

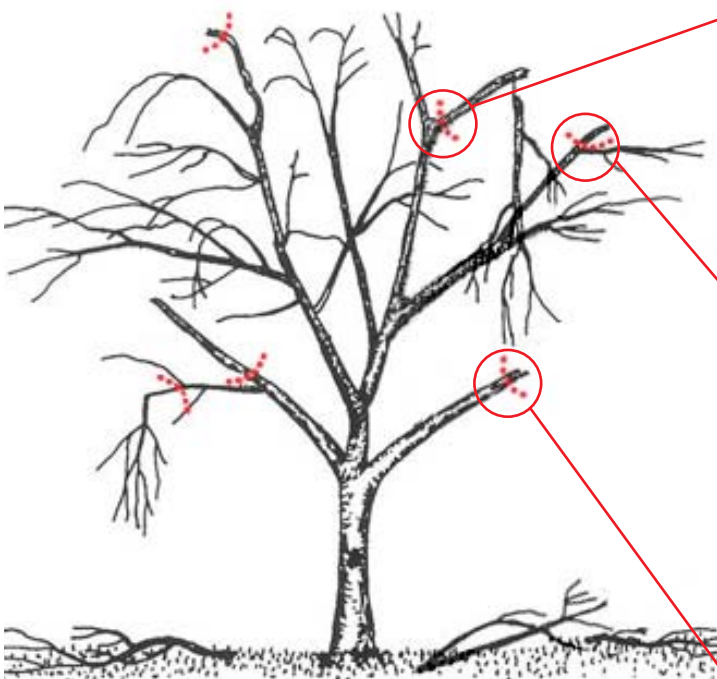
Restoration Pruning: After the Storm

Clean the Canopy

When hiring a certified arborist to restore your trees after a hurricane, know what to expect. A good restoration program begins with cleaning and takes more than one visit to the tree. Immediately after the storm, the canopy should be cleaned by removing hazards such as large dead branches and broken limbs. Cleaning also includes making smooth pruning cuts behind jagged branch tips to allow healthy development of new growth. Very little live wood should be removed because the tree is stressed, and needs to use energy stored in the limbs to recover.

Pruning plan

- Before pruning, make sure the tree is restorable.
- Determine whether the tree is personal or municipal property to avoid unnecessary expenses.
- Look up! Use binoculars to check for broken branches in the upper canopy, and look for cracks along limbs.
- Remove broken, hanging limbs first.
- Make clean cuts behind jagged tips of broken branches.
- Do not remove live wood unless the limb is cracked and may hit a person or property.
- Use a reduction cut as a first choice; if there is not a lateral branch, use a heading cut.



Cleaning the canopy: The red lines indicate where to make pruning cuts on this tree.

During restoration, water the tree in dry periods to alleviate stress. In most cases, fertilization is not necessary.

Make good pruning cuts

Pruning a limb is a three-step process.

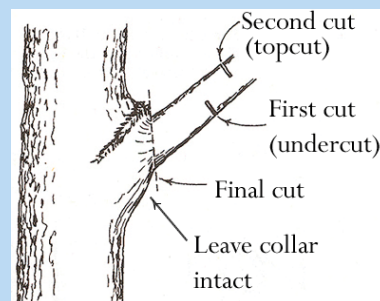
Step 1: Make an undercut about 12 inches from the trunk.

Step 2: Make a topcut farther out on the limb.

Step 3: Remove the stub with the final cut, being careful not to cut flush against the trunk or branch. Leave the collar intact.

What is the collar?

The collar, labeled in the diagram, is the swollen area at the base of the branch where it joins the trunk. The tissue is rich in energy reserves and chemicals that hinder the spread of decay. Good pruning cuts avoid cutting into the collar.



Removal cut

After a hurricane this type of cut is used to remove broken, cracked, and hanging limbs. A removal cut prunes a branch back to the trunk or parent branch. Remove hanging limbs first so that branches do not fall and cause injury. Use caution when removing broken limbs to avoid injuring other branches or the trunk.



Reduction cut

This type of cut is used for making clean cuts behind jagged tips of broken branches. A reduction cut shortens the length of a stem by pruning back to a smaller limb, called a *lateral branch*. The lateral should be at least $\frac{1}{3}$ the diameter of the pruned branch, as shown in the picture. Reduction cuts are a better option than heading cuts.



