

Minnesota's Forests: A Primer

In the beginning

The tree and forests Minnesota travelers see today are a far different sight from those that greeted the earliest pioneers who settled the state. They are the result of millennia of transformations.

The story of Minnesota's modern forests begins about 10,000 to 20,000 years ago, when the last of the great glaciers began its warming-weather retreat to the north. Some 20,000 years ago, the Wisconsin Glaciation covered all of Minnesota except for the southeastern corner, now known as the "driftless area." As the climate warmed, the massive frozen rivers of ice and snow carved hills, valleys, and plains, and scraped marks into rocks that still tell the tale of their passage.

What we see now is a mere snapshot of glacial time. As great lobes – curved or rounded projections – of thick ice advanced, retreated, scraped, and dug their ways across the land, glaciers removed much of the topsoil, revealing bedrock. As glaciers receded, they covered the landscape with piles of deposited soil and rock, bumps, hills, holes, and other distinctive Minnesota landforms.

These remnant piles and bumps chose the key and set the meter for the symphony of vegetation that followed the glacier's icy footsteps. By forming the lay of the land and determining the quality of the soil, the glaciers – in concert with weather and climate – largely determined the share, size and species composition of the forests the forests that grew under their direction.

About 1,000 years ago, the forests of what is now Minnesota looked much the same as they did before the 1800s – when Europeans first set eye upon them. Because of the cycle of warming and cooling that followed the retreat of the last glaciers, trees eventually graced more than half of the state. Before European settlement, some 31.5 million acres (about 61 percent) of the 51 million acres that constitute Minnesota's land base was forested.

Changes in the forest

In the early 1800s, dramatic change began to arrive from the east. The French, and later the British, fur traders plied their trade in the northern expanses of the state. At the same time, other Europeans were gradually pushing their way westward across the growing nation in search of the farmland riches they had been told were part of this vast, unknown terrain. By the 1840s, settlers had begun establishing farms on lands that the Ojibwe and Dakota had given up through treaties in the southern part of what is now Minnesota.

As America stretched its boundaries across the continent, the demand for building supplies soared. Forests became, in the eyes of some visionaries, collections of timber just waiting to become joists, rafters, tables, chairs, drive tongues for covered wagons, and paper stock for leaflets and newspapers announcing the riches of the West. And the very best timber, it seemed, waited in the great, but difficult-to-access, white pine forests of northern Minnesota.

The first commercial cuts were made along water-ways that could provide transportation for logs. Trees were cut in the winter and hauled by horse or oxen to the edge of streams. Winter logging was a constant battle against the elements. Frozen ground was necessary to move the heavy logs with horses and oxen. Ice roads for sliding logs had to be built and maintained. Heavy snow, early thaws, and low spring water levels could jeopardize a winter's work. These extreme conditions, combined with the rugged individualism of the woodsmen, gave rise to some rich lumberjack folklore. It was from these

stories of great feats of strength, endurance, and ingenuity retold around the bunkhouse woodstoves, that the legends of Paul Bunyan and his mighty Babe the Blue Ox grew. Then, when spring came, they were floated downstream in rivers to mills.

In 1857 alone, some 100 million board feet of lumber were cut in the state. By 1889, with the rapidly growing railroads both increasing demand for wood and providing a new means to get wood from the forest to the market, productions topped 1 billion board feet. The introduction of new technologies that made harvesting, transporting, and processing logs easier and more efficient helped that number double within the next decade to its all-time peak of more than 2 billion board feet in 1899.

By the mid 1920s the most difficult to reach timber in northeastern Minnesota was being cut and by 1930, loggers were beginning to discover that they had literally worked themselves out of their jobs. Only a remnant of the massive pine forest that once graced Minnesota remained. With the aid of the frontier-piercing railroads, many of the lumberjacks who had changed the face of Minnesota forever headed out to the Pacific Northwest to ply their trade there.

Forests today

The trees and forests Minnesota travelers see today are a far different sight from that which greeted the earliest pioneers. For one thing, there are fewer of them. Largely due to the clearing of the deciduous and southern coniferous forests for agriculture, total forested land in the state has dropped from the pre-European figure of more than 31 million acres to 16.3 million acres (about one-third of Minnesota's land area). Harvest is prohibited on about 1.1 million acres. Although much of this set-aside land is within the Boundary Waters Canoe Area Wilderness (960,000 acres), it includes areas in state and national parks and forest, scientific and natural areas, and corridors and setbacks. Total timberland (harvestable land) – forest that is considered useful for growing and harvesting trees – is about 15 million acres. More than half (54 percent) of this land is publicly owned.

In the southeastern third of the state, farming dominates. Trees and forests found there are largely remnant of the extensive mixed deciduous stands that originally grew along the fringe of the prairie, wind-breaks or shelterbelts around farmsteads, or urban trees gracing city streets and parks. However, thick deciduous forests still blanket much of the bluff lands along the Mississippi River valley. In the northeastern third of the state, quick-growing aspen, birch, and red and jack pine that grew up after the great pine forests were logged, now dominate. Although shade-tolerant spruce and fir have invaded some of these forests, today more than a third (6.96 million acres) of Minnesota's forested acres are primarily aspen. Minnesota has more aspen than any other species of trees.

Forest management today is increasingly focused on stewardship, multiple benefits, and sustainability. Those who care for Minnesota's forests recognize that: 1) this resource is to be used, but not abused; 2) human needs are to be balanced with other goals; and 3) current demands must be compatible with our responsibility to future generations.

Multiple benefits

Whereas in the past forests often were managed with a focus on timber production, today's forests are more likely to be managed for long-term sustainability and to provide a variety of benefits: timber, nontimber products, jobs, wildlife habitat, bio-logical diversity, cultural resources, improved water and air quality, carbon sequestration, recreation, aesthetics, and energy from woody biomass.