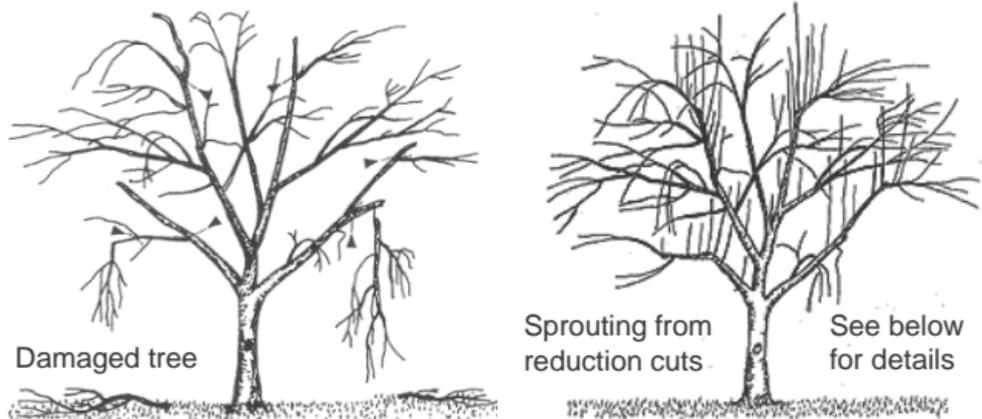


# Restoration Pruning

The restoration process can begin immediately following a storm. First, remove crossing, rubbing, broken parts of branches, or dead stubs and branches (Fig. 1). Use removal and reduction cuts where practical and heading cuts where necessary. Use heading cuts to avoid removing long sections of live wood, large pruning cuts on the trunk, or severely altering structure.

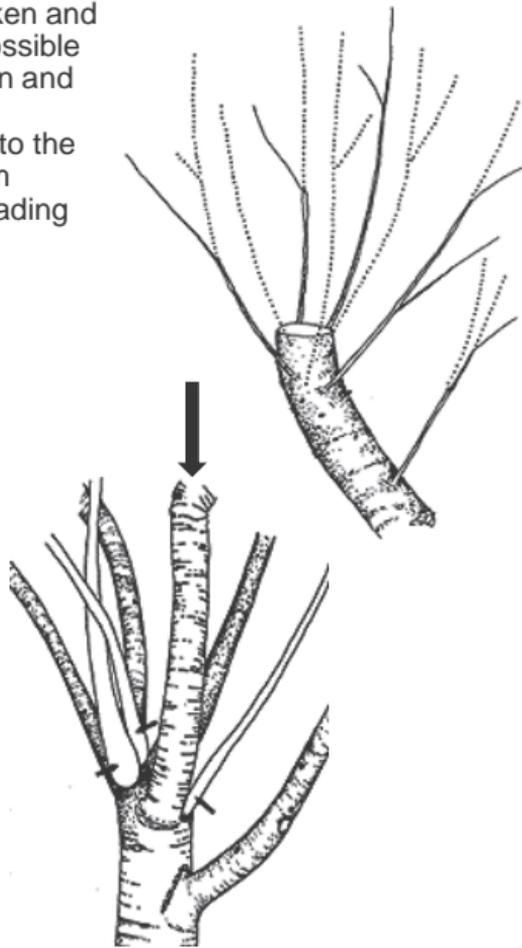


**Figure 1.** Clean the crown of broken and detached branches as soon as possible following the storm using reduction and removal cuts (left). Sprouts from reduction cuts are better secured to the parent branches than sprouts from heading cuts (right). However, heading cuts are sometimes unavoidable.

## SPROUTS ARE GOOD!

Sprouts usually begin growing from the branches and trunk when the storm occurs during the growing season; growth will be delayed following fall or winter storms.

- Sprouts become the new crown and build back energy reserves.
- Restoration pruning encourages sprouts to form a strong replacement crown.
- Delay pruning sprouts until the tree's foliage volume is substantial and approaches the pre-storm amount. This may take several years. Some very old trees lack vigor so pruning will not be necessary for a long time.
- Remove or reduce some sprouts once sprouts begin forming branches and compete for space in the crown.



**Figure 2.** Remove some sprouts and reduce others (dotted lines) so retained sprouts can dominate and help close the wound (top). Older sprouts are pruned in the same manner (bottom). Those shown in white can be removed and the others shortened so the largest one (arrow) can dominate. The same strategy can be used on topped trees.

## MANAGE SPROUTS

Sprout position and orientation is important because they become the new branches that replace those destroyed by the storm. Sprouts on species sensitive to decay such as Laurel oak and Royal poinciana may not form strong connections with parent branches. In those species, crown reduction may be advisable.

- Repeated pruning restores strong structure by guiding branch position and future growth.
- Select one strong sprout close to the broken branch tip in line with the main axis of the broken parent branch (sprout "b" in Fig. 3).
- Over time, reduce and remove other sprouts to favor growth of the dominant sprout, but maintain adequate foliage for overall tree health.



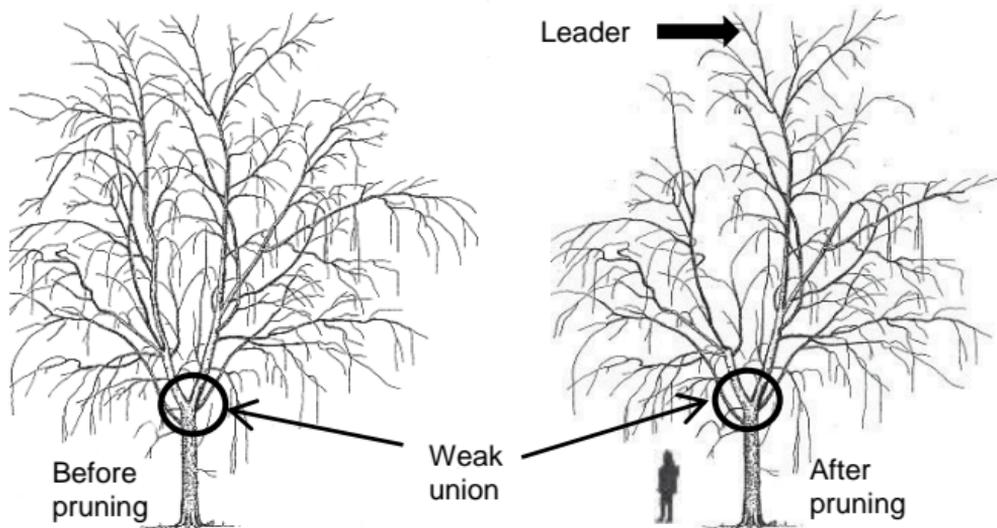
**Figure 3.** There are too many sprouts crowded together (top). Shorten some and remove others (dotted lines) so the remaining ones ("a" through "d") develop lateral branches (bottom).

## SPACE SPROUTS APART FROM ONE ANOTHER

- Sprouts that are spaced apart from each other become increasingly better connected to the parent branch over time, provided the parent branch has ample live wood.
- Retain as many sprouts as possible on trees that sprout slowly (low vitality), or when they are spaced out naturally.

## REDUCE CONDITIONS CONTRIBUTING TO WEAKNESS

Codominant stems represent weak structure, especially when inclusions are present in the union. Restoration pruning reduces sprouts and branches that compete with the leader (Fig. 4).



**Figure 4.** Stems competing with the leader were reduced in length on the left and right side of the crown.

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