



# When a Storm Strikes

TREE CITY USA®  
BULLETIN

No. **2**

Editor: Dr. James R. Fazio • \$3.00



*It is a marvel that trees should live to become the oldest living things. Fastened in one place, their struggle is incessant and severe. From the instant a tree casts its tiny shadow on the ground ... it is in danger.*

— Enos A. Mills, naturalist, c. 1910

Except for the incessant mistreatment by humans, never is danger to a tree greater than during the inevitable trial by storm. The pounding of rain or hail and the fury of wind test the strength of limbs, trunks, and roots. The homeowner, helpless at the moment, can only watch and hope that the tree survives. Survival or loss — the key can be the care you give your tree before and immediately after a storm. Knowing ahead of time what to do when a storm strikes can also prevent or minimize your financial loss.

*It was one of those storms that was so close there was no pause between the flash of lightning and the deafening clash of thunder. No one on Linwood Avenue slept through this storm, and a light came on here and there to help ward off the fright of the wind and rain beating noisily against bedroom windows.*

*In the morning, anxious residents looked out to survey the damage. In some yards, only a limb or two lay on the lawn. In others, familiar views were altered forever. Some trees were split, half their crowns bent to the ground like peeled bananas. Here and there, a whole tree lay prone with its roots exposed and limbs tangled amid gutters and wires. Out on the street, branches littered the sidewalks and children were already gathering to play on an old maple that lay like a fortress across the avenue.*

In some areas, such as south central Florida, thunderstorms like this one stalk the countryside as many as 100 days each year. On the Pacific coast, five in a year may be surprising. In the Midwest and middle Atlantic states, ice storms — especially in autumn while leaves are still on trees — add to the endless struggle. Frequent or rare, mild or severe, storms are an inevitable fact of life. This issue of the Tree City USA Bulletin is dedicated to helping people who care about trees minimize the impact of storms on our community forests.

Few things can physically alter the landscape of a community as devastatingly as widespread tree damage resulting from a tornado, hurricane, ice storm, or other major weather disturbance.



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# The Morning After ...

*On Linwood Avenue there was considerable confusion after the storm. Neither the residents nor the city forestry department were well-prepared for handling the damage. As a result, trees were removed that could have been saved, some were left weakened and became dangerous or had their life spans significantly shortened. With poor advice and the services of fly-by-night tree scam artists, many residents lost money, as well as the beauty and practical benefits of their shade trees. It might have been different if two simple steps had been followed:*

## 1: ASSESS THE DAMAGE — CAN THESE TREES BE SAVED?

A storm can leave trees looking like there's no tomorrow. But trees have an amazing ability to recover from storm damage. Before writing off a damaged tree, ask the following:

- ✓ Other than the storm damage, is the tree basically healthy? If so, and if it did not suffer major structural damage, it will usually recover.
- ✓ Are major limbs broken? The larger a broken limb, the harder it will be for the tree to recover from damage.
- ✓ Has the leader (main upward-trending branch) been lost? The tree may live without its leader, but at best, it could be stunted or deformed.
- ✓ Are at least 50 percent of the branches and leaves still intact? A tree with less than half its branches remaining may not produce enough foliage to nourish the tree another season.
- ✓ How large are the wounds? The larger the wound in relation to the size of the limb, the less likely it is to heal, leaving the tree vulnerable to diseases and pests.
- ✓ Can the remaining branches form a new branch structure? The remaining limbs will grow more vigorously as the tree tries to replace its missing foliage. Look to see if the branches still left can eventually fill out the tree's appearance.
- ✓ Is the tree a desirable one for its location? If the tree is in a poor location (potentially tall beneath power lines, etc.) it may be best to remove it.

## 2: MAKE DECISIONS ABOUT YOUR TREES

A storm can alter a tree's appearance, but frequently the tree looks worse than it really is. Major limbs may be broken or damaged, foliage can be shredded or stripped, or the bark may be torn or gouged. But what at first glance may look like mortal wounds are not necessarily fatal to a tree. Trees have a remarkable ability to recover from storm damage.

### IT'S A KEEPER ...

If damage is relatively slight, prune any broken branches, repair torn bark or rough edges around wounds, and let the tree begin the process of wound repair. For instance:



MINOR DAMAGE

Although the tree has been damaged, enough strong limbs may remain on a basically healthy tree to make saving it possible.



AN EASY CALL

A mature shade tree can usually survive the loss of one major limb. The broken branch should be pruned back to the trunk. In the months to follow, large wounds should be monitored closely for signs of decay.



