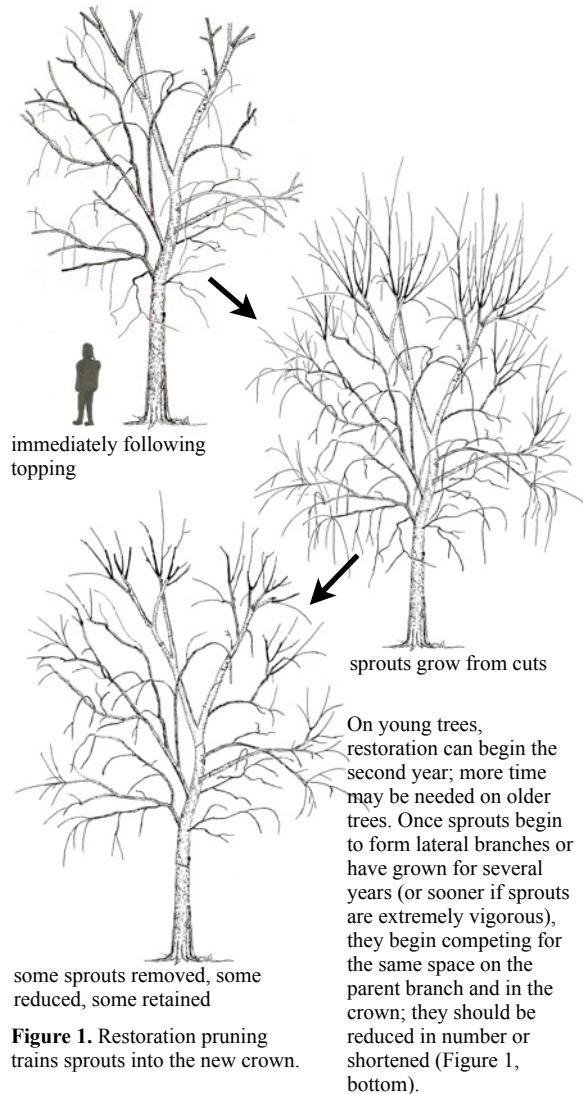


# Restoring Topped Trees

Restoration is pruning conducted on topped or damaged trees over time. New sprouts readily grow to replace lost foliage (Figure 1). Sprouts provide the means to restore energy reserves in the living wood inside the tree and to grow a new crown. However, sprouts can become weakly attached and can break if not managed correctly. Restoration pruning helps prevent this by guiding growth and selectively pruning sprouts and branches to produce structurally strong architecture.



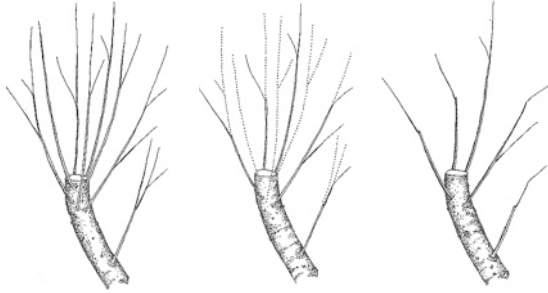
## SPROUTS ARE GOOD!

- Selected sprouts become the new crown and restore energy reserves.
- Restoration pruning encourages sprouts to form a strong replacement crown. Two or more pruning applications may be required over several years.
- Delay pruning sprouts until the tree's foliage volume is substantial and approaches the pre-topping amount. This may take several years.
- Remove or reduce undesirable sprouts once sprouts begin forming branches that compete for space on the parent branch and in the crown.

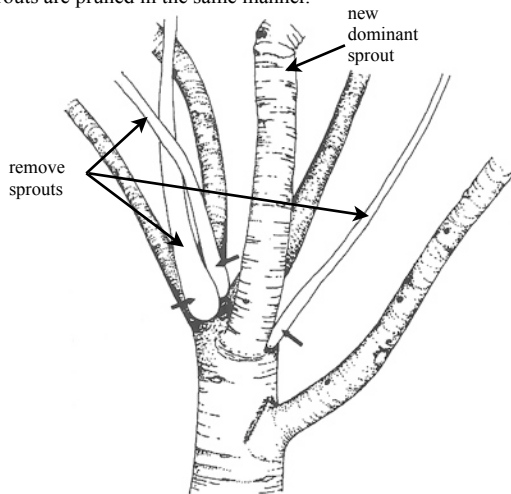
## MANAGE SPROUTS

Sprout growth depends on the season when the topping or damage occurs and the vigor of the tree. Sprouts may begin growing immediately, or growth may be delayed until the following growing season. Proper sprout management is the key element of restoration pruning. The position and orientation of sprouts is important because they become the new branches that replace those that were lost or destroyed.

One sprout should be trained into the leader at each headed branch by subordinating and removing others that compete with it (Figure 2). Reduce sprout crowding so future growth will not interfere (Figures 2 and 3). Sprouts on species sensitive to decay may not form strong connections with parent branches. In those species, crown reduction in perpetuity may be necessary.



**Figure 2.** Remove some sprouts and reduce others (dotted lines) so selected sprouts can dominate and help close the wound. Older sprouts are pruned in the same manner.



**Figure 3.** Sprouts shown in white should be removed and the others shortened so the largest one can dominate. This encourages the dominant sprout to grow faster than the others and assume the role of the replacement branch. Over time replacement branches may need to be shortened to balance branch size with sprout attachment strength and parent branch decay.

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