A PRACTICAL GUIDE TO

TREE PRUNING

HOW NOT TO GET CLIPPED

BECOME AN INFORMED CONSUMER OF TREE CARE SERVICES

TREES ARE VALUABLE!

Trees provide many benefits. Beyond their aesthetic and emotional value, trees add quantifiable value to your landscape! Did you know that a healthy and well-placed tree with good structure could be worth tens of thousands of dollars... sometimes hundreds of thousands!? Meanwhile, a tree in poor condition can be a liability. It's costly to repair or remove a dying or hazardous tree.

Many factors comprise a tree's value, but two important concepts remain the same:

- In the wrong hands, a tree's value plummets along with the health, beauty, and structure of the tree.
- In the care of a qualified arborist, tree value generally increases.

PRUNING is one of the most misunderstood practices in horticulture and incorrect pruning is damaging to the tree. A poor pruning job will leave your tree damaged and ugly, and can decrease your landscape's value substantially. Uninformed pruning decisions often send trees into a permanent spiral of decline or can even cause their death outright. Never begin a pruning operation without a clear understanding of how your tree will respond to being pruned in different ways, at different times of year.

It is vitally important that you consider the qualifications of the tree trimmers you hire to assist you. Trees are valuable and require proper care, so you should judge your contractor just as you would judge any other contractor that you would want to work on your home, not necessarily by their price tag. Though a tree care company should have a contractor's license, and be adequately insured, licensing alone does not guarantee competence. Help with selecting a tree care contractor is discussed later in this document. This brochure aims to help you be a smart consumer of tree care services by educating you about correct pruning practices, and helping you to critically evaluate proposals.

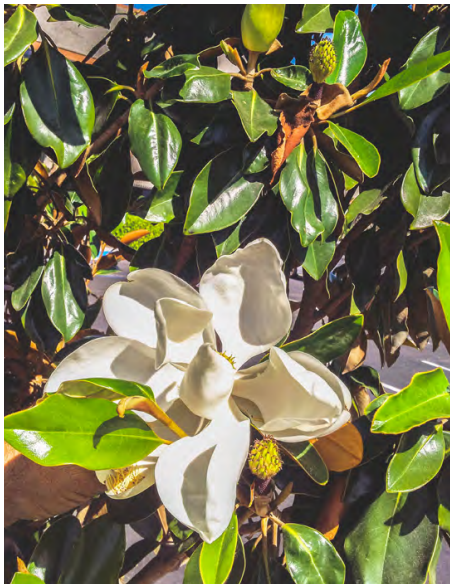
RECOGNIZING GOOD PRUNING PRACTICES

Pruning is both a science and an art. The science helps us to understand the plant's responses to pruning; the art ensures that when the work is done, the results are visually pleasing and have fulfilled the predetermined goal. Don't prune just because you think you should. Very few trees require annual pruning, and some trees may never need to be pruned. In most circumstances, control over a tree's growth and health can be accomplished with minimal pruning. An understanding of proper pruning will help you maintain your tree's value and achieve your desired goals without destroying your tree's appearance and incurring unnecessarily high costs.

Over-pruning is better for the unqualified contractor's wallet than it is for the tree.

Well-pruned trees in the landscape do not look "pruned." They have a natural look because good pruning is essentially invisible. Although other pruning systems exist to achieve certain looks (sheering, espalier, etc.), the "natural" system is ideal for most tree pruning. Pruning to maintain the natural shape of a tree requires an understanding of the ultimate size and mature shape of the plant that you want to have pruned. Make sure the arborist you hire has that knowledge prior to beginning the natural pruning process.

If year after year, the costly removal of a large amount of living branches again and again is the only way to achieve your goals, then you may want to plant a different tree entirely. Planting the right plant in the right location can prevent the need for drastic or frequent pruning. Proper planning and landscape design will save you time and money while maintaining the natural form and density of your plantings.



▲ *This magnolia tree is over-pruned. Not only is this stressful to the tree, and a waste of money, but it hinders the beautiful flowering seen above.* ▲▲

WHY PRUNE?

REDUCE RISK

Fear of tree failure is the most common reason trees are pruned. Unfortunately, this fear frequently leads to tree topping and over-thinning, practices which are extremely harmful to trees. "Topping" is the indiscriminate cutting of tree branches to stubs that removes the majority of a tree's canopy. Other names for topping include: heading, tipping, hat-racking, and rounding over. Topping that removes all green growth will kill pine trees and most other conifers.

A homeowner may feel that a tree has become too large for his or her property, or that tall trees pose an unacceptable risk. Topping, however, is not a proper method of height reduction and certainly does not reduce future risk. In fact, topping will increase risk in the long-term since new branches grow fast and are weakly attached. This leads to greater risk of failure in the future.

