

Forest Edges, Gaps, and Clumps

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Photo by John Pirtle



This photo illustrates both a “hard edge” and a “soft edge” of a forest.

The practice of forestry entails much more than knowledge of trees. How the trees are formed, arranged, and displayed can be interesting, too. To demonstrate this, let’s examine some less-used forestry terms: edges, gaps, and clumps.

In the environment, an **edge** is an obvious line of separation between two or more stands or habitat types. An example of an edge, often referred to as a “hard edge,” is the point where a row crop field meets a forest. Here the line of intersection (the edge) is obvious. A variation is the “soft edge.” Soft edges occur when an intermediate successional stage exists at the hard edge – for instance a swath of briars and smaller tree seedlings growing between a field and forest. The line of intersection is more gradual, but still distinguishable. *Within a forest setting*, however, a stand edge can be more difficult to detect. A forest stand edge is observed when the structure of the trees on either side of the edge is distinctly different, for instance in age, species, growth rate, density, etc. Typically an edge is caused by variations in soil and microclimate, and by previous disturbances to the site (such as harvesting, wind, agriculture, etc.).

Forest **gaps** are created when individual trees or small groups of trees are removed from a stand either by harvesting, blow-down, or mortality. New trees that initiate within gaps will have uniform structure (species, age, height, etc.) but will be noticeably younger and shorter than the surrounding trees. Each gap has a distinct edge, though much smaller than the edge that surrounds an entire stand. Trees found within smaller-sized gaps typically show poor growth characteristics, especially when the crowns of adjacent overstory trees aggressively grow into the gap, thereby capturing the sunlight and shading the newly formed trees.

A **clump** is the converse of a gap. As with a gap, clumps are small areas of uniform trees, except the trees are much taller, and normally older, than their surrounding trees. Collectively, the area



Trees within smaller-sized gaps typically show poor growth characteristics, especially when the crowns of adjacent overstory trees shade them.

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of a clump is too small to be classified as a separate stand and is thus “clumped” in with the surrounding trees of the existing stand. An example of how clumps form is a clearcut harvest, where small and scattered one-quarter-acre areas are left within the clearcut for wildlife. The new forest that develops following the harvest simply surrounds, then encapsulates, these clumps.

Spend some time searching the forest for edges, gaps, and clumps. The forest is a striking show, and it stands ready to reveal how it is formed, arranged, and displayed. 🌲



Clumps form where small and scattered one-quarter-acre areas are left for wildlife within clearcut harvest.

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