

## Power Lines Vary, and So Do the Rules

Transmission lines and distribution lines are regulated by different governmental bodies, so the rules for managing vegetation are different for each.

**TRANSMISSION LINES** are the high-voltage power lines that carry electricity long distances from power sources to substations throughout the state and region. Eversource's transmission lines are regulated by the federal government, and they are constructed on land that Eversource owns or has been granted the legal right to use (i.e. an easement). Easements give Eversource the perpetual right to cut, trim, or remove trees and brush within rights-of-way.

Stricter national standards that require Eversource to more aggressively manage the vegetation in its transmission rights-of-way were recently implemented by the federal government. These new standards were prompted by security concerns in the wake of September 11th in 2001 and by the Northeast Blackout of 2003, which affected 50 million people and was initially caused by trees impacting critical transmission lines.

**DISTRIBUTION LINES** are the lower-voltage power lines that carry electricity from substations to your home or business. These are the power lines you typically see running through your town or neighborhood, and they are constructed on land that is owned by many different entities, including Eversource, the state, towns, and private homeowners and businesses.

Trees growing on private property cannot be cut without the permission of the property owner, and Eversource routinely seeks that permission to ensure that trees growing alongside distribution lines are cleared back to a safe distance. Eversource also obtains easements or other legal agreements with some landowners that give Eversource the perpetual right to cut, trim, or remove trees and brush within distribution rights-of-way.

## Plants that Can Stay in Rights-of-Way

You can help prevent contact between trees and power lines, and reduce the need for vegetation management on rights-of-way, by planting low-growing shrubs instead of taller trees on your property alongside power lines. Following are examples of shrubs that can remain within transmission and distribution rights-of-way, depending on their location with respect to the lines.

<b>Bayberry</b>	<b>Elderberry</b>	<b>Sheeplaurel</b>
<b>Blueberry (highbush and lowbush)</b>	<b>Hazelnut</b>	<b>Spicebush</b>
<b>Dogwood (gray, silky, and red osier)</b>	<b>Juniper</b>	<b>Sweetfern</b>
	<b>Mountain Laurel</b>	<b>Viburnums</b>
	<b>Rhododendron</b>	<b>Winterberry</b>
		<b>Witchhazel</b>

## Help Us Keep You Safe

If a tree branch breaks off and lands on a power line, don't touch the branch or wire. Call Eversource immediately at **800-662-7764**.

Don't cut down trees or branches near power lines yourself. Have it done by trained professionals or call Eversource.

Stay clear of power lines when removing any object caught in a tree.

No one should climb trees that are anywhere near power lines. Be sure children understand this.

Before you plant a tree, make sure it won't grow too close to overhead power lines when it matures.

If you have any questions or would like more information, you can always call Eversource at **800-662-7764** or visit us on the web at [eversource.com](http://eversource.com).

## VEGETATION MANAGEMENT:

# Keeping New Hampshire's Power Lines Safe

for Citizens and Communities



**EVERSOURCE**

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## More Trees Than You Can Shake a Stick At

New Hampshire is one of the most tree-covered states in the nation, with 84 percent of the state blanketed in forest. This makes for a beautiful natural environment, but it can also result in dangerous situations if New Hampshire's fast-growing trees come in contact with or grow too close to power lines. Falling trees and branches are among the most common causes of power outages in New Hampshire.

## Why Does Eversource Cut and Trim Trees?

Eversource's foremost concern is keeping the public safe and making sure that our customers get the electricity they need to power their homes and businesses. If trees come into contact with power lines, or if they even get close, it can cause power outages, fires, downed lines, or safety hazards for people and wildlife.

Trimming or removing trees that are too close to power lines is necessary to protect the public and prevent tree-related power outages; however, it's important that we protect the natural environment, as well. In cases where it is safe for vegetation to be trimmed (instead of removed), Eversource follows proper arboricultural guidelines that preserve the health of the trees.

## Transmission Lines vs. Distribution Lines

### TRANSMISSION LINES:

- high-voltage power lines (100,000 volts and higher)
- regulated by the federal government
- carry electricity long distances
- Eversource must manage vegetation according to national standards

### DISTRIBUTION LINES:

- lower-voltage power lines (34,500 volts or less)
- subject to state regulations
- carry electricity through towns and neighborhoods
- Eversource must seek the permission of individual landowners to manage vegetation

## Why and How We Manage Vegetation

### TRANSMISSION LINES

Eversource cuts or trims trees in its transmission rights-of-way:

- **To protect public safety and reduce the chance of power outages.** If a tree comes in contact with or grows too close to a transmission line, it could cause a large scale power outage and pose a threat to national security. Vegetation growing in transmission rights-of-way is currently removed by mechanical brush mowing equipment. Large patches of low-growing plants are left where practical.
- **More aggressively than in the past.** New federal standards require Eversource to remove tall-growing tree "road screens" or buffer zones of trees between roadways and transmission rights-of-way. This is different than our previous approach, where we trimmed, but not necessarily removed, trees in buffer zones within transmission rights-of-way. In some cases, Eversource is also clearing to the actual width of a right-of-way to adhere to the new requirements.
- **On a three-year maintenance cycle.** This is necessary to ensure that vegetation does not grow within prescribed clearance distances, as required by the new federal standards. This is a more frequent cycle than in the past.
- **To avoid significant financial penalties.** The federal government levies substantial fines on utilities that incur power outages from vegetation that should have been removed from transmission rights-of-way.

## Why and How We Manage Vegetation

### DISTRIBUTION LINES

Eversource cuts or trims trees along its distribution lines:

- **To protect public safety and reduce the chance of power outages.**
  - **Roadside power lines:** Trees growing too close to existing power lines are trimmed or removed as needed to prevent contact, and to create clearance distances that account for tree growth in the four to six years between maintenance cycles. The required clearance is eight feet on each side, 10 feet below, and 15 feet above the power line. In cases where it is safe for a tree to be trimmed (instead of removed), it is pruned back to the point where it meets the branch collar so that the cut will callous over and prevent decay. Small trees and saplings that are capable of growing into the power lines are generally removed, as are dead or diseased trees that are in danger of falling on power lines.
  - **Rights-of-way:** Vegetation growing in distribution rights-of-way is currently removed by mechanical brush mowing equipment every four to five years. Large patches of low-growing plants are left where practical, and bordering trees are trimmed as needed to prevent contact with power lines.
- **To reduce the chance of widespread power outages.** In places where a major power outage could result from a tree contacting a line (e.g. near a substation), vegetation is managed more aggressively. Instead of providing a 15-foot clearance zone above the power line, all overhanging limbs are removed, as are trees that pose a danger to the power lines.
- **When constructing or rebuilding a line, upgrading voltage to support increased customer demand, or replacing aging utility poles.** These projects often require trees in the immediate area to be removed so that Eversource's lineworkers have room to safely install new poles and wires, and to provide clearance so that trees do not come into contact with newly constructed lines.