IS YOUR TREE RISKY?

If you are concerned that your tree might be hazardous, have it evaluated by an arborist credentialed by the American Society of Consulting Arborists or the International Society of Arboriculture. Ask them about alternatives to pruning that could also mitigate risk. Supplemental support systems (cabling, bracing, and propping), or just relocating a potential target might be a better solution than pruning. If pruning is the best course of action, a lighter touch is usually preferable. Research suggests that a 15 percent weight reduction off the end of a branch can reduce the likelihood of that branch's failure by as much as 50 percent. This small loss will have minimal impact on the tree. Conversely, removing large amounts of live branches can trigger a stress response, resulting in rapid and excessive growth as the tree struggles to regain the resources that were pruned away.

Pruning rarely boosts tree health. Some exceptions exist where diseased tissue must be removed before it spreads to healthy parts. Tree health relies heavily on its available foliage. Without leaves, trees cannot make food for themselves. To reduce risk, it may be appropriate to clear out dead, dying, broken or weakly attached branches, as well as any diseased branches that may threaten the tree's future well-being.

PLEASE DO NOT TOP TREES

"Topping, heading-back or stubbing is an unnatural and destructive pruning technique used to reduce tree height. It is commonly practiced on trees under power lines and on many publicly and privately-owned trees. People often assume that because they see it done so frequently that it is an appropriate way to prune trees. Unfortunately, few people are aware of how a tree grows, closes its wounds, and prevents the spread of disease and decay throughout itself, otherwise it would be a rare sight."

MANAGE WILDLIFE HABITAT

Pruning activities may affect wildlife, either directly through disturbance and damage to nests with eggs or young, or by reducing habitat such as food sources, cover, and roosting sites. Pruning activities may violate certain regulations, including the Migratory Bird Treaty Act, the Endangered Species Act, and other federal, state and local regulations. Most birds and all endangered species in California are protected from harm, and violators are subject to significant penalties.

Before pruning at any time of the year, trees should be checked for nests, especially during spring and summer. If eggs or young are present, it is best to return when the young are no longer dependent on the nest or the nest tree. In an emergency, such as when there is risk to people or property, any work near an active nest must be done for safety reasons. A wildlife biologist should be consulted to determine safe work buffers, or to assist if necessary in getting a permit to disturb or remove the nest. Many factors must be considered when working adjacent to an active nest. You can find a wildlife biologist and more guidance on how to avoid harm to nesting wildlife at TreeCareForBirds.com.

Nuttall's Woodpecker by Peggy Honda. The Cavity Conservation Initiative.

Heavy fruit set on queen palms can be pruned before fruit falls. Photo by Joseph Talarico.

Lion-Tailed Tree - interior foliage removed.

Laced Tree - overly-thinned canopy.

MANAGE FLOWER/ FRUIT PRODUCTION

Fruit trees that are harvested require specialized pruning techniques not illustrated here, but other types of trees that produce fruits and flowers can be managed through natural pruning. Flower stalks are often removed from palms annually to prevent messy fruit litter, and some flowering trees are pruned following bloom to encourage more blossoms the following season.

IMPROVE AESTHETICS

Some trees may look nicer after a trim. Wild twigs that chase the light can escape the rest of the canopy giving trees a frizzled look that some find displeasing. Often times, those branches can become overextended by growing too rapidly, and can cause future failures. It may make sense to conservatively reduce them.

IMPROPER PRACTICES

Over-thinning that reveals the entire trunk and branch architecture of a tree is one of the more destructive forms of pruning and is sometimes referred to as "lacing." There are species of trees that look this way naturally, but most trees do not. Lacing should be discouraged for many reasons, the least of which being the unnecessary cost. Another poor pruning practice known as "lion-tailing" weakens branch structure by removing all the important interior foliage that is necessary to develop strong branch architecture. Leaving all the weight at the end of branches increases the chance that they will break.

DEVELOP STRUCTURE

Structural pruning is commonly practiced on newly planted and young trees to encourage the development of a strong, stable structure. Older trees can often benefit from structural assistance as well, whether it is through pruning or the addition of supplemental support systems. Arborists need specialized training to do this type of work correctly. Structural pruning reduces the need for frequent pruning as a tree matures, which reduces costs in the long term. According to current tree appraisal methods, proper structural pruning will also increase the value of your tree.

WHEN TO PRUNE

The time of pruning depends on your goals and objectives. In Southern California, we grow a variety of evergreen and short-season deciduous plants that can be pruned at any time without harm to plant health, form, or function. However, increasingly high temperatures in summer are leading to more and more sunscald-related damage. Late spring and summer pruning that exposes previously shaded trunk and leaf tissue should be avoided until temperatures begin to cool in the fall. Pruning of deciduous plants is best accomplished in the fall or winter during their dormant season. Avoid pruning pine and eucalyptus trees in warmer, dry months because pruning wounds can attract borers that kill trees quickly. Fall and winter pruning will heighten flowering of trees and shrubs that flower on new growth.

