

Evaluating Ice Damage to Forest Stands

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Arkansas has a history of ice storms and Arkansas forests are often damaged as a result. However, ice damage to trees often is not as bad as it looks. Forest landowners should evaluate whether or not a salvage harvest is necessary before accepting a salvage price for their timber or making a hasty decision to harvest their entire timber stand. One of the problems in salvaging timber immediately following a natural disaster of any type is that prices fall sharply as the material comes on the market. These prices can stay depressed for several months.

The following categories of ice-damaged trees will survive for now and can wait to be harvested later when the emergency salvage operations are over and timber prices back to normal:

1. Trees with broken tops which still have four or more living limbs remaining
2. Trees leaning less than 45 degrees
3. Windblown trees with roots still in the ground

Young trees that are bent will often straighten by themselves. Here are some examples from research. In Tennessee, an ice storm in March (1993) bent a stand of eight-year-old loblolly pine so that their tops touched the ground. By the following January, the trees had all recovered. Another example comes from Louisiana. An ice storm there broke an average of at least half the total length of live crown from each tree in an 11-year-old loblolly pine plantation. One year later, there were trees with forked tops, stag-headed tops and lyre-shaped tops, but enough trees had a new single dominant main leader to make an adequately stocked stand.

Other research in the southeast shows that loblolly pine trees bent less than 40 degrees from vertical can recover completely within two years. Trees bent 40 to 60 degrees recovered but demonstrated varying amounts of crook and sweep. Only trees bent more than 60 degrees did not recover enough to make acceptable growing stock. Research in Arkansas also supports these research findings.

When only a few trees per acre are damaged, it may not be worth saving them considering the low prices normally paid for salvaged trees. Salvage prices are often lower not only because of the crisis situation with so many trees being salvaged but also because ice or wind-damaged trees may have hidden internal damage such as ring shake that make them useless for lumber.

Landowners can wait until the following growing season before they harvest to provide the bent trees some time to recover. If a landowner decides to conduct a salvage harvest, he or she should take care during the salvage operations. Do not bang up or damage any standing, live trees because wounds of this type are ideal for invasion by decay-causing fungi. And, in the case of pines, wounded trees become and remain very attractive to this summer's and next year's bark beetles. Wounded pines could be the center of a bark beetle buildup next year, so it would be prudent to avoid damaging pine stems at any time of year.

Hardwood stands can also suffer damage from ice storms. Most mature hardwood trees with 25 percent to 75 percent crown damage will survive but the growth rate may be reduced. Trees with greater than 75 percent crown damage will not survive, except for ash, willow, basswood and poplar. Although a tree is severely damaged, it might take several years for that tree to decline and die. Landowners should wait until the end of the first growing season after the storm to decide which trees to harvest. Some trees might recover during this time. Landowners interested in managing their hardwood stands for wildlife might consider leaving some damaged or deteriorating trees to provide snags and cavity trees for wildlife.

In immature and planted hardwood stands, trees bent more than 60 degrees are not likely to straighten and can be cut down. However, allow bent trees until midsummer to recover before taking action. Broken trees and bent trees can be cut to the ground before they get their leaves in the spring to encourage sprouting from the stumps. Landowners can regenerate areas of the stand that do not recover by

midsummer by cutting all trees to the ground before the leaves come out the following spring.

It will take a few years before you will be able to determine the extent of the damage caused by a major ice storm. During this time, keep a close eye on the forest. Many different stresses can combine to cause serious damage. Check to see whether there are insect infestations or diseases. Look at leaf size, shape and color. Watch for resin or gum on the bark and signs of insect feeding, egg masses, conks and other fruiting bodies. Landowners might also consider getting expert advice on the potential and necessity of a commercial harvest, the implications of future changes in species composition and the best courses of action. Landowners can call upon their local Arkansas Forestry Commission office, Cooperative Extension Office, area forest consultants, and other forest management professionals for advice.

Landowners who have suffered significant timber losses should contact a knowledgeable tax attorney familiar with timber tax, especially tax losses from storm damaged timber. General information regarding timber taxes can be found at:

<http://www.soforext.net/formgmt/aghandbook.html>
and
<http://www.fnr.purdue.edu/ttax/>.

Although a landowner might not know just when an ice storm will strike, they can minimize some damage in older stands through appropriate forest management including periodic thinning and harvesting. Additional information about forest management can be found at your county Extension office, the Arkansas Forestry Commission and the Arkansas Forestry Association.