

## AFTER THE ICE STORM: WHAT NOW? A Forester's Perspective

A famous horse jockey once said that the secret to winning the race is to hold the horse back until the conditions are right, then let the reins go and turn the horse loose to finish the race. This would be a good advice for how to manage the damaged trees out in the forests after the epic 2025 ice storm. It is perhaps a natural tendency to want to go out and “clean up” the forests, or our backyards, by cutting out the damaged trees-which after this event is the vast majority. But if we cut all the damaged trees, there will be hardly any left.

Hardwood trees which have incurred up to 75% crown damage are very likely to survive and, after a couple of years, they will regain their vigor to grow for many more decades. So, hold back on the reins, and see what happens. If the trunks are split or cracked or if the bark is torn down the stem from a branch splitting off, that is reason to cut the tree. If a high-quality tree with significant crown damage, say 50% or more, is destroyed, then it might be best to harvest that tree before the wood stains or it begins to degrade otherwise. So much depends on the particular situation. It might be better having a damaged tree if that is all the shade that is available.

Damaged pine trees, on the other hand, should be addressed sooner rather than later. The red pine stands, particularly the plantations, got hit extremely hard with the ice. We've all seen (pictures of) the stands with the tops broken off and just stems standing. Before the heroic efforts by the all line repair crews, it seemed like those stalks were the only utility poles left standing! The damaged or downed pine trees need to be salvaged as soon as possible before the pine bark beetles become active towards the end of May and into June. Those wood borers will rapidly degrade the logs as the spring/summer heat sets in, turning them rapidly into Swiss cheese. Let the reins loose, and let that pony run with harvesting this pine!

We will have to see how the aspen (poplar, popple) responds to this trauma. Much of the younger stands have been bent over and have little chance of recovering to a vibrant forest. It may be best to clearcut bent over stands that are <4" in diameter, even if that is done by hand. The cut stems can be simply left on the ground to go back to the soil (or larger logs, 3"-8"+ diameter, can be used to grow oyster mushrooms. Now is the season to inoculate such logs). These stands will sprout back from the roots and rapidly reestablish a new forest stand. The larger diameter aspen stands got most of the branches stripped clean. Wait to see if those stands flush out with leaves. If they don't, consider a commercial harvest. Likely, there will be a flush of root sprouts in those stands because the aspen tree produces a chemical in the terminal buds which suppresses root sprouting. It is not until the parent tree is gone, either by ice storm, clearcutting, fire, flooding, beavers, etc., that a new flush of trees from the existing root system sprouts up. That way the young trees don't compete with the parent trees.

A major concern in the oak trees (northern red, black and pin) will be oak wilt disease. This is a fungal disease spread by the Picnic Beetle which transports spores from fruiting bodies to open wounds in the oaks. The beetles are active in warm weather between mid-April and mid-July, during which period it is advised not to cut or prune any oaks. Cover any reachable wounds on the oak trees, including the stumps if the trees are cut off, with tree wound coat or latex paint to prevent the infection and spread of this devastating disease. This, of course, is impossible in the tops of the trees. With the millions of broken branches and open wounds, it likely will mean that oak wilt will become even more rampant in the following years.

The massive amount of brush we have to deal with is another issue. It would be most preferable, if there is room, to build tidy brush piles off on the edge of the yard or out of the way, to provide wildlife habitat, "rabbitat". Begin with laying down some larger 6"+ diameter logs to provide some good nesting sites. Then neatly pile branches on top to create an aesthetically pleasing pile. This is perhaps the easiest way to deal with the brush and can provide nice habitat for a number of small critters and birds and even deer (fawns) or bears if the piles are large enough.

In closing, go slow on cutting damaged trees. Hire a consulting forester for forest salvage. The hardwoods will likely fair better than they currently look. Go full steam on salvaging the damaged pine trees. Wait until August to manage the oak forests. The forests are resilient. Think of the clearcutting that occurred starting in the 1880's when all of northern Michigan was cut and subsequent fires burned from coast to, and look at the forests we have (or had 😞) now. They grew back from that landscape changing occurrence and they will rebound from this event, which could be called the most impactful event on our forests since that historic logging era. The forests are resilient and, as long as we stay united, so are we.

Refer to the attached articles for more information.

[https://www.canr.msu.edu/news/timber-salvage?utm\\_source=perplexity](https://www.canr.msu.edu/news/timber-salvage?utm_source=perplexity)

[https://naturalresources.extension.iastate.edu/encyclopedia/managing-storm-damaged-woodlands?utm\\_source=perplexity](https://naturalresources.extension.iastate.edu/encyclopedia/managing-storm-damaged-woodlands?utm_source=perplexity)

<https://mapleresearch.org/pub/effects-of-the-january-1998-ice-storm-on-stem-and-root-carbohydrate-reserves-radial-growth-and-tree-vigor-in-two-vermont-sugarbushes/>



# Vermont Forest Health

## Recovery of Stands Damaged by Ice Storms: Advice for Landowners and Foresters



VT Department of Forests, Parks, & Recreation  
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The following guidelines for hardwood stands damaged during ice storms have been updated based on evaluations of tree recovery following the 1998 ice storm, including ten-year crown dieback data from the Vermont Hardwood Tree Health Survey and 15 years of US Forest Service research.