TOO YOUNG TO DIE

Young trees can sustain quite a bit of damage and still recover quickly. If the leader is intact and the structure for future branching remains, remove the broken branches and let the tree close over the wounds and recover itself.



## WAIT AND SEE ...

If a valuable tree appears to be a borderline case, resist the temptation to simply cut it down. In such a case, it is best to stand back for a while and give the tree a chance. Remember that time is on your side. After careful pruning of broken branches, give the tree some time to recover. A final decision can be made later.

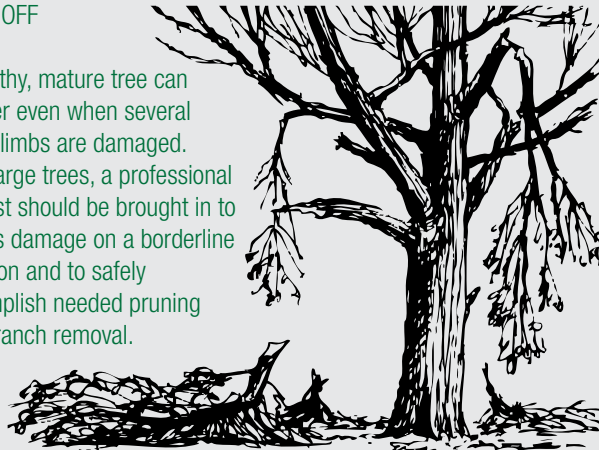
### EASY DOES IT

Resist the temptation to prune too heavily. Remember that the tree will need all the foliage it can produce in order to manufacture the food it will need to get to the next growing season. Remove only the damaged limbs, then wait and see what happens.



### HOLD OFF

A healthy, mature tree can recover even when several major limbs are damaged. With large trees, a professional arborist should be brought in to assess damage on a borderline situation and to safely accomplish needed pruning and branch removal.



## SAY GOODBYE ...

Some trees simply can't be saved or are not worth saving. If the tree has already been weakened by disease, if the trunk is split, or more than 50 percent of the crown is gone, the tree has lost its survival edge.



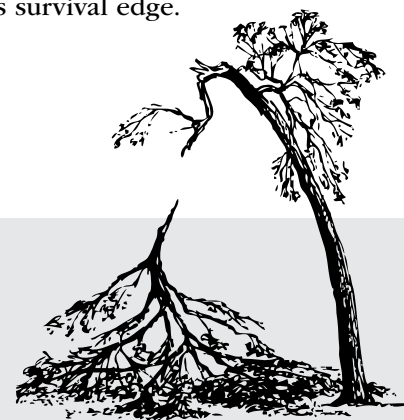
### FAREWELL TO A FRIEND

A rotten inner core in the trunk or structural weakness in branching patterns can cause a split trunk – the tree equivalent of a heart attack. The wounds are too large to ever mend, and the tree has lost at least half of its food and water lifeline between roots and leaves.



### TREE TRAGEDY

This otherwise healthy tree has lost too much of its leafy crown. It will probably not be able to grow enough new branches and leaves to provide needed nourishment, and it will never be able to regain its former beautiful shape.



### HOPELESS CASE

About all that's left of this tree is its trunk. The few remaining branches can't provide enough foliage to enable the tree to survive through another growing season.

# Provide Tree First Aid After a Storm

*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 result in removing trees that could be 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.*

## 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. Arborists have the necessary equipment and knowledge needed, and are usually listed in the directories under “Tree Service.” But read the box below before your call.

## 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; TV cables and 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.

## WATCH OUT FOR SCAM ARTISTS POSING AS ARBORISTS

After a storm, it is common for people claiming to be tree specialists to show up at your door offering their services to remove or repair trees. Unfortunately, many have little or no training.

Here are eight guidelines to help you find qualified tree care specialists:

1. Make sure they are part of an established business in the community or nearby area.
2. Have them provide you with evidence that they are actually working for the company, rather than moonlighting.
3. Ask for current certificates of insurance showing that they are fully insured for property damage, personal liability, and worker compensation.
4. Ideally, they should be members of a professional association of arborists, such as the International Society of Arboriculture (ISA) or the Tree Care Industry Association (TCIA).
5. Arborists who have received certification from their professional associations, such as ISA Certified Arborists, should have received training and access to current technical information on tree care, repair, and removal.

