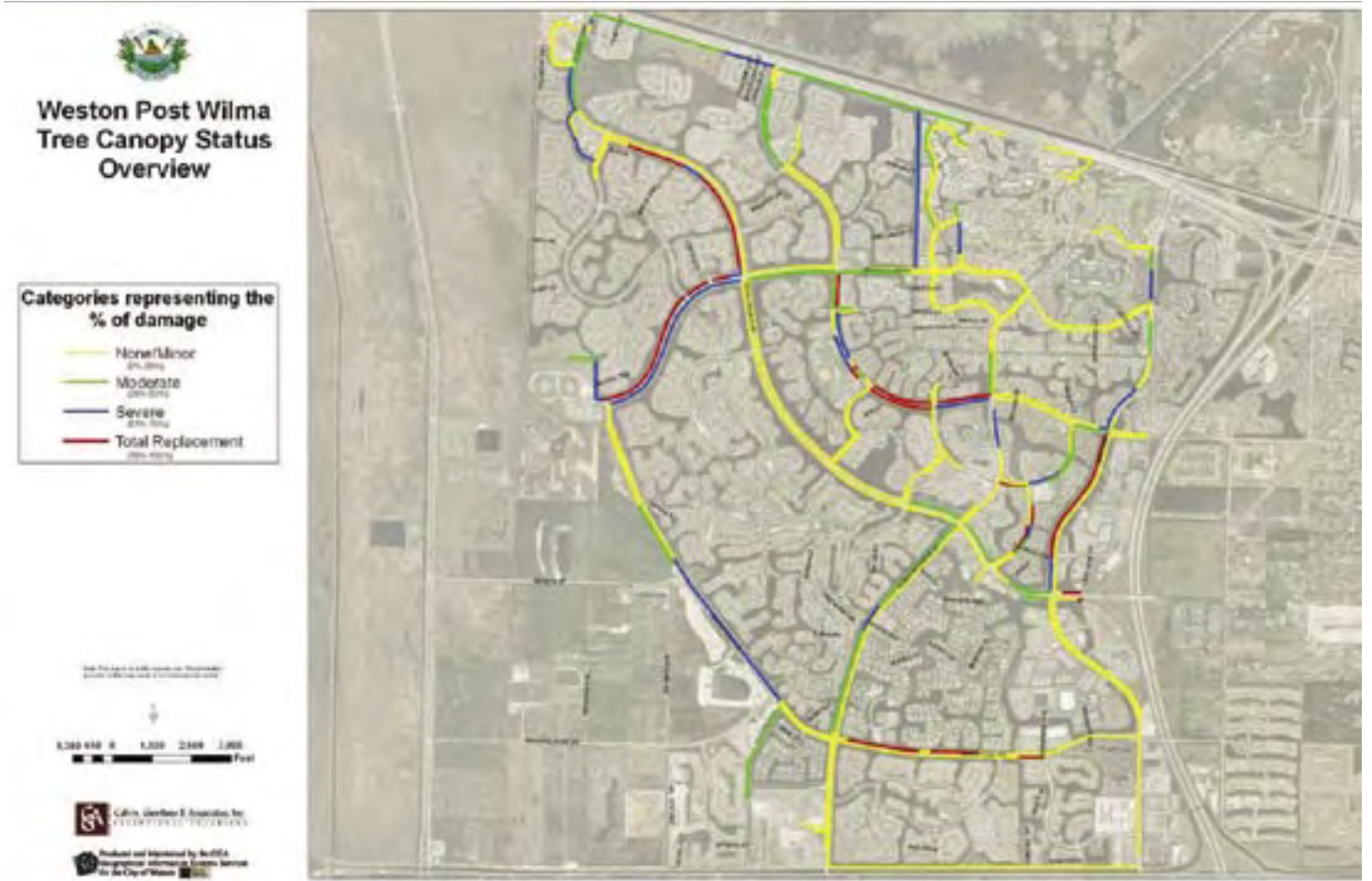
An example of the destruction suffered by many of the berm/buffer areas within Weston.



Sample of buffer requiring total restoration (Weston Road)



Typical View of Buffer Planting design



**Total Cost Estimate**

\$7,000,000 Total Damage (76%-100%)  
 \$185,000/1,000 LF

\$6,000,000 Severe Damage (51%-75%)  
 \$125,000/1,000 LF

\$6,000,000 Moderate Damage (26%-50%)  
 \$85,000/1,000 LF

\$1,000,000 None/Minor Damage (0%-25%)  
 \$5,000/1,000 LF

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**\$20,000,000 GRAND TOTAL**

# Helping Trees Survive Storm Season & Beyond

## Pruning

Specific types of pruning may be necessary to maintain a mature tree in a healthy, safe and attractive condition.