Heading cut

Although not usually recommended for routine pruning, heading cuts are sometimes appropriate on damaged trees if removing the entire limb would remove too much live wood. The food stored in live limbs helps the tree to sprout and produce new leaves. A heading cut is made at a node along the stem, leaving a stub.

Restoration Pruning: A Few Years Later

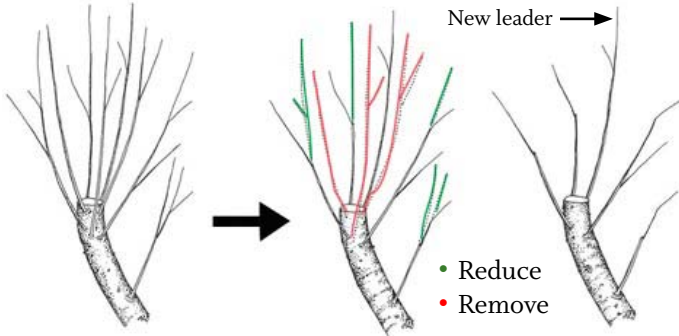
Reduce Some, Remove Some, Leave Some

A management strategy for sprouts on recovering trees

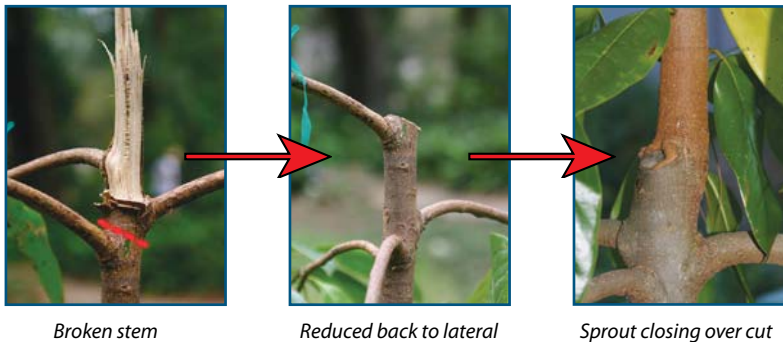
The next step in restoration is managing sprouts to build structure back into the tree. Sprouts should be allowed to grow for a few years before any major pruning is performed. Remember: sprouts are a sign of recovery! Sprouts work to restore the tree's ability to make food, taking the place of the leaves lost in the hurricane. As sprouts get larger and start to compete with each other for light and space, their growth rate will slow. At this point, 1/3 of the sprouts can be removed, 1/3 reduced (or cut shorter), and the rest left to become the new branches. Keep in mind that this process will need to be repeated over a period of years, and the length of time needed for restoration will depend on factors like damage severity and size of the tree.

Before restoration pruning

After restoration pruning



The goal of sprout management is for the new leader to close over the pruning cut.



Here is a young tree broken in the storm. The stem on the left received a reduction cut (dotted line). Several sprouts emerged from the cut. Competing sprouts were shortened, then removed. The picture on the right shows the tree one year later, and the remaining sprout is closing over the cut. Branches larger than 4 inches in diameter are less likely to close over.



After Restoration Build strong structure

Begin structural pruning by either reducing or removing codominant stems. See *Preventive Pruning* (page 10) to learn more.

How long does restoration take?



Listed below are factors to consider that affect the amount of time trees will need for recovery.

- **Age:** young trees recover faster because they are more vigorous.
- **Size:** large trees may require more pruning visits to correct structural problems.
- **Amount of damage:** severely damaged trees need more time for restoration.
- **Species:** decay resistant trees are more likely to have a strong recovery.
- **Health:** trees in poor health before the hurricane are less likely to recover.

Is a heading cut the same as topping?



No! Topping is a harmful practice where the entire canopy of a tree is severely reduced with many large heading cuts. Topping (also called hat-racking) can lead to decay and reduce tree vigor. Heading cuts should not be used as a standard practice on healthy trees.

Topping – the entire canopy has been reduced with heading cuts; very harmful to the tree.

When are heading cuts acceptable?



Heading cut – this small branch of a storm damaged tree can be restored through sprout management.

Storm damaged trees may not have a lateral branch present for making a good reduction cut. In that case, a heading cut may be preferred over removing the limb. Removing an entire limb could reduce energy reserves in the tree, create a large trunk wound, and lead to decay.