

# Clearcutting...

## *FACTS and MYTHS*

### Common Misperceptions About the Clearcutting of Timber

#### **MYTH:**

Clearcutting causes deforestation.

#### **FACT:**

Clearcutting is a way to harvest timber and regenerate forests.

Deforestation is permanent removal and loss of a forest when converted to another land-use, such as houses, ballfields, solar panels, highways, stores, farms or industrial manufacturing.

From 2002 to 2016, North Carolina's total forest area was relatively stable at approximately 18 million acres and covering about 60% of the state.

Nearly 85% of the forests in North Carolina are privately-owned. In other parts of the world, deforestation occurs for many reasons, mainly to clear land for growing crops or grazing livestock.



[www.ncforestservice.gov](http://www.ncforestservice.gov)  
[www.ncagr.gov](http://www.ncagr.gov)

# History

Clearcutting gets a bad reputation from the 'slash & burn' and 'cut & run' logging and timber-mining methods of the 18<sup>th</sup> and 19<sup>th</sup> centuries. At that time, timber was believed to be an unlimited resource.

There was a lack of scientific understanding about the impacts of careless logging or how to regrow a new forest.

Come the 20<sup>th</sup> century, 'high-grading', a different but misguided logging method, emerged.

High grading takes out the best and leaves the rest. Suppressed, deformed, poor-quality trees get left behind.

The high-graded forests do not regenerate to the same quality that existed before. Repetitive cycles of high-grading leave forests in poor condition ecologically, financially and visually.

By the mid-20<sup>th</sup> century, foresters recognized the errors from the past and decided it was time to press the RESET button.

That means clearcutting in a controlled manner, with science as a guide, and following the rules. Today, there are many federal and state laws to protect water, wildlife and other environmental resources.

**Clearcutting today is not like it was 100 years ago. It is an important tool for managing forests and stimulating new growth.**



Photo courtesy of the Forest History Society, Durham, N.C.



Photo courtesy of the Forest History Society, Durham, N.C.



A recently completed clearcut with a stream buffer (circled).

## DID YOU KNOW?

The Biltmore Estate in western North Carolina was the site of the first forestry school in the U.S. The school was established in response to the degraded forests that George Vanderbilt observed across the mountains.

He brought in two forestry experts, Gifford Pinchot and Carl Schenck, to manage the Biltmore's forest holdings and operate the school. These two men were the forefathers of today's forestry profession in the United States. The Vanderbilt family provided much of the Biltmore's forest holdings to establish the Pisgah National Forest.

You can commemorate North Carolina's history by purchasing a *First in Forestry* license plate from the North Carolina Division of Motor Vehicles.

## DID YOU KNOW?

In 1934, the U.S. Forest Service established Coweeta Hydrological Lab, a watershed research forest, in the mountains of North Carolina. This outdoor living forest laboratory helped foresters develop methods called Best Management Practices (BMPs) for building roads and harvesting timber in a way that protects water quality. Studies on this forest also established the foundation of science for understanding how clearcutting timber can affect streamflow. Today, research at Coweeta is focused on the long-term patterns of changes in forest tree species, precipitation, air temperatures, forest health, and how different tree species use water in their biological processes.

## Science

Clearcutting mimics the biological growth cycles to which forests in the South have adapted.

- ▶ Most tree species important for timber and wildlife require full sunlight to regenerate and grow.
- ▶ Areas of trees (called ‘stands’) are usually about the same age. Periodic harvest of stands will create a diversity of overall forest ages and structure across the landscape (*see photo below*).

More than 70 years of research have led to proven methods to grow seedlings in a nursery and to successfully plant these seedlings in the forest.



This forest has stands of different ages, but the trees in each stand are all approximately the same age. Note the recent clearcut in the foreground and newly planted pines in the background, with middle-aged timber in between.

## Forest Renewal

Before clearcutting, a forest owner should have a plan and prescription for how the forest will regrow afterward: by seed; by sprouts; or, by planting new seedlings.

A well-done clearcut can result in lower costs to prepare the soil, remove leftover debris and plant new seedlings.

Many people think a clearcut is the end of the forest and that nothing will grow back. If the stumps, limbs, needles and topsoil remain in place, this is not true. Thanks to the ecology, weather, soils, diversity of tree species, and long growing season, North Carolina has abundant forest growth.

When a forest stand is clearcut, there will be regrowth afterward (*see clearcut photo below*).

The forester’s job is to manage that regrowth in order to meet the landowner’s goals, while sustaining forest resources for the future.



A clearcut just six months after harvest. Note the abundant regrowth.

# Economies of Scale

Clearcutting allows full utilization of the timber, with little waste. Wood and fiber are an important resource.



Forest owners rely on their timber as a long-term investment. When the time comes to harvest their timber, it is important to minimize waste, keep costs low and promote successful reforestation.

Clearcutting is usually the most efficient and effective method to capture timber value in a timely manner.

## *FACTS and MYTHS*

**MYTH:** Water quality is impaired by clearcutting.

**FACT:** There are numerous laws and rules that require protection of soil and water when timber is harvested.

These rules require stream buffers; maintaining tree shade along perennial streams; and, stabilizing critical areas of exposed soil. To monitor compliance with the state's water quality rules that govern forestry activities, the N.C. Forest Service inspects thousands of logging jobs each year. Research from across the U.S. has shown that when timber is harvested, including when harvested by clearcutting, water quality is protected by using state-enacted BMPs.

**MYTH:** Clearcuts are bad for wildlife.

**FACT:** Many native wildlife thrive in recently clearcut areas.

Deer, bear, turkey, fox, rabbit, hawks, reptiles, many songbirds and pollinators rely on clearcuts for food, cover and nesting habitat. Several native grasses and wildflowers require full sunlight. Clearcuts mimic the natural process of creating large openings with lots of short, shrubby plants that quickly grow while new tree seedlings are establishing. This process is known as 'early successional habitat.' Good wildlife habitat requires areas of tall, mature forest that are coupled with these areas of young, shrubby forest regrowth.

**MYTH:** Clearcutting causes flooding, landslides and algae blooms.

**FACT:** Many factors cause these events to occur.

Research and studies conducted across the country have not made a direct link to clearcutting as a trigger.

After trees are harvested, the flow in nearby streams may increase temporarily until new seedlings once again cycle the water that was used by the previous trees. This effect has been shown to last for 5 to 10 years afterward. The soil in a forest, even after a clearcut, has the proven ability to soak up lots of rain when compared to fields, pastures or ballfields.

Landslides are usually triggered by too much rain on weak sub-soil geologic structure, allowing the rock and soil to slip. Evidence in many landslides show that even areas with mature, standing trees can have landslides.

Algae blooms occur because of too many nutrients getting into stagnant water, along with other factors such as sunlight exposure, salinity, aquatic biology and temperature.

**MYTH:** Clearcutting adds carbon dioxide to the atmosphere.

**FACT:** Much research is being done to better understand how carbon dioxide is produced, recycled and captured throughout the air, soil, plants and animals.

Through photosynthesis, trees absorb carbon dioxide and release oxygen. After a clearcut, the new growth of underbrush and tree seedlings captures carbon dioxide. Leftover tree limbs and branches will breakdown, incorporating carbon into the soil. The lumber and wood products produced by the timber harvest help to 'lock' carbon in place, when the wood is used for long-term construction. Forests do not need to be preserved to effectively offset carbon dioxide concerns. Forests can be managed for sustainable growth, vigor, diversity and renewable resource utilization while at the same time provide many ecological and social benefits.



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