

## 9.1 Risk Assessment

### 9.1.7 Winter Storm: Reducing Ice Storm Damage to Trees

#### Reducing Ice Storm Damage to Trees

Reducing ice storm damage to trees has two phases: proper tree selection and proper tree structure. Species selections in areas prone to ice storms should be made carefully, with an eye toward preventing future damage. Different species of trees respond in different ways to severe weather situations like ice storms. In general, conifers are more resistant to ice storm damage than deciduous hardwood trees, since conifers have a greater ability to bend. Among conifers, firs and spruces are generally less damaged than pine trees would be. Among deciduous trees, those trees that have harder wood and broadly spread branching habits rather than very narrow branching will be more resistant to damage. Trees that grow quickly sacrifice structural stability in order to do so. Weak-wooded species such as Cottonwood, Siberian Elm, many of the Birches, Silver Maple, and Bradford Pear are prone to ice storm damage, and there is little that can be done to prevent such damage from occurring other than not planting those particular species. Most Oaks, some of the Maples, and Ginkgo are generally types of trees that are more resistant to damage in ice storms. Site selection considerations, such as planting trees in groups or groves rather than isolated plantings will help trees resist ice storm damage.

Maintaining healthy trees in the landscape is the second key to preventing ice storm damage. The Oregon Department of Forestry and the National Arbor Day Foundation offer these suggestions for pruning a tree to promote the growth of strong branches:

1. Encourage good branch angles - For most deciduous or hardwood trees, narrow angles between branches signal a point of future weakness, whether in the trunk or in the crown of the tree. Prune a tree early in its life to spread the branches along the trunk.
2. Encourage strong branch/trunk size relationships - The relative size of lateral (side) branches is also important in determining branch strength. Ideally, lateral branches should be no more than 1/2 to 3/4 the diameter of the trunk. Branches larger than that are often heavier than the trunk can support, and are candidates to break when wind, ice, or snow come along.
3. Maintain a stable center of gravity - Wind, winter snow loads, or previous loss of a major limb can create situations where the tree's center of gravity is not positioned over the trunk. Then when a severe storm hits, a slight bit of extra weight or wind pressure can break limbs, snap the trunk off, or even topple the tree, roots and all.
4. Remove rubbing branches, suckers, watersprouts, and temporary branches - Branches that rub against each other can produce wounds and decay, so one of the offending branches should be removed. Watersprouts and suckers are abnormal growth that can occur at the base of the tree or inside the crown. Because leaves are vital in providing the tree with nourishment, never remove more than one-third of a tree's leafy crown when pruning.
5. Don't cut branches back to stubs - Often people have the mistaken idea that long natural limbs on a tree will break more easily in a storm, and should be cut back to make them stronger. Just the opposite is the case. When a branch is cut back to a stub, new branches will grow from the edges of the stub. Because they cannot

form a strong union with the stubbed branch, these new branches are even more likely to be broken in a future storm. If a branch needs to be removed, cut it back to a main branch or to the tree's trunk. Never leave a stub on a branch or at the top of the tree. Trees that are topped are more likely to break in future storms.

If care is taken to select the right species and to keep landscape trees healthy, ice storm damage can be reduced. Trees are an important part of any landscape, providing shade, beauty, clean air, and increased property value. Keeping trees healthy is a wise investment. For more information on proper tree care, websites such as <http://www.treesaregood.com> or <http://www.arboday.org> will provide valuable guidance. Local urban foresters, county extension agents, or certified arborists are also good sources of information.

For more information visit the Oregon Department of Forestry's Urban and Community Forestry Program at [http://www.oregon.gov/odf/pages/urban\\_forests/urban\\_forests.aspx](http://www.oregon.gov/odf/pages/urban_forests/urban_forests.aspx).