## REPAIR TORN BARK

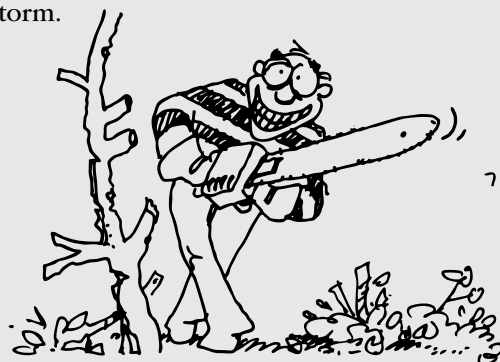
Torn or stripped bark is the result of limbs being violently broken from the tree by wind or branches falling from above. To improve the tree's appearance and eliminate hiding places for insects, carefully use a chisel or sharp knife to smooth the ragged edges of wounds where bark has been torn away. 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. Keep the wound as narrow as you can to hasten wound closing.



6. If possible, get more than one estimate to ensure that the price offered is competitive with that offered by others for the same services.
7. In case of tree removals, have a clear understanding about who removes the limbs and debris from the property and whether or not the price includes stump removal and cleanup.
8. If the arborist suggests topping your tree, find someone else. Only in rare cases should this practice be used.

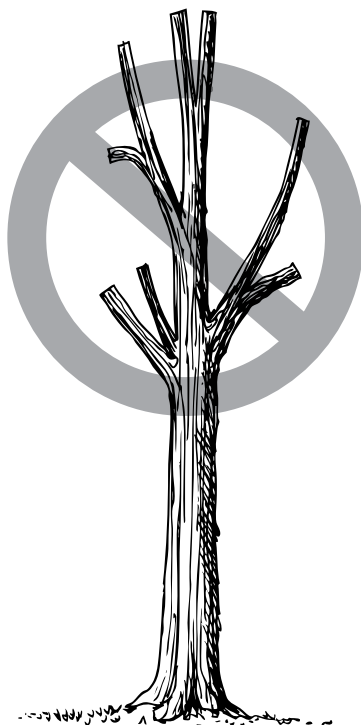
Above all, don't be pressured into making a decision. Taking the time to select a qualified tree professional can safeguard your trees and save you from the long-term consequences of wrong decisions about what to do about them after a storm.

Hiring just anyone who shows up at your door may result in fatal damage to your trees. It's best to go with a qualified professional.



## DON'T TOP YOUR TREES

Untrained individuals may urge you to cut back all of the branches, on the mistaken assumption that reducing the length of the branches will help avoid breakage in future storms. While storm damage may not always allow for ideal pruning cuts, professional arborists say that 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 the 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, which the tree depends on for the food and nourishment needed for regrowth. A topped tree that has already sustained major storm damage is more likely to die than repair itself. At best, its recovery will be retarded, and it will almost never regain its original shape or beauty.

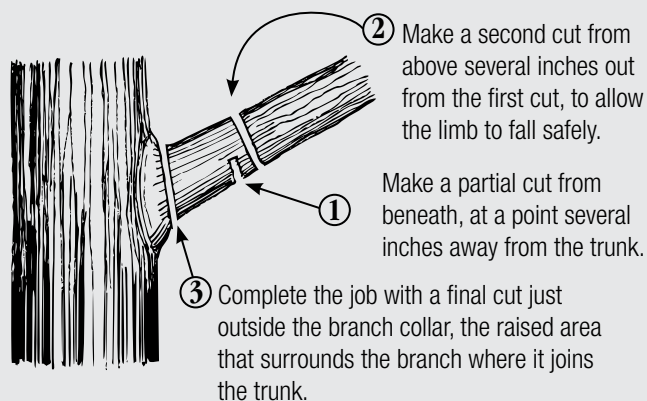


## REMOVE BROKEN BRANCHES STILL ATTACHED

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 shown in the illustration below so that you make clean cuts in the right places, helping the tree recover faster.

### HOW TO MAKE PROPER PRUNING CUTS

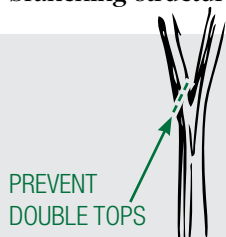
Because of its weight, a branch can tear loose during pruning, stripping the bark and creating jagged edges that invite insects and disease. That won't happen if you follow these steps:



## REDUCING TREE DAMAGE IN FUTURE STORMS

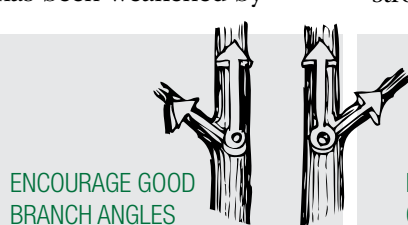
When a major storm strikes, some trees seem able to come through with only minor damage, while others suffer the loss of large limbs or sizable parts of their branching structure. If a tree has been weakened by

disease, there may be little that can be done to prevent major breakage when a storm occurs. However, there are preventive measures that can be taken to help trees be stronger and more resistant to storm damage.



