

# Property Tree Risk Management Plan

All business and property owners have a responsibility to inspect and maintain trees on their property. Tree maintenance and sound tree risk management will help reduce the likelihood of damage to buildings or other property or risk of injury or death as a result of tree failure. Many steps can be taken by individual business or property owners to self-manage their property's tree maintenance, but some cases will require consulting with a qualified specialist or certified arborist. A certified arborist will have the expertise to assess a tree for potential failure and be able to provide recommendations on how to mitigate or prevent failures.

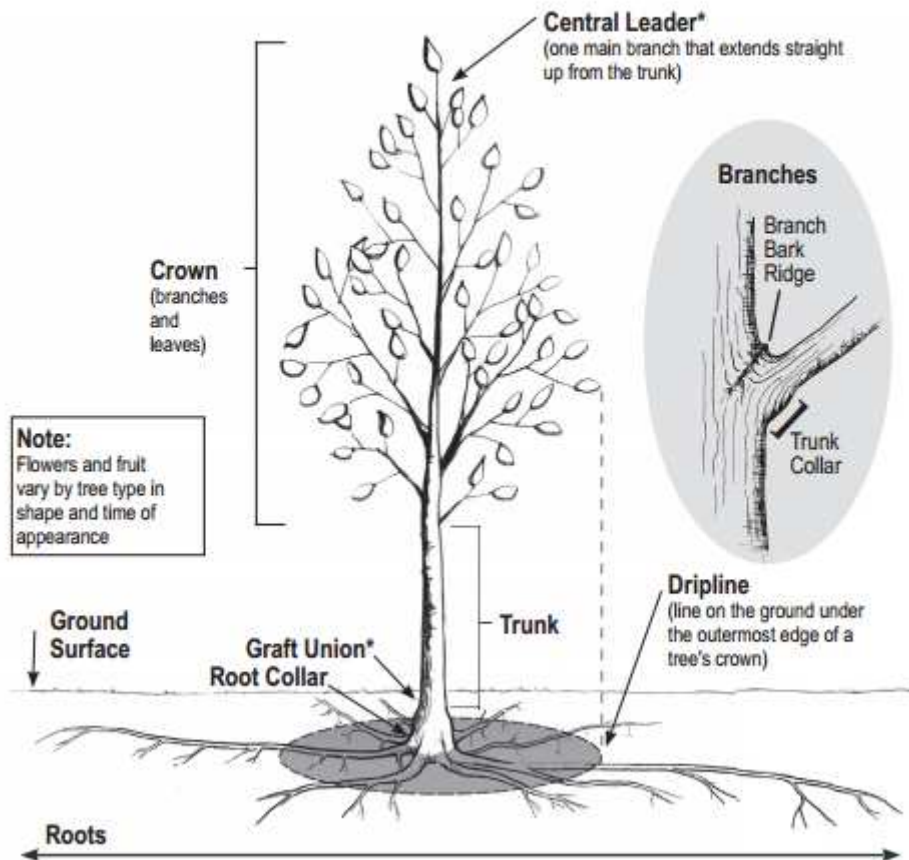
The following pages will discuss different aspects of developing and maintaining a Risk Management Plan for trees owned by business and property owners.