### Crown cleaning

is the removal of dead, dying, diseased, crowded, weakly attached and low-vigor branches from the crown of a tree.

### Crown thinning

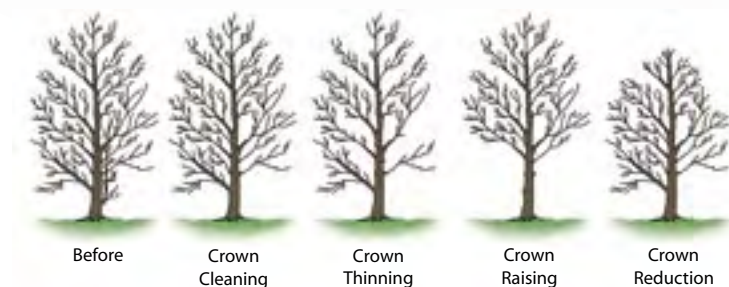
suggested prior to hurricane season is the selective removal of branches to increase light penetration and air movement through the crown. Thinning opens the foliage of a tree, reduces weight on heavy limbs, and helps retain the tree's natural shape.

### Crown raising

removes the lower branches from a tree in order to provide clearance for buildings, vehicles, pedestrians and vistas.

### Crown reduction

reduces the size of a tree, often for clearance for utility lines. Reducing the height or spread of a tree is best accomplished by pruning back the leaders and branch terminals to lateral branches that are large enough to assume the terminal roles (at least one-third the diameter of the cut stem). Compared to topping, this helps maintain the form and structural integrity of the tree.



**Big tree – big trouble:** This nice rounded canopy hides the fact that the huge limb on the lower right is poorly attached and could fall at any time

## Hiring an Arborist

Pruning large trees can be dangerous. If pruning involves working above the ground, or using power equipment, it is best to hire a professional arborist. An arborist can determine what type of pruning is necessary to improve the health, appearance and safety of your trees. A professional arborist can provide the services of a trained crew, with all of the required safety equipment and liability insurance.

## DO NOT “Hat Rack” Trees, often called “Topping”

### What is topping?

Topping is the indiscriminate cutting back of tree branches to stubs or lateral branches that are not large enough to assume the terminal role. Other names for topping include “heading,” “tipping,” “hat-racking,” and “rounding over.” The most common reason given for topping is to reduce the size of a tree. Often homeowners feel that their trees have become too large for their property. People fear that tall trees may pose a hazard. Topping, however, is not a viable method of height reduction, and certainly does not reduce the hazard. **In fact, topping will make a tree more hazardous in the long term.**

**Topping is cutting branches back to stubs, or lateral branches.**



### Topping Stresses Trees

Topping often removes 50-100% of the leaf-bearing crown of a tree. Since the leaves are the “food factories” of a tree, this can temporarily “starve” a tree. The severity of the pruning triggers a sort of survival mechanism. The tree activates latent buds, forcing the rapid growth of multiple shoots below each cut. The tree needs to put out a new crop of leaves as soon as possible. If a tree does not have the stored energy reserves to do this, it will be seriously weakened and may die.

## Topping Can Lead to Sunburn

Branches within a tree's crown produce thousands of leaves to absorb sunlight. When the leaves are removed, the remaining branches and trunk are suddenly exposed to high levels of light and heat. The result may be sunburn of the tissues beneath the bark. This can lead to cankers, bark splitting and death of some branches.

## Topping Creates Hazards \*\*

The survival mechanism that causes a tree to produce multiple shoots below each topping cut comes at great expense to the tree. These shoots develop from buds near the surface of the old branches. Unlike normal branches that develop in a "socket" of overlapping wood tissues, these new shoots are only anchored in the outermost layers of the parent branches.

The new shoots grow very quickly, as much as 20 feet in one year, in some species. Unfortunately, the shoots are very prone to breaking, especially during windy conditions. The irony is that while the goal was to reduce the tree's height to make it safer, it has been made more hazardous than before.

*Many trees in the Weston rights-of-way were still viable after the storm but still needed to be removed by city crews as the hurricane damage and subsequent removal of broken branches, resulted in topping. These trees, while recovering, would become a hazard if allowed to remain.*

## Topping Makes Trees Ugly

The natural branching structure of a tree is a biological wonder. Trees form a variety of shapes and growth habits, all with the same goal of presenting their leaves to the sun. Topping removes the ends of the branches, often leaving ugly stubs. Topping destroys the natural form of a tree.

Without the leaves a topped tree appears disfigured and mutilated. With the leaves, it is a dense ball of foliage, lacking its simple grace. A tree that has been topped can never fully regain its natural form.

## Topping is Expensive

The cost of topping a tree is not limited to what the perpetrator is paid. If the tree survives, it will require pruning again within a few years. It will either need to be reduced again, or storm damage will have to be cleaned up.