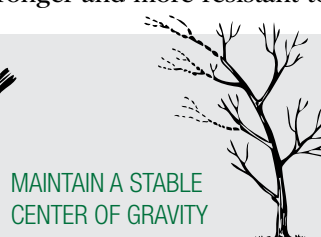
PREVENT DOUBLE TOPS

Two branches growing at a narrow angle to each other can create a double top and a weak joint. It's best to remove one branch while the tree is young.



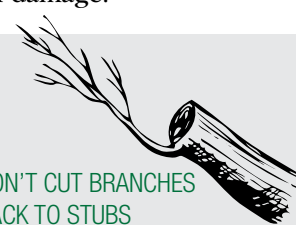
ENCOURAGE GOOD BRANCH ANGLES

Branches at angles of 10 o'clock and 2 o'clock are often the strongest. Side branches should have diameters less than three-fourths the diameter of the trunk.



MAINTAIN A STABLE CENTER OF GRAVITY

Restore the center of gravity of unbalanced trees by removing branches along the leaning side and encouraging growth on the opposite side.



DON'T CUT BRANCHES BACK TO STUBS

Branches that grow from cut stubs are weakly attached. When they get larger, they can break more easily from the pressures of wind, ice, or snow.

# Storms: The Urban Forestry Response

*When asked about the effects of a storm on an urban forestry department, a forester said wistfully, “In a matter of minutes we have gone from being caught up on our pruning to suddenly facing two years’ worth of work.” It is important that the community have an overall catastrophe plan in which the city forester plays an active role.*

## BEFORE

A municipality’s best response to a storm is before one strikes. Several procedures can ease the burden of cleanup and even convert negative storm effects into positive care for the community forest. Here are some successful methods:

- Make arrangements in advance for assistance from contractors. Purchase orders or contracts for as-needed storm services can prevent delays and misunderstandings during the emergency. It is a good idea to insist that contractors carry at least

\$500,000 liability insurance and that employees are fully covered by workers compensation.

- Develop mutual aid agreements with nearby communities. Often one area is hit by a storm while others are left unscathed. Through a mutual aid agreement, a community that is missed by the storm provides workers and equipment to aid the stricken area.
- Learn about how the Arbor Day Foundation’s Community Tree Recovery program has helped restore trees after devastating storms and how it could help you if the need should arise. Visit [arborday.org/programs](http://arborday.org/programs).

## AFTER

After a storm, removal or repair of hazardous trees takes priority. Then, it is best to give all damaged trees a partial pruning, returning as work schedules allow for a more complete pruning. In all cases, crews should be reminded to work safely and to adhere to good pruning techniques rather than doing a poor job rapidly.

- Take advantage of “the teachable moment.” Arborists often struggle to get the attention of the public to promote good tree practices. When a storm strikes, trees suddenly enter the spotlight of news. The news media will be hungry, not only for hard news about the storm and its effects on the community, but also for related vignettes or short features. Use this opportunity to promptly give every media outlet in your area a Storm Recovery Kit. The kit, prepared by the Arbor Day Foundation, provides information that will help educate citizens about tree physiology, proper pruning, selecting and working with a professional arborist, preventing future storm damage, and other tree-related topics.

- Create good public relations out of a bad situation by clearly demonstrating your concern for the plight of local residents. Two good ways are to provide curbside pickup service for downed branches (perhaps also providing phone numbers of volunteer groups who would help with yard clearing for handicapped or the elderly), and making chips available free for mulch. Chip trucks can place the piles at convenient locations like neighborhood parks. Publicize these and other emergency services through the mass media and social networking. Also notify police dispatchers and others who are contacted by the public with inquiries.

## PREPARING YOUR TREES

Storms can create a major impact on municipalities, which is one good reason for having a preventive tree maintenance program that includes:

- ✓ Careful species selection for street and park plantings (for example, avoiding brittle species).
- ✓ Rotations to prune all trees on a three- to five-year cycle (with attention to developing strong branch structure and thinning the crown).



- ✓ Annual inspection to identify hazard trees, with removals as necessary.
- ✓ Avoiding trenching near trees. This cuts important anchoring roots. Tunnel under the tree instead.



