

NATURAL AREAS TREE MAINTENANCE GUIDE

Trees in natural areas are crucial components of local ecosystems, making their preservation and care a wise investment for conservation efforts. Thriving natural areas enhance biodiversity, support wildlife habitats, contribute to scenic beauty, mitigate stormwater runoff, improve air quality, and provide essential ecosystem services. Regular maintenance of new and established trees ensures the resilience and ecological integrity of natural areas for future generations to enjoy and benefit from.

New Tree Maintenance

Irrigation: Trees require consistent, thorough watering for at least three years post-planting (Figure 1).

- Any newly planted trees that don't experience the equivalent of 1 inch of rainfall a week should be placed on a watering schedule.
- Know the soil texture at the planting location to understand its water-holding capacity.
- Establish a soil moisture monitoring protocol to ensure adequate water levels throughout the year.
 - Watering season for most trees mimics the growing season, approximately May 1 through October 31.
 - Deciduous trees need no supplemental water when leaves are not on trees, approximately November 1 through April 30.
 - Conifers and broadleaf evergreens should receive supplemental water throughout the fall and winter, approximately November 1 through April 30.
- Newly planted trees should receive a minimum of 1 inch of water per inch of caliper per week.
 - To offset the lack of water provided by rain or the water table at the site, newly planted trees should receive a minimum of 5 gallons of water per caliper inch at each watering.

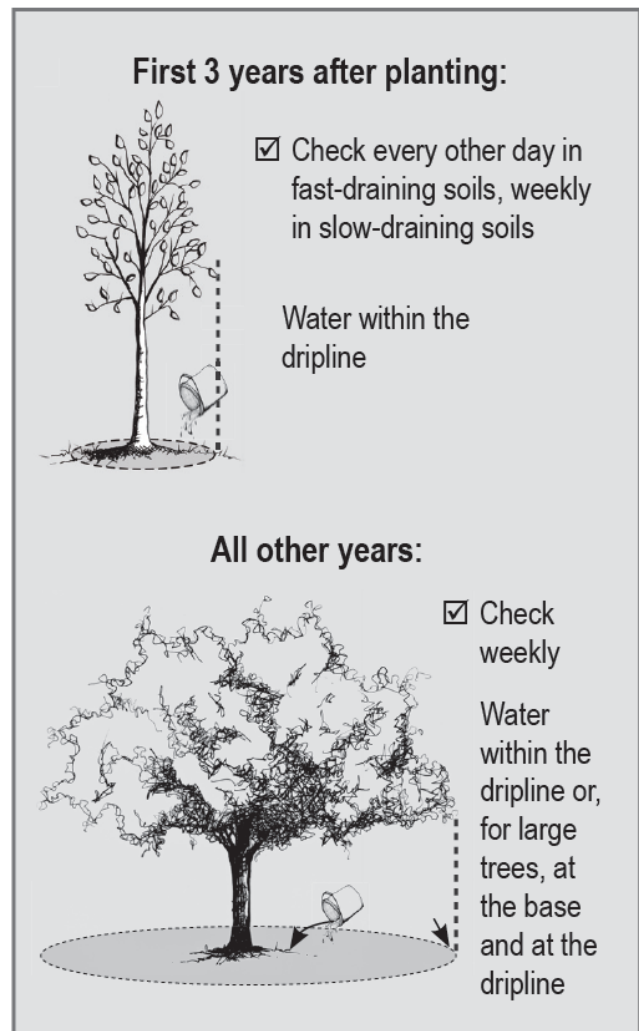


Figure 1: First 3 years after planting: If the soil is dry, provide about 1-1/2 gallons of water per diameter inch of the trunk. Source: US Forest Service Tree Owner's Manual. www.treeownersmanual.info.

- Several methods of irrigation can effectively water trees in natural areas, including hand-watering, irrigation bags, or bucket drip irrigation.
- Tall-sided irrigation bags should be used only when trees are a minimum of 1.25 inches in caliper, with branching starting above 3 feet.

Planting Circle Maintenance: Reduced environmental stresses, such as temperature extremes or weed competition, positively impact tree health.