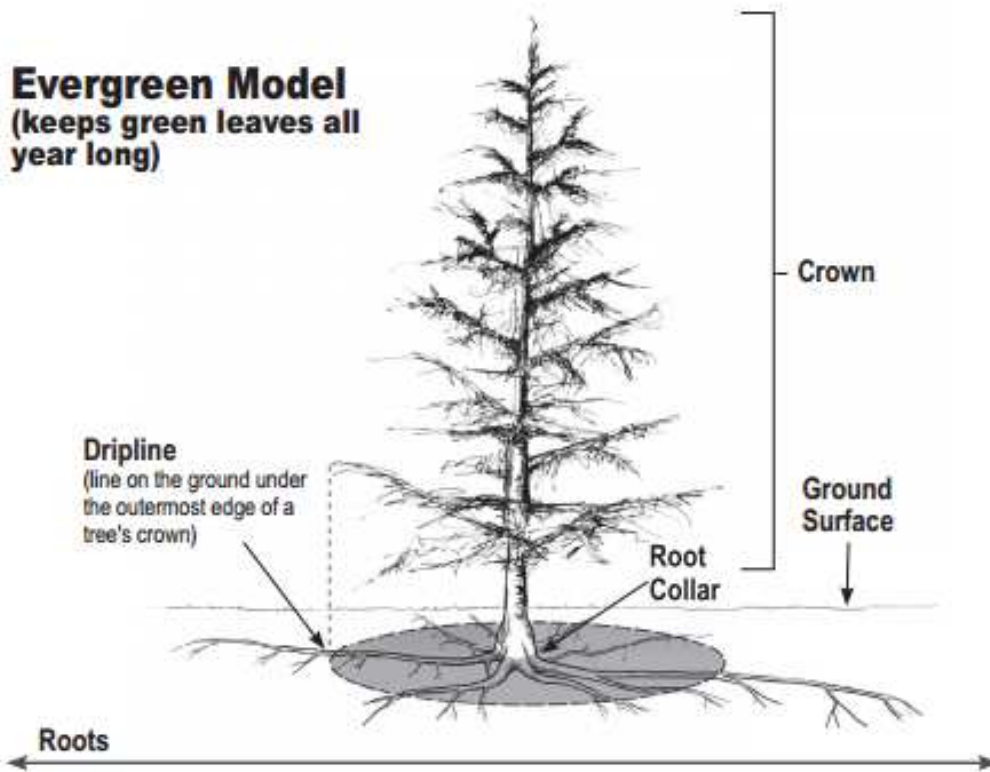


The first steps in any Risk Management plan is to identify and evaluate or asses the risk. Risk will always exist for any property where trees are present, and risk assessment allows business and property owners to consider the amount of risk they are willing to take on with regards to trees. Understanding a tree’s target and target zone is key to evaluating a trees safety. A target is considered any person, building, property, or activity than can be injured, damaged, or disrupted by a tree failure. A target zone includes the area inside of a circle around the base of the tree that is as wide as the tree is tall. Areas to consider when evaluating a tree include any obvious defects their severity, size, and location, characteristics of the tree species, canopy size, shape and weight distribution, crown profile and structure, and the overall health of the tree.

Tree risk identification and assessment start with regular tree inspections. Building and property owners should inspect the crown, stem, and root system of trees:

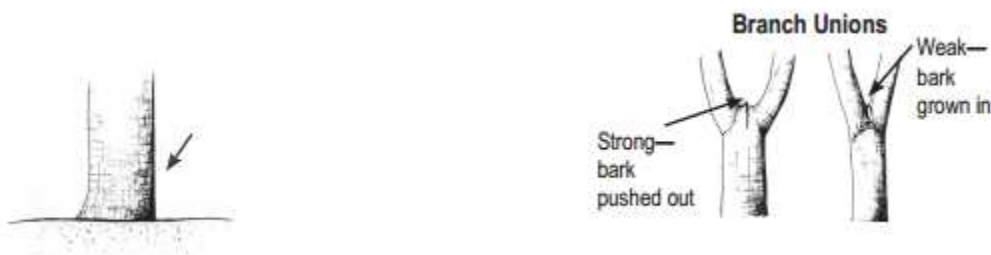
**Deciduous Model**  
(loses leaves in the autumn)





Tree inspections should be based off a check list or other systematic approach to maintain constancy. When conducting a tree inspections look for the following signs of tree failure:

- Broken, dead, diseased, or hanging branches
- Thinning or poor canopy health
- Unstable branching patters such as overextended branches
- Weak trunk or branch unions
- Cracks or signs of decay in the main trunk
- Fungi and cavities
- Damaged, exposed, or decaying roots, heaving of soil around the roots, or cracks in the soil around a root plate.



*\*A flat sided trunk can indicate root damage*

If any defects or damages are found, or if there is any doubt or question to the health of a tree business and property owners should contact an arborist.

The United States Department of Agriculture; Forest Services provides a sample tree maintenance schedule in the Tree Owner’s Manual for the Northeastern and Midwestern United States, shown below:

## MAINTENANCE SCHEDULE

Follow this maintenance schedule for the life of your tree. Detailed instructions are on the pages indicated in parentheses.

