

Storm Damage – Safety in the Woods

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The following information is provided to help keep you safe in woods that have been damaged due to storms while clearing tree debris from roads, trails, and fences.

Dangers in the Woods

Woods that have been damaged due to ice, wind, tornadoes and other similar storms can create hazards for those entering the woods and certainly for those cleaning up. There are hazards common to all storms as well as damage that is specific to storm type. Knowing these general and special hazards will help you recognize potential safety issues and prepare yourself to work safely and efficiently in and around the woods.



Broken and twisted trees are common in tornado damaged woods resulting in an overhead and removal hazard.

Overhead Danger – Spotting and Flagging Danger Trees and Widow Makers

A common safety issue with storm damage is broken branches remaining high in the crown of trees. These are called “widow makers” and can persist in woodlands for several years after a storm. While this is common to all storms it is more often encountered in ice or snow damaged woods. Regardless of the storm type extreme caution is warranted when walking or working in woodlands when widow makers are present. These limbs can fall without warning on calm or windy days. Scout roads and trails for widow makers, broken tops and other overhead dangers. Also, all trees with damaged tops or lodged trees (see below) should be removed, placed on the ground, or flagged as a “danger tree” using yellow and black caution flagging.



Figure 1. Widow maker still present 40 feet in the air, four years after an ice storm.

Bent, Broken, and Twisted Trees

All intense storms can result in trees that are broken, twisted or are bent over, the stronger the storm the more prevalent this type of damage. Straight line wind storms that are a result of thunderstorms typically uproot trees and tend to lay them on the ground. Tornadoes tend to result in both uprooted trees as well as broken and twisted main stems; the latter is especially typical of tornadoes. Trees that are broken and twisted are particular hazards as they can react unpredictably when cut. This is also true for trees that are bent over with the top pinned to the ground (spring poles) resulting in trapped energy in the stem that can react violently when cut.

Cutting Trees

Significant care is required when felling trees in damaged woods due to the abnormally high number of overhead dangers. It is wise to hire a trained logger to cut trees. This advice is also important to heed when there are a large number of twisted and broken trees and spring poles present. The following are general hazards that should be addressed.

- 1) **Widow Makers:** Take time to look up into the crown of a tree and make sure no widow makers (broken or dead hanging branches) are overhead or that could be dislodged from an adjacent tree during felling. If there are widow makers present avoid the situation.
- 2) **Lodged Trees:** Lodged trees are those that have fallen into and lodged in an adjacent tree. Never try to cut the adjacent tree to get both on the ground. Pull or drag the lodged tree to the ground. If trees can not be removed, then flag them as a danger tree.
- 3) **Spring Poles:** A spring pole is a tree whose top has been pinned down to, or near to the ground and the main stem is bent and under stress. Do not, under any circumstances, try and cut this tree. Several loggers are killed annually in the U.S. cutting spring poles. Only trained individuals should cut these trees. Mark spring poles with caution flagging and stay away.



Figure 2. Small spring pole being cut by a Kentucky Master Logger chainsaw instructor. Spring poles can be much bigger.

- 4) **Broken Trees:** Look up into the tree to determine if the main stem is broken or twisted, severely bent, or otherwise damaged. Where damage is present, it may be best to leave the tree standing as a danger tree and flag it.
- 5) **Flag Danger Trees:** Any tree that possesses a significant safety risk (see above), needs to be marked with caution flagging to warn of the danger (when working to clear the damage and for the foreseeable future).
- 6) **Felling Procedures:** All safety gear should be worn and safe felling techniques should be used including:
 - Look into the top of the tree being felled and the surrounding trees. Inspect for widow makers, tree crowns and branches that are intertwined, vines that connect trees and other hazards. It is easy to drag a top or branch out a surrounding tree in ice-damaged woods.
 - Plan an escape route and clear branches from the ground so that you can easily move away from the stump at a 45 degree angle to the line of fall of the tree when it starts to fall. This escape path can be a significant issue in ice-damaged woods with substantial debris on the ground.
 - Proper directional felling techniques including notching and back cutting the tree (using the open face felling technique is best). Leave adequate holding and hinge wood, using wedges to guide the fall. If any of this terminology is unfamiliar to you, chances are you may not be qualified to safely fell trees, especially when they are damaged.
- 7) **Safety Gear:** The use of safety gear, particularly hard hats is extremely important in damaged woodlands. Small limbs can kill without a hard hat. Also wear chainsaw-resistant chaps, eye protection (screens or goggles) and ear protection. All of these are available commonly from farm and hardwood stores and chainsaw equipment dealers.