Ice storms are not uncommon in Vermont and our forests are adapted to survive them. A decade after the 1998 storm, ice-related mortality mostly replaced the mortality level expected during normal stand development.



Most injured trees survive. Healthy trees go into winter dormancy with ample food reserves. These carbohydrates will be available in the spring when the tree begins to restore its crown. Slow-growing trees, and those with basal injuries or root rot, are at greater risk.

Species differ. Sugar maple, red maple, and white ash are the most likely to recover from severe damage; paper birch is least likely to survive.

*Maples and ash are more likely than other species to recover from ice damage; paper birch is least likely.*

Damaged stands usually recover their ability to produce wood products. Storm-related injuries are compartmentalized, and new wood is produced following a period of slower growth. However, timber production is over for uprooted trees, those with shattered stems, and most trees broken below the live crown.

Internal staining and decay may eventually cause a loss of value in damaged trees, but this is generally a slow process. The rate of infection will vary with species and degree of damage. Broken main stems, stem forks, and large broken branches which have torn the tree's bark are the most serious; discoloration can spread downward at a rate ranging from a few inches per year to a foot or more. Infection associated with broken branches remains mostly within branch wood, especially for otherwise healthy sugar maples.



*Our trees are adapted to survive ice damage. The sugar maple on the left lost 90% of its crown in 1998 (top). By 2001 (bottom), crown recovery was underway.*

*The sugar maple on the right has compartmentalized a broken top caused by an ice storm ten years before the tree was cut.*



## Recommendations Based On Tree Species and Type of Damage

Damage	Expected Impact	Recommendation
Paper birch with 11-25% crown loss Other species with 11-50% crown loss	Recovery expected.	Retain, or thin to leave best trees.
Red maple, sugar maple, or ash with >50% crown loss Beech, oak, cottonwood, poplar, yellow birch, conifers or others not listed with 50-75% crown loss	Trees are expected to survive if they don't have logging wounds, root rot, or other pre-existing defects.	Most can be retained, but re-evaluate within 5 years.
Paper birch with >25% crown loss Beech, oak, cottonwood, poplar, yellow birch, conifers or others not listed with >75% crown loss Bole broken below live crown	Trees at risk. Some mortality is expected, especially trees that were growing slowly prior to the storm.	Evaluate for removal. Hardwoods to be removed should be harvested within 5 years; conifers with broken main stems within 1 year.
Any species uprooted or on the ground		Salvage within 1 year.



**Safety first and foremost.** Hung-up trees and branches, bent trees turning into spring poles, and blocked escape routes increase the hazard when working among ice damaged trees.

**Landowners have the upcoming growing season to fully assess damage and determine if salvage is needed.** Immediate action is seldom necessary as any additional value loss will be gradual.

**Get professional advice.** Landowners should seek advice from a professional forester. Each stand is different. Site quality and other factors must be considered in applying these recommendations. Call your County Forester for details.

**For land enrolled in the Use Value Appraisal program, the approved forest management plan or an approved amendment must be followed.** The county forester needs to approve any changes before salvage activity begins.

### For More Information on Tree Recovery from Ice Damage

*Landowners have the upcoming growing season to evaluate damage and determine if salvage is needed.*

*With the exception of paper birch, trees with up to 50% crown loss are expected to recover.*

Kraemer, M.J., and Nyland, R.D. 2010. Hardwood crown injuries and crown rebuilding following ice storm damage: A Literature review. US For. Serv. Gen. Tech. Rpt.: GTR-NRS-60. <http://nrs.fs.fed.us/pubs/34892>

Shortle, W.C., K.T. Smith, and K.R.Dudzic. 2003. *Tree Survival and Growth Following Ice Storm Injury*. USDA For. Serv. Res. Pap. NE-723. [http://www.fs.fed.us/ne/newtown\\_square/publications/research\\_papers/pdfs/2003/rpne723.pdf](http://www.fs.fed.us/ne/newtown_square/publications/research_papers/pdfs/2003/rpne723.pdf)

Turcotte, R.M. et al. 2012 Effects of ice storm damage on hardwood survival and growth in Ohio. North. J. Appl. For. 29(2) 2012. [http://www.nrs.fs.fed.us/pubs/jrnl/2012/nrs\\_2012\\_turcotte\\_001.pdf](http://www.nrs.fs.fed.us/pubs/jrnl/2012/nrs_2012_turcotte_001.pdf)



**For more information, contact the Forest Biology Laboratory at 802-879-5687 or:**

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