Type of Care	Timeline			
	At planting	Years 1 to 3	Years 4 to 10	After 10 years
Water (p. 13)	5 gallons	Correct amount is <i>critical</i> from spring through autumn →	As needed from spring through autumn →	
Mulch (p. 16)	2-4 inches deep, not against trunk	Check and adjust level in spring →		
Protect Trunk (p. 14)	As needed →	Check in spring and autumn →		N/A
Stake (p. 11)	<i>Only if needed</i> →	Check in spring and autumn. Remove after 1-2 years.	N/A	N/A
Clean Root Collar (p. 15)	N/A	Clean root collar every year →		
Check for Encircling Roots (p. 9, 15)	Check before planting (p. 9)	N/A	Check every 4-5 years (p. 15) →	
Check Health (p. 17, 35)	Select a healthy tree (p. 35)	Inspect leaves, branches, crown and trunk every year (p. 17) →		
Check Safety (p. 17)	N/A	Inspect in summer, winter, and after storms (p. 17) →		
Prune* (p. 7, 18-23)	Prune only critical branches or to eliminate extra leaders (p. 7)	Prune lightly in Year 2 or 3 (p. 18-23)	Every 3 years	Fruit trees every 1-3 years, deciduous shade trees every 5 years, evergreens only as needed

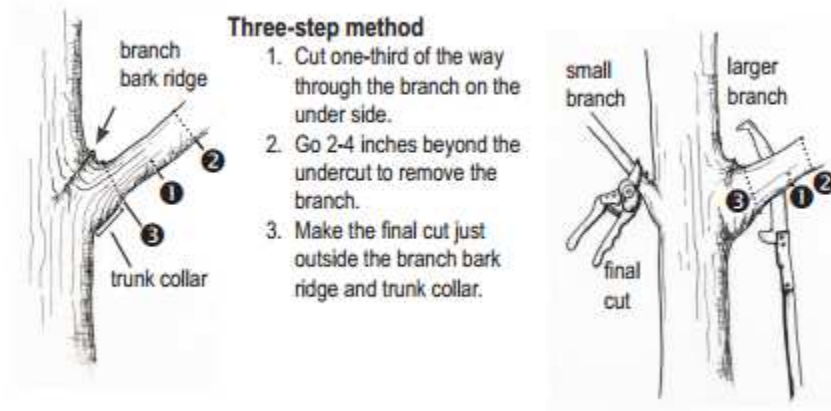
\*For some tree types, pruning or removal during spring and summer requires special care to prevent disease transmission. See p. 20 for details.

The Tree Owner's Manual for the Northeastern and Midwestern United States as provided by the USDA also provides important information on tree pruning.

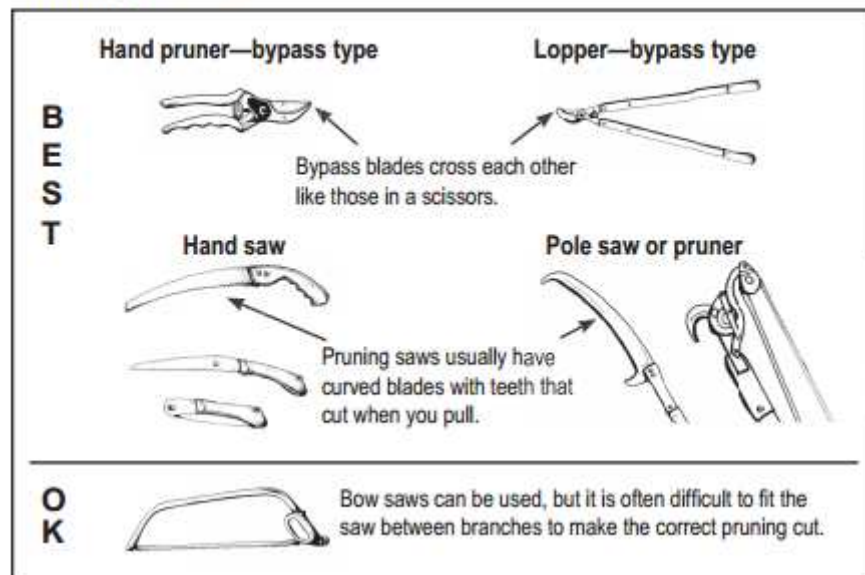
Always keep in mind these three main safety precautions regarding tree pruning:

- 1) Tree branches conduct electricity! Never attempt to prune trees or branches within 10 feet of utility lines. Always contact the local utility company.
- 2) Pruning can be dangerous, and if pruning cannot be done with both feet on the ground business and property owners should consider hiring a qualified contractor or arborist.
- 3) If pruning requires power equipment, business and property owners should consider hiring a qualified contractor or arborist.

Pruning can help a tree's health and safety, as well as provide appealing esthetics for owners. To maintain the health and safety of a tree, branches may need to be cut; however tree topping is never a recommended practice. The following cutting safety tips and diagrams are provided by the USDA's Tree Owner's Manual:



### Pruning Tools



All tree inspections and maintenance should be clearly documented and the records maintained and kept on file for future reference. Reviewing previous years documentation can illustrate a tree's deteriorating health that may otherwise not have been noticed right away, or demonstrate a tree's prospering health. Records also can benefit the owner in the event of a liability claim.