Begin a cut at the edge of the branch collar  
The collar is left intact after a proper cut

A stressed tree is more vulnerable to insect and disease infestations. Large, open pruning wounds expose the sapwood and heartwood to attack. The tree may lack sufficient energy to chemically "defend" the wounds against invasion. Some insects are actually attracted to stressed trees by chemical signals.

New shoots develop profusely below a topping cut.



Stubs left from topping usually decay. The shoots that are produced below the cut are weakly attached, and often become a hazard.

## Topping Causes Decay



The preferred location to make a pruning cut is just beyond the branch collar at the branch's point of attachment. The tree is biologically equipped to close such a wound provided the tree is healthy enough and the wound

is not too large. Cuts made along a limb, between lateral branches, create stubs with wounds that the tree may not be able to close. The exposed wood tissues begin to decay. Normally a tree will "wall off" or compartmentalize the decaying tissues. But few trees can defend the multiple severe wounds caused by topping. The decay organisms are given a free path to move down through the branches.





If the tree dies it will have to be removed. Topping is a high maintenance pruning practice. There are some hidden costs of topping. One is the

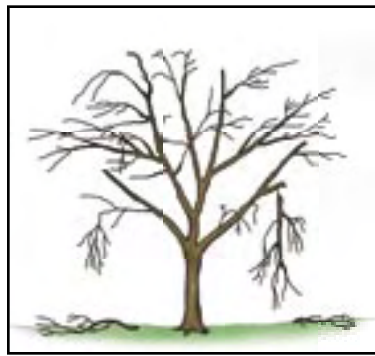
reduction in property value. Healthy, well maintained trees can add 10-20% to the value of a property. Disfigured, topped trees are considered an impending expense.

Another potential cost of topped trees is the potential liability. Topped trees are prone to breaking and can be hazardous. Since topping is considered to be an unacceptable pruning practice, any damage caused by branch failure of a topped tree may lead to a finding of negligence in a court of law.

### Tree First Aid After a Storm

Remove hanging and broken limbs first

Reduce broken branches back to a living lateral branch that is about ½ the size of the broken branch if possible



In the aftermath of a major storm, the initial impulse of property owners is generally along the lines of “let’s get this mess cleaned up.” But hasty decisions can often result in removing trees that could have been saved.

Doing the right things after trees have been damaged can make the difference between giving your trees a good chance of survival and losing them unnecessarily. The National Arbor Day Foundation urges home and property owners to follow a few simple rules in administering tree first aid after a storm:

1. Don’t try to do it all yourself. If large limbs are broken or hanging, or if high climbing or overhead chainsaw work is needed, it’s a job for a professional arborist. They have the necessary equipment and knowledge needed, and are generally listed in the telephone directory under “Tree Service.”
2. Take safety precautions. Look up and look down. Be on the alert for downed power lines and

dangerous hanging branches that look like they’re ready to fall. Stay away from any downed utility lines, low-voltage telephone, or cable lines and even fence wires can become electrically charged when there are fallen or broken electrical lines nearby. Don’t get under broken limbs that are hanging or caught in other branches overhead. And, unless you really know how to use one, leave chainsaw work to the professionals.

3. Remove any broken branches still attached to the tree. Removing the jagged remains of smaller sized broken limbs is one common repair that property owners can make after a storm. If done properly, it will minimize the risk of decay agents entering the wound. Smaller branches should be pruned at the point where they join larger ones. Large branches that are broken should be cut back to the trunk or a main limb by an arborist. For smaller branches, follow the pruning guidelines provided so that you make clean cuts in the right places, helping the tree to recover faster.
4. Repair torn bark. To improve the tree’s appearance and eliminate hiding places for insects, carefully use a chisel or sharp knife to smooth the ragged edges of wounds where bark has been torn away. Try not to expose any more of the cambium (greenish inner bark) than is necessary, as these fragile layers contain the tree’s food and water lifelines between roots and leaves.
5. Resist the urge to overprune. Don’t worry if the tree’s appearance isn’t perfect. With branches gone, your trees may look unbalanced or naked. You’ll be surprised at how fast they will heal, grow new foliage, and return to their natural beauty.
6. Don’t top your trees. While storm damage may not always allow for ideal pruning cuts, “topping,” cutting main branches back to stubs, is one of the worst things you can do for your trees. Stubs will tend to grow back a lot of weakly-attached branches that are even more likely to break when a storm strikes. Also, the tree will need all its resources to recover from the stress of storm damage. Topping the tree will reduce the amount of foliage, on which the tree depends for the food and nourishment needed for re-growth.

Much of the information for this article was garnered from International Society of Arboriculture (ISA), a non-profit organization supporting tree care research around the world and dedicated to the care and preservation of shade and ornamental trees.