

## IOWA STATE UNIVERSITY EXTENSION

### Extension Forestry

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# History of Iowa's Forests

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Most people consider Iowa to be a prairie state, but forests also have been an important feature of the landscape for thousands of years. Nearly 6 percent of the state is forested today, down from an estimated 12 to 20 percent at the time of settlement. The forests that remain are one of our most important natural resources, providing timber, wildlife habitat, watershed protection, recreation, and natural beauty.

The history of Iowa's forests can be summed up in a single word - change. Just as today's forests are much different from those at the time of settlement, Iowa's forests of a century ago bear little resemblance to those that grew here immediately following glaciation. By studying pollen extracted from ancient bogs, notes made by the original surveyors, accounts written by early travelers, and changes in Iowa's soils, we have learned much about these forests of long ago.

Ten thousand years ago, after the last glacier left the state, Iowa had a much cooler, moister climate than it does now. Then the landscape probably supported a spruce-fir forest similar to that of modern-day Canada. When the climate later became warmer and drier, the conifers migrated northward and were replaced by oaks, maples, and other deciduous trees. As the trend toward a warmer, drier climate continued, the deciduous trees largely gave way to heat- and drought-resistant prairie plants.

This warm, dry period peaked about four thousand years ago and was followed by a climate again more favorable to the growth of deciduous trees. Nevertheless, the prairie plants remained the dominant vegetation until the arrival of white settlers. The persistence of prairie in a forest climate is usually attributed to fire, set naturally by lightning and deliberately by native Americans.

Prairie plants were adapted to these fires, but the seedlings of most trees were not. During wet years young trees became established in the prairie, but dry weather always returned, accompanied by fire. If not killed outright, during a burn, the trees died back to the ground and resprouted from the roots, continuing to grow until the next fire occurred. After repeated cycles of burning and regrowth, the tree roots formed tough, knotted clumps in the prairie soil. These "grubs," as the settlers called them, were very difficult to remove when the land was cleared for farming.

Most of Iowa's presettlement forests were confined to stream valleys, being especially prevalent in eastern and south central Iowa. Strips of forest also occurred around the larger natural lakes in the north central part of the state. Many of these presettlement forests were more open than our woodlands today, with widely spaced oaks and other trees. Where fires regularly burned into these woods, the understory was prairie and wildflowers.

Despite recurrent fires and drought, forests were slowly invading the prairie in some parts of Iowa when the settlers arrived. The advance of the forest was led by the bur oak, which was naturally resistant to drought and fire. Settlement accelerated this process by bringing an end to the fires, allowing

trees to rapidly resprout from long-suppressed "grubs" in the soil. In some places the acreage of natural woodland actually increased despite the amount of land being cleared by settlers.

Groves of trees were also planted by the settlers, creating "forests" in place where only prairie had existed before. Many settlers took great pride in their woodlots and orchards, competing with one another for the largest plantation or the greatest variety of species.

At the same time these new forests were being planted, Iowa's native forests were being cut to provide lumber, fencing material, railroad ties, fuelwood, and other products and to clear land for farming.

These two phenomena - the growth of new forests and the depletion of others - have continued to the present day. In a few places, such as in the rugged loess hills along Iowa's western border, forest continues to advance on what remains of the prairie, creating a management problem for those seeking to preserve our native grasslands. In most parts of Iowa, however, there probably has been a net loss of woodland since settlement.

A 1990 survey by the United States Forest Service indicates that Iowa's forests may be on the increase. Preliminary figures showed an acreage of about 2 million in 1990, compared to about 1.5 million in 1974. According to State Forester William Farris, much of the increase can probably be attributed to a decline in livestock numbers, which has resulted in woodlands replacing pasture. Tree planting programs also have played an important role.

These changes are welcome news indeed for all those who enjoy Iowa's woodlands and appreciate the many benefits they provide.

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