Newly planted trees should be charted and identified. Important items to include may be an ID number, species, location purchased, date purchased, date planted, estimated mature height, or estimated maximum width. Existing trees or tree areas should also be charted and identified to the best of the business or property owner's ability, especially those with buildings, sidewalks, parking areas, roads, playgrounds, etc. in their target zone. In addition to charting and identifying trees on a business or property owners grounds, maps should be created to appropriately mark and understand trees, tree areas, and their target zones.

Monitoring and re-evaluating trees is another important part of a tree risk management program. Using an adopted tree inspection check list or other systematic approach trees should be inspected and checked for potential failure conditions at a minimum once per year, as well as before and after storms or other events that may damage a tree. Always consider a trees target zone while inspecting, and include it in an inspection write up. Consider buildings, fences, walkways, playgrounds, pavilions, etc.

In the event of an emergency such as large branches or a whole tree on the ground, branches or trees into any utility line, trees hit by vehicles, flooding, lightning or other storm damage, etc. business and property owners may need to consult with a professional for tree or branch removal or damage evaluation. Remember, if the tree appears to be imminently close to failing, stay away from it and contact a professional as soon as possible.

## **Important Safety Precautions Regarding Tree Maintenance & Care**

*According to the USDA Forest Service Division:*

- Do not dig until you are sure there are no buried utilities. Call the free utility marking service at 1-888-258-0808.
- Never prune trees or branches that are within 10 feet of utility lines; ALWAYS contact your local utility company.
- Keep lawn mowers and weed whips away from the base of your tree.
- Do not tie string, ribbon, wire, or pet leashes around the trunk or branches.
- Do not allow construction activities (digging, repaving, grading, building) within the Protected Root Zone.
- Do not top your tree.
- When hiring an arborist, select someone who has general liability insurance of at least \$1 million per occurrence and \$2 million aggregate.
- Check with your city or town to see if there are laws regarding planting and pruning.
- If you cannot prune your tree with both feet on the ground, hire an arborist.
- Do not permit anyone (guests, children, adults, employees, etc.) to climb trees.
- Do not nail or screw anything into your tree.



# Sample Forms and Checklists

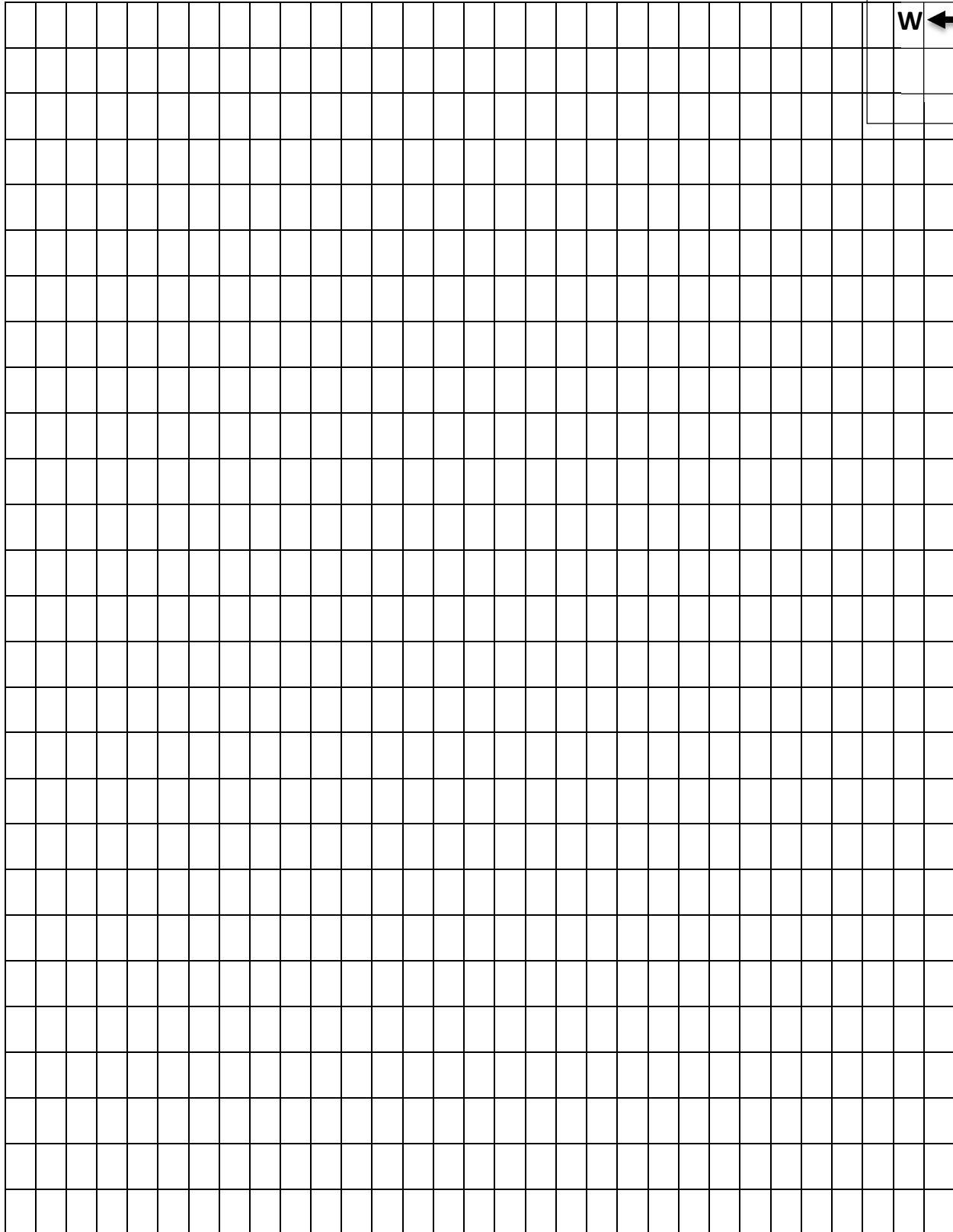
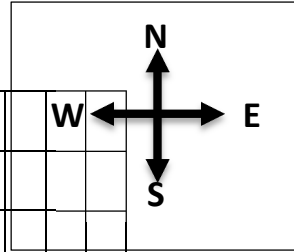