# Working With the Media

*A few principles will help urban forestry professionals work successfully with the media to ensure accurate information and good public relations after a storm:*



A major storm can be devastating enough without having incorrect or misleading information being disseminated to residents. A good relationship with local news media can help ensure that community leaders and residents have an accurate understanding of what's going on.

- ✓ Be honest and helpful. Don't try to avoid reporters. Answer their calls promptly so they can meet their deadlines and so they get the expert information they need. If you don't know the answer to a question, say so and try to refer them to the proper person (with name and phone number) who can give the information. Go out of your way to be helpful to media personnel.
- ✓ Immediately develop a fact sheet. Give it to all personnel who may be contacted by the media for interviews. Include in the checklist such things as estimations of damage, number of crews on the job, what equipment is being used and where it is working, emergency services available, dangers the public should know about, suggestions for homeowners, and other information deemed important. Update this information several times a day. A form for this purpose can be printed in advance.
- ✓ Have handouts ready. During the off-season, spend some time preparing a kit of information about the urban forest, Tree City USA, and short articles about tree care or emergency cleanup. You can develop your own or download the Storm Recovery Kit from the Arbor Day Foundation's website, [arborday.org/storm](http://arborday.org/storm). Provide these to reporters after a storm. They may not use the material exactly as written, but most will appreciate the information and use part of it. It is a win-win situation because it makes the reporter's job easier, it gives information to the public during a teachable moment (when people are interested and receptive to it), and it gives you the chance to get factual material to large numbers of people at little or no cost.
- ✓ Be sure to contact and treat equally all newspapers, radio stations, and TV stations. Explain who you are and the kind of information you can provide.
- ✓ Keep a clipping file for use in annual reports and as one more way to describe the impact of your program to municipal officials. Also, keep a list of reporters as you get acquainted with them. Later, contact them and suggest taking them along with you sometime during a regular work day to get a better look at the community's urban forestry program. Some nice feature articles throughout the year will go a long way toward creating a good public image as well as providing residents with the kind of tree care information that will help minimize damage from future storms.

# Warn Residents to Prevent Rip-Offs

To counter the problem of unqualified tree workers soliciting work from storm victims, one community has created doorknob hangers. On one side is some general information about storm damage and the need for follow-up care or removal. On the other are "Tips for Hiring a Tree Care Professional." The list on page 4 of this bulletin makes a good outline for this side of the card.

Most copy shops have card stock already cut for duplicating your message and a supply can be printed in advance of a storm emergency. Black ink on yellow paper will catch attention best. Volunteers, such as a scout group, can be enlisted to place the hangers on the doors where tree damage has occurred.

## PREVENTION IS THE BEST CURE

There is little that can be done to prevent damage from tornadoes, hurricanes, or severe thunderstorms. Ice storms, however, are a different matter. In regions where history proves that ice storms can be expected, it is prudent to plant trees that are resistant to breakage from heavy loads. Here is a list of recommended trees developed by R. J. Hauer and colleagues and published in the *Journal of Arboriculture*:

- |                   |                     |
|-------------------|---------------------|
| American Sweetgum | Ginkgo              |
| Arborvitae        | Ironwood            |
| Baldcypress       | Kentucky Coffeetree |
| Black Walnut      | Littleleaf Linden   |
| Blue Beech        | Silver Linden       |
| Catalpa           | Swamp White Oak     |
| Eastern Hemlock   | White Oak           |



Species of intermediate resistance are:

- Bur Oak
- Eastern White Pine
- Northern Red Oak
- Red Maple
- Sugar Maple
- Sycamore
- Tuliptree

## GROWTH AWARD OPPORTUNITY

Developing a tree care emergency plan may qualify for points toward a Tree City USA Growth Award. The disaster plan should outline who will provide what services after a storm, mutual aid agreements, and how to work effectively with the media. For a complete list of requirements and qualifying activities, contact the Arbor Day Foundation or your state foresters's office, or go online to [arborday.org/treecityUSA](http://arborday.org/treecityUSA).

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town or city must meet four standards:

- Standard 1: A tree board or department
- Standard 2: A tree care ordinance
- Standard 3: A community forestry program with an annual budget of at least \$2 per capita
- Standard 4: An Arbor Day observance and proclamation

Each recognized community receives a Tree City USA flag, plaque, and community entrance signs. Towns and cities of every size can qualify. Tree City USA application forms are available from your state forester, the Arbor Day Foundation at [arborday.org/treecity](http://arborday.org/treecity), or your state forestry agency.

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## FOR MORE INFORMATION ...

Please visit [arborday.org/bulletins](http://arborday.org/bulletins) for helpful references relative to Bulletin No. 2.

