After The Storm: Repair And Care For Damaged Trees

by Christopher Enroth
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URBANA – Summer storms have damaged trees, some more than 100 years old, in communities across the state. Homeowners in theses communities, including Woodridge and Naperville which were hit by an EF-3 tornado this spring, are now struggling to find the best ways to clean up after a tree is damaged and the proper way to restore trees in their communities.

From watching the light flicker through a tree's green canopy in summer to enjoying the falling cascade of red, yellow, and brown leaves in the fall, trees serve as a symbol for many homeowners. Storms can damage or destroy long-living trees and the memories they carry with them.

What happens after a storm damages trees?

When a tree becomes damaged by a storm, or another type of disturbance, it not only affects the immediate area, but also the surrounding trees.

"Trees are usually very resilient to damage," says University of Illinois Extension horticulture educator [Ryan Pankau](#). "But when a storm or disease takes out parts of a tree, it exposes the other trees in the area differently, and you may see damage to them years down the line."

After a disturbance, sunlight can now reach the understory, which exposes the soil and creates opportunities for new plants to fill those gaps. Those gaps can be filled by younger trees or plants, but also by less desirable plants, such as invasive weedy species. And, a thinning tree canopy from storm damage can reduce a tree's capacity to filter wind.

"Trees with thicker canopies act like a sail during high winds," says [Christopher Enroth](#), Illinois Extension horticulture educator. "But when thinned, small, new branches have a very weak attachment to the tree itself, making it less stable overall."

How to select and replant trees

"The most important thing to consider when replanting trees after a storm is diversity," says Extension Forester [Chris Evans](#).

Planting a variety of new trees, especially native trees, recreates a natural ecosystem, and leads to fewer pest issues, diseases, and invasive species.

Replacing damaged trees with native ones will add to the biodiversity of that area, letting insects, birds, and other organisms flourish in a healthier ecosystem. A study published in the journal [Ecological Entomology](#) in 2020 found the displacement of native plant communities is the main cause of a collapse in insect and bird populations around the world. To see if a tree is native, check at the USDA-approved hardiness zones located on the plant tag or online at [planthardiness.ars.usda.gov](#).

Research specific species to see if it would be a good fit for your landscape and ask a certified arborist for verification. Some species, such as oak trees, have a competitive advantage. Compared to shady beech and maple trees, oak trees will take 40% to 60% of the available sunlight to compete with other plants and leave other species to die off.

Why should you replace trees?

When trees are knocked down, it can change a community. Wildlife no longer has a place to nest, children lose a place to play, and homes are no longer shaded from the summer heat.

Trees provide a lot of unappreciated services in the background. They create habitat for insects, birds, and other native wildlife, and take up water which reduces flooding impacts. They also increase an area's air quality and trap carbon dioxide, a greenhouse gas, to slow the rate of global warming. In the warmer months, trees that shade homes will reduce energy bills and in the winter months, bare branches allow sunlight to heat homes.

Of all green spaces, trees seem to have a special impact on people's mental health. [Research from University of Illinois](#) has found that when people have experiences with nature, they're healthier, happier, learn better, and have stronger social ties. Green spaces are also tied to lower rates of depression and anxiety disorders.

"We, as humans, are meant to be in nature, and when you put us in an environment that takes it away, we behave and feel badly," says Pankau.

How can homeowners respond to a disturbance?

After a storm has passed and the scene is safe, the first thing to do is clear out the obvious broken, hanging limbs. Then, look at the angle of the leaves on branches still attached to the tree, as they will give away tree limbs that might be broken and could fall later.

Avoid areas with downed power lines, as they may still be active and are very dangerous.

"The next course of action is to have a tree care professional or a certified arborist assess the damage," says [Evans](#). "They'll make sure no pathogens have leeched into the trees after they've been damaged and to properly prune them."

Pruning cuts off any stubs or chunks off a broken limb to seal the wood and help avoid rot that can slowly kill a tree over time.

"Trees don't heal, they seal," says Pankau. "Trees don't regenerate tissues like humans. They will just grow around the wound and lock it into itself."

Find a list of certified arborists at Treesaregood.org and search by zip code.

What to ask an arborist about damaged trees

Every summer, Extension offices around the state get calls about trees after a storm. *Dealing with storm damaged trees and preparing for the next disaster* addresses common concerns and outline arborist key talking points.

- Despite the storm damage, is the tree healthy with good growth?
- Did the trunk experience significant damage? The vascular tissue of a tree resides directly behind the bark. If this critical tissue is severed, a tree cannot move water and nutrients through its system.
- Are major limbs broken? The larger the lost limb, the harder it will be for the tree to seal off that wound.
- Is the tree desirable, or is it prone to problems? Sometimes storms present opportunities to replace a problem tree.
- Is the overall shape of the tree still intact? For instance, if a white pine loses the central leader, the tree will lose its pyramidal shape and become a hazard in the future.

Preventing damage and maintaining trees

Rural areas

In a forested setting, trees provide stable ecosystems and create habitats for all types of wildlife. "In Illinois, 75% percent of the wildlife in Illinois requires a forested area for their food source and nesting area," Evans says.

A healthy forested area needs to have a wide diversity of tree species. This is also important to follow the recommended stocking rate, or density of a forest, to stop undesirable trees from growing in the understory.

"Since you can't go out and prune every tree on your property, it's important to remove overcrowding and invasive species so you can achieve a healthy, flourishing ecosystem and provide habitats for critical organisms," says Evans.

These efforts not only keep a forest healthy, but also strengthen the woodland's resilience against disturbances. Learn more about forest management at extension.illinois.edu/forestry.

Urban areas

Trees are meant to grow near other trees and not individually like most urban settings. To maintain the health of trees, it pays to have a certified arborist inspection done every few years to make needed pruning cuts. To prevent damage, arborists can also apply cables and bolts.

"However, with enough wind and enough force, no amount of pruning or inspection is going to stop that tree from coming down in a bad enough storm," says Pankau. "Stll, arborists can sure stack the odds in your favor."

Tree Recovery and Maintenance Resources

- Under the Canopy Tree Guide for Illinois
- Illinois Arborist Association
- Urban Tree Conference
- Dealing with Storm Damaged Trees and Preparing for the Next Disaster
- University of Illinois Extension Forestry

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