# NEW TREES PLANTED CHART

(Chart Provided by the USDA, Forest Services Department; Tree Owner’s Manual for the Northeastern and Midwestern United States)

Tree ID	Species	Purchased From	Date Purchased	Date Planted	Warranty Period	Mature Height	Maximum Width

# HIGH HAZARD TARGET ZONE TREE MAP



## Tree Safety & Health Inspection Checklist

Completed By: \_\_\_\_\_

Certified Arborist Present:     \_\_\_\_\_ YES     \_\_\_\_\_ NO

Tree ID	Location	Species	Diameter (Inches)	Height (Feet)

Target Zone Description: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### Crown:

**Canopy**

- Good
- Fair
- Poor/Abnormal –

Describe & Take Photos: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Leaves**

- Good
- Fair
- Poor/Abnormal –

Describe & Take Photos: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Branches**

- Good
- Fair
- Poor/Abnormal –

Describe & Take Photos: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Branch Unions

- Good
- Fair
- Poor/Abnormal –

Describe & Take Photos: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Stem:**

Trunk

- Good
- Fair
- Poor/Abnormal –

Describe & Take Photos: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Branch Unions

- Good
- Fair
- Poor/Abnormal –

Describe & Take Photos: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Root System:**

Roots

- Good
- Fair
- Poor/Abnormal –

Describe & Take Photos: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Root Collar

- Good
- Fair
- Poor/Abnormal –

Describe & Take Photos: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Dripline/Root Plate

- Good
- Fair
- Poor/Abnormal –

Describe & Take Photos: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Overall Appearance & Health:**

- Good
- Fair
- Poor/Abnormal –

Describe & Take Photos: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Defects:** (take photographs)

- Decay/Disease
- Fungi
- Cracks
- Broken Branches
- Bark Damage
- Thinning Canopy
- Poor/Unusual Leave Health (holes, discoloration, wilted, spots, etc.)
- Unstable Branching
- Exposed Roots/Encircled Roots
- Heaving Soil/Leaning
- Other: \_\_\_\_\_

**Hazard Reduction/Action Plan:**

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Estimated Date of Completion: \_\_\_\_\_

## Sources

- 1) United States Department of Agriculture; Forest Service
- 2) Purdue University Department of Forestry & Natural Resources; Article: Tree Risk Management by Lindsey Purcell, Urban Forestry Specialist

### Diagrams and figures take from:

United States Department of Agriculture; Forest Service; Tree Owner's Manual for the Northeastern and Midwestern United States: [http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb5368392.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5368392.pdf)