Tractor, Dozer, and Skid Steer Safety – Clearing Fences and Woods Roads

The following are important when using equipment to remove debris from woods roads or fences.

- 1) **Tractors Skidding:** Skidding logs behind a tractor is extremely dangerous. If logs or tree tops become hung, the tractor can easily flip over backwards. You can not count on lifting the ends of the logs or tops with a 3-point hitch to overcome this problem. Chain logs, tops, branches to the front of the tractor when possible and drag the branches in reverse or use buckets or forks to remove debris.
- 2) **Tractor, Dozer and Skid Steer Precautions:** The following are concerns when driving or working on the ground around tractors, dozers, or skid steer equipment.

- a. Open seats and agricultural cabs are dangerous due to falling debris. Pushing tops can lead to broken stems being forced into an open cockpit or through the glass and into the cab, endangering the driver.
- b. When clearing tops and debris you will tend to be focused on the ground. BE AWARE that while moving brush and fallen trees you can inadvertently rub or shake standing trees causing widow makers to fall. Make sure that the area above your head is clear of widow makers. This is important regardless of whether you are on a tractor, bull dozer, or working on the ground.

Cutting Brush and Tops

Significant care is required when cutting up tops and brush. When downed or partially downed limbs are on top of each other there is considerable risk of being struck by a branch that is under stress when it is cut, releasing the stress in the branch and causing it to whip towards you.

- 1) **Dislodged Branches:** Always start cutting at the ends of broken branches and the top of a pile of branches and work towards the middle.
- 2) **Hanging Branches:** When cutting branches that are still attached to the tree, start cutting from the end of the branch and work towards the tree. Do not cut the branch to the point where it is NOT touching the ground. Leaving a branching hanging in the air is creating a significant hazard.

Safety – Basic Chain Saw

All basic chainsaw safety rules should be followed. Listed below are a few of the most important:

- 1) Wear all safety apparel, chainsaw resistant chaps, hardhats, eye protection (screens or goggles) and hearing protection. See your local chainsaw sales outlet for advice.
- 2) Start the saw with the saw on the ground with the bar away from you, and the toe of one boot in the handle. Hold the handle with one hand and ensure that your thumb is locked around the handle and your arm is straight. Do not “drop start” the saw. If you can not put your foot in the handle place the handle between your legs, and hold the saw as indicated above using the free hand to smoothly pull the cord.
- 3) The upper half of the nose of the bar should not come into contact with anything (twig, limb, ground). Contacting this section of the bar will cause the bar to kick back and fly up towards your face.
- 4) Never look directly down the kerf of the bar when cutting. Keep your head to one side so that if the bar kicks back it misses your head.
- 5) Cutting into the soil, for even a split second can severely damage the chain. Also cutting through ice and frozen wood will quickly dull most chains.

- 6) Look for wire or other metal objects that the tree has grown over and avoid them. These can cause chains to fly apart if they are made of hard metal.

Getting Assistance

If there are situations that look dangerous, they probably are. Running a chainsaw and felling damaged trees is extremely dangerous. Hire a trained logger (Kentucky Master Logger or a Certified Master Logger) or a professional tree care specialist to get danger trees on the ground. Make sure they carry liability insurance. Sometimes loggers may have mechanized equipment that can be very safely used in ice damaged woods. The following provides sources of information and/or assistance:

Kentucky Storm Damage Website:

www.kytimberdamage.net

Cooperative Extension County Offices:

<http://www.ca.uky.edu/county/>

University of Kentucky, Department of Forestry Extension:

www.ukforestry.org

859-257-7597

Kentucky Division of Forestry:

<http://forestry.ky.gov>

502-564-4496

Kentucky Association of Consulting Foresters:

www.kacf.org

Kentucky Master Logger Program:

www.masterlogger.org

Certified Master Logger Program:

www.certifiedmasterlogger.com

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