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Is clear-cutting a dirty word?

When it comes to forest management, perhaps the most feared—and most misunderstood—silvicultural tool is clearcutting. A clearcut is an area in a forest where essentially all the trees have been removed with plans to regrow another forest. This is similar to how a farmer harvests a field of crops. The changes in a forest ecosystem are dramatic after a clearcut, but are these changes good or bad? Most people do not realize that clearcutting is not just a method for harvesting trees; it's an efficient way for land managers to achieve even-aged forest regeneration and create important and potentially unique habitats for uncommon wildlife species. Clearcuts can improve future timber stand quality, growth, genetics, and species composition. Clearcutting in forests provides food and cover for many wildlife species, and is the most practical way to generate young forest habitat.

A clearcut initiates what is called an “early-successional forest,” in which there is an abundance of trees, often more than 10,000 stems per acre. This type of forest habitat is now more unique than ever in our current landscape since humans have prevented large-scale natural forest disturbances. For example, fires are promptly extinguished. Further, forest pest and disease outbreaks are controlled when possible, thus minimizing the opportunities for forests to regenerate in a large opening. Our current forest practices allow forests to reach maturity more often than not.

There are many environmental changes that occur as soon as trees are harvested by this method. Most obvious is the increased sunlight reaching the forest floor and warms soil temperatures. Soil

moisture and nutrient content may increase due to reduced transpiration by trees. Nutrient cycling often increases initially with warmer temperatures. Airflow increases near the forest floor, and air temperature extremes, whether warm or cold, also increase after a forest has been clearcut. When the forest canopy is totally removed, as in a clearcut, the amount of sunlight available to fast growing plants increases and causes an assortment of small plants and shrubs to grow where trees once stood. This new plant community invites insects and birds especially, and restarts the cycle of forest growth from young to old.

Certainly, a clearcut may be unappealing to the human eye because of the abrupt change from previous conditions. But immediately after a clearcut is performed, the entire forest is growing again under its new conditions. Since the clearcut method removes all or almost all trees in a specified area, it may be difficult at first to understand how the next forest will successfully arrive. When you observe a forest that has recently been clearcut, you may wonder how that forest will ever be restored without intensive planting.

New trees become established in the area that was clearcut through one or more of four means. First, seeds from trees adjacent to the clearcut will be dispersed by wind and animals. Second, many trees and plants have seeds that can remain dormant in the forest floor for years or decades. These seeds often need the warmth associated with high sunlight intensity to germinate. Clearcutting provides the necessary sunlight. Third, many hardwood trees will sprout from stumps and roots following cutting. These sprouts contribute to the next forest. Finally, the forest may have held seedlings and saplings beneath the forest canopy that can dominate the new forest. Forest owners may not desire all the species that become established, and deer browsing can further change the abundance of certain species.

One misleading assumption connected to clearcutting is that it creates a “dead-zone,” basically an area of forest gone forever. The forest is gone only with tree clearing for urban and suburban development. Deforestation for development is not a form of clearcutting.

A clearcut provides a new and different habitat, one that is necessary for certain wildlife species. Many animals in a forest depend on the variety of young, intermediate, and mature stands to meet all of their needs. Consider the wild turkey, which requires mature timber stands for food and roost sites in the fall and winter. In the spring and summer the same turkey also depends on insect populations that dwell only in forest openings. The ruffed grouse is another game bird in New York that needs dense thickets

and young forests. Additionally, deer need the areas of dense cover found in newly developing forests, but also depend on the acorns dropped by mature oak trees. The early-successional habitat is important for wildlife, and the simplest way to maintain this varied habitat in the northeastern United States is to strategically implement clearcuts in forest management plans.

For some tree species, clearcutting is the most cost-effective and biologically acceptable means of regenerating them. This method is a form of ‘even-aged management,’ in which all the trees of a stand are the same age. Even-aged management is simple to apply and appropriate for growing tree species that require full sunlight. Since this type of management also requires less human entry, it reduces the chance of damage to any residual trees.

Although more clearcutting occurs on industrial and public land than private land, you may consider this valuable silvicultural tool in order to help you achieve your ownership objectives. Even small clearcut patches 2 to 5 acres in size will have positive effects on the diversity of species present in your forest. The changes to your property will be dramatic following a clearcut, so evaluate your management strategy carefully before making the first cut.

For additional information on forestland activities that will benefit your objectives, visit Cornell’s forestry website at www.ForestConnect.info, contact your local office of Cornell University Cooperative Extension, or join the New York Forest Owners Association through their website at www.nyfoa.org.

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Editors note: This article is the fourteenth in a 15 part series that is provided through a joint initiative of Cornell University Cooperative Extension and the New York Forest Owners Association as an educational service that helps the citizen of New York enjoy, use, and sustain private rural lands. For more information on these and other topics, please contact your local office of Cornell Cooperative Extension or visit www.ForestConnect.info or www.NYFOA.org.