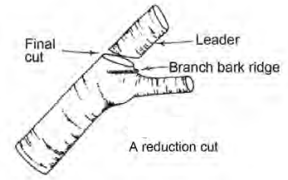
▲ *This California sycamore has a strong structure characterized by one main trunk/stem with subordinate lateral branches.*

HAVE A QUESTION ABOUT FRUIT TREES?

The California Backyard Orchard

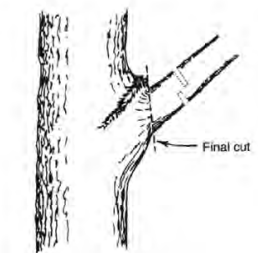
http://homeorchard.ucanr.edu/

ACCEPTABLE PRUNING CUTS



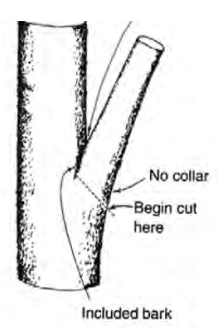
Reduction Cuts

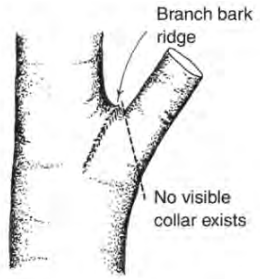
A reduction cut is a pruning cut that removes the larger of two or more branches. Typically, the remaining branch should be at least one-third the diameter of the stem or branch being removed. Reduction cuts larger than 2 inches in diameter are not recommended and can lead to future failures of the remaining branch.



Removal Cuts

A branch removal cut is a cut that removes a branch at a union or parent stem. Removal cuts retain the branch bark ridge or branch collar and do not create a stub. The branch collar is the swollen area below the branch. The tissue is pronounced in this area because the trunk and branch fibers are overlapping. If this tissue is harmed during a removal cut, then a direct pathway is created for decay into the main stem.





When a branch collar is not apparent, the cut must be made without cutting into the branch bark ridge, parent stem, or leaving a stub. Removal cuts larger than 4 inches in diameter should be avoided in favor of reduction cuts, or even heading cuts (discussed below). Large pruning wounds are more likely to be infected by wood decay fungi. Smaller wounds are more likely to close, which reduces the likelihood of infection. In general, the least amount of pruning possible to achieve the intended goal is ideal.

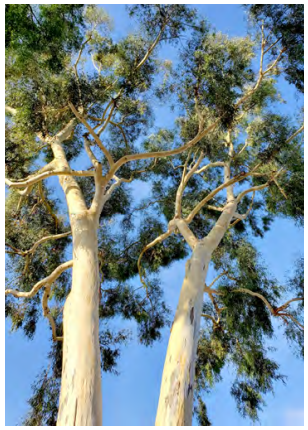
UNACCEPTABLE PRUNING CUTS

Flush Cuts

Flush cuts are cuts that damage the branch bark ridge and/or branch collar. They are made by shaving off branches "flush" with the trunk. Flush cuts can cause long-term damage and decay in the parent stem or branch, and should always be avoided.

Heading Cuts

Heading cuts prune branches or stems to stubs or to a lateral branch that is too small to sustain what remains on its own. These types of cuts often trigger a sprouting or "heading" response. These sprouts develop much faster than normal twigs and branches, and quickly outgrow their points of attachment. **Heading cuts should not be used to reduce the height or size of trees. This practice is called topping and is extremely damaging to shade trees.** If a qualified arborist is using heading cuts for restoration of damaged plants, structural development of young plants, or other specialty circumstances, plans must be made to manage the resulting sprouts. Apart from being a waste of money, heading cuts can lead to a maintenance nightmare, and increased risk



◄◄ These lemon-scented gums (Corymbia citriodora) have not been topped and exhibit the natural form of the species. ◄ This lemon-scented gum has been topped with one large heading cut through the main trunk. The tree's structure has been destroyed and stands no chance of recovering the structural capacity of the species.

PREPARATION AND EQUIPMENT

- ☐ Sharpen your tools. Dull clippers, loppers, or saws create a jagged cut that will be more prone to peeling or decay. For hand equipment, a small triangle or flat file will sharpen your clippers in just a few minutes time.
- ☐ Get close to the cut. The farther you are from the cut, the lower the quality. Cuts made with pole equipment degrade proportionately with the length of the pole. Climbing equipment and aerial lifts are everyday tools for professional arborists.
- ☐ Never use or allow others to use climbing spikes for routine tree maintenance. Climbing spikes are acceptable for tree removals and emergency climber rescues only.