- Keep the initial planting circle clear of vegetation and other debris by removing it by hand or cutting it with a string trimmer, careful not to strike the tree trunk.
- If mulch maintenance is attainable or desired, use natural wood chips or shredded bark, needles, or leaves free of any extraneous material such as soil, stones, and debris.
- Replenish mulch as needed to maintain a 2- to 3-inch-deep layer around the tree, leaving 3 inches around the trunk clear from mulch.
- Do not use weed killer near small or thin-barked trees.

Tree Protection

- Rabbits and deer may browse on trees shorter than 3 feet tall.
- Make a 4-inch wide and 32-inch tall wire cage to place around the tree (Figure 2).
- Secure the cage to the ground with a stake.
- Plastic tree guards are also effective.
- Voles, mice, and rabbits may damage stem cambium using wood to trim teeth.
- Apply a repellent following labeled directions.
- Deer may damage stem cambium using the stem as an antler rub, and beavers may damage stem cambium using wood to trim teeth or cut for use in dams.
- Install loose-fitting 48-inch tall and minimum 4-inch diameter tree guards, made of wire or plastic mesh, around the tree trunk.
- All wildlife tree protection should be monitored seasonally and adjusted or removed as needed.
- Stakes installed at the tree's planting are typically removed after 1 year or one full growing season when they are capable of supporting themselves.

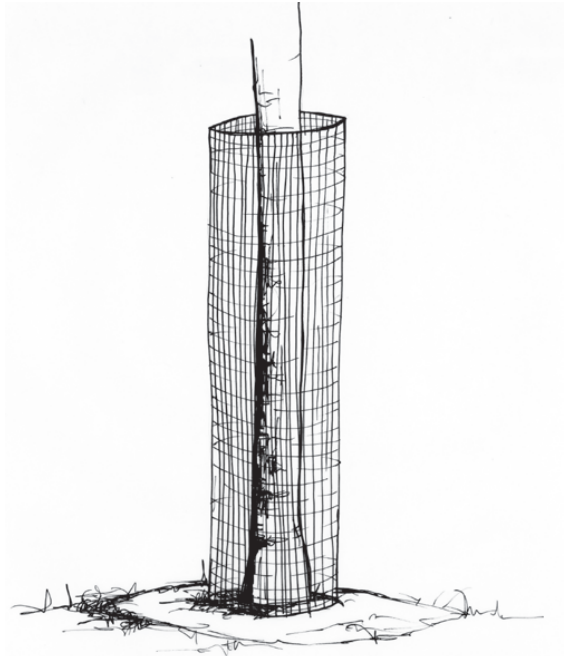


Figure 2: To prevent long-term damage associated with trunk wounding, install protection around the trunk. Source: US Forest Service Tree Owner's Manual. www.treeownersmanual.info.

Tree Health

- The majority of all pruning should happen during leaf-off conditions and by a licensed arborist in accordance with ANSI A300 *Standard Practices for Trees, Shrubs, and Other Woody Plant Maintenance*.
- Large-growing trees should be pruned to maintain a central leader to 20 feet.

- Lateral branching should be retained to deter deer from using the stem as an antler rub.

Established Tree Maintenance

Monitor Tree Health: When conducting inspections of trees in natural areas, it's crucial to be vigilant for any abnormalities related to the survivability of the tree such as:

- *Presence of Pests or Pathogens*: Inspect for signs of pest infestations such as insect activity, chew marks, or the presence of larvae. Additionally, check for symptoms of diseases such as unusual lesions, discoloration, or wilting foliage.
- *Abnormal Leaf Characteristics*: Look for abnormalities in leaf size, shape, color, or texture. This can include premature leaf drop, yellowing or browning of leaves, or unusual spotting or discoloration.
- *Structural Integrity*: Assess the overall structure of the tree, including the integrity of major branches and the main trunk. Pay attention to any signs of weakness, such as cracks or splits, that could indicate a risk of failure particularly when a person could be injured or property could be damaged by a falling tree part or whole tree.

If any abnormalities are detected during the inspection, it's important to document them thoroughly and monitor them closely over time. Additionally, it's advisable to report these findings to a local tree care professional or certified arborist for further evaluation and advice on appropriate treatment options. Depending on the specific issues identified, treatment options may include pruning, pest or disease management, soil amendments, or other corrective measures aimed at preserving the health and safety of the tree.