▲▲ Tree work requires a high level of skill and can involve the use of heavy equipment. ▲ This Canary Island date palm has died from a fungal disease.

GOT TREE DISEASE?

You can minimize the spread of certain deadly diseases by sterilizing your pruning tools. For example, some palms can be killed by lethal fungal diseases spread by contaminated pruning tools. You can soak blades in a 10 percent bleach solution or use a commercial aerosol disinfectant (e.g., Lysol ™) between trees. A propane torch can also sterilize a pruning blade in 10 seconds. The use of pruning paints, wound dressings, tree sealants, or other concoctions has been shown in numerous studies to be of little value.

PRUNING PALMS

Palm pruning is just as often misunderstood as the pruning of regular trees. It is all too common to see trees cut to “ten o’clock & two o’clock” where only a few fronds remain at the top. No matter the landscape trend, the same rule applies: Plants need leaves to make food—the more you take away, the more it stresses the tree. Over-pruning palms leads to an extreme narrowing of the trunk known as “penciling” or “hour glassing” and can result in tree failure.

Proper palm pruning involves only removing the dead fronds and allows for the removal of flower or fruit stalks that can create a mess of nuisance fruits. Care must be taken not to nick remaining fronds with pruning equipment, as even a small cut can cause frond failure in some species. When pruning living tissue on palms, pruning tools must be sterilized to avoid spreading disease. Chainsaws are difficult, if not impossible, to sterilize. Their use should be restricted to dead fronds only. Tearing leaf bases off of trunks prematurely is also injurious. Climbing spikes do unnecessary harm to vascular tissue, and can also spread diseases to palms.

▲ *This fan palm is a healthy tree with a full head of green fonds.*

▲ *These trees are an example of over-prunned palms. This practice is unnecessary and harmful. Photo by Donald R. Hodel, Emeritus Environmental and Landscape Horticulture Advisor.*

FINDING A COMPETENT AND PROPERLY INSURED ARBORIST

When you get a bid for tree work, you should interview the arborist to evaluate their qualifications:

1. Knowledge and Credentials

Ask the tree care provider the following:

- ☐ **"Are you a member of the International Society of Arboriculture (ISA), its Western Chapter, or the Tree Care Industry Association (TCIA)."**

  Members of these organizations are more likely to be educated about the latest industry science and technology, which is more likely to result in proper, cost-effective management.

- ☐ **"Do you employ an ISA Certified Tree Worker or ISA Certified Arborist?"**

  You can verify their credentials by selecting the "Find An Arborist" tab at www.treesaregood.org.

- ☐ **"Are you familiar with the ISA Best Management Practices (BMPs) booklet on pruning and/ or the ANSI A300 Standard?"**

  These are the "how to" manuals of proper tree care. If they have never heard of them, chances are they don't know "how to," and your tree could suffer irreversible harm.

- ☐ **"Is it possible to see any of your previous work?"**

If the prospective arborist does not answer the above questions to your satisfaction, keep searching. There are no trade skills exam requirements for tree contractors in California, so few tree company employees are adequately trained. Be a smart consumer; double check credentials and don't be afraid to call more than one company.

2. Licensing and Insurance

Unlicensed workers are considered employees of the individual properties they work on, regardless of the amount they charge. That means they are your employees, and you could be held responsible if they are injured (California Labor Code 2750.5).

Ask the tree care provider the following:

- ☐ **"Do you have a current and active C61/D49 (Limited Specialty Tree Service) or C27 (Landscape License)?"**

  If they do, the license number must be on their cards and all forms of advertising. Check the state license number and the status of their bond at cslb.ca.gov.

DO NOT accept copies of insurance documents provided by the arborist. Ask for certificates to be sent from the insurance provider. This only requires a call by the arborist at no cost.

They should provide evidence of the following:

- **X** Current workers' compensation policy (You can also check workers' compensation insurance at cslb.ca.gov.)
- **X** Public Liability and Property Damage insurance (PLPD)
- **X** If you are hiring a consulting arborist for expert advice on tree management, such as tree pruning specifications, insect and disease diagnosis, they should provide evidence of Professional Liability Insurance (Errors and Omissions Insurance).

INLAND URBAN FOREST COUNCIL

This document was produced by the IUFC in 2020 in the spirit of our mission *to promote the benefits and sustainable care of trees to expand our collective urban forest*. This document was made possible due to the generous support of the City of Riverside, US Forest Service, CAL FIRE, Inland Empire Resource Conservation District, Coachella Valley Resource Conservation District, and West Coast Arborists.

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