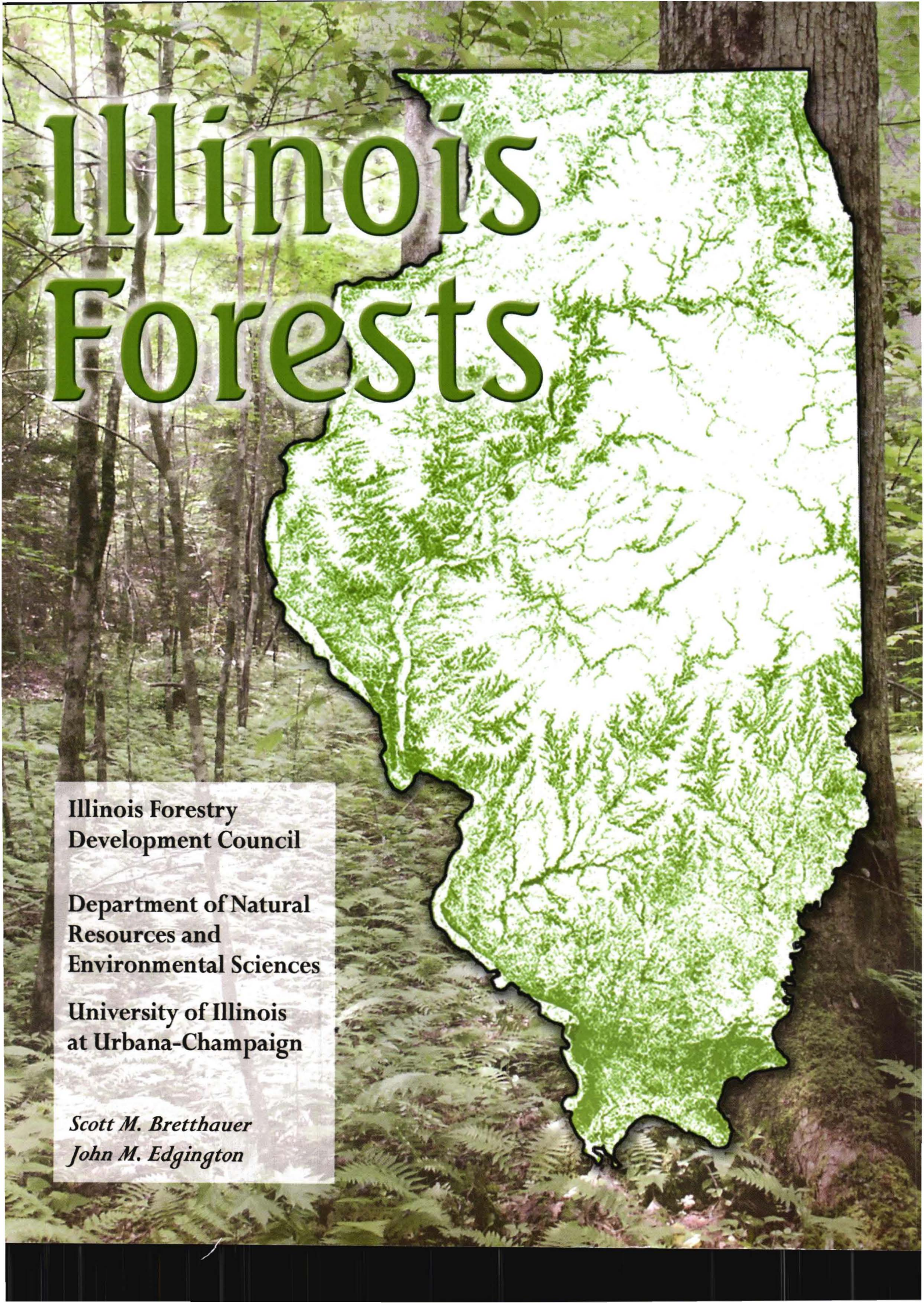
Illinois Forests



Illinois Forestry Development Council

Department of Natural Resources and Environmental Sciences

University of Illinois at Urbana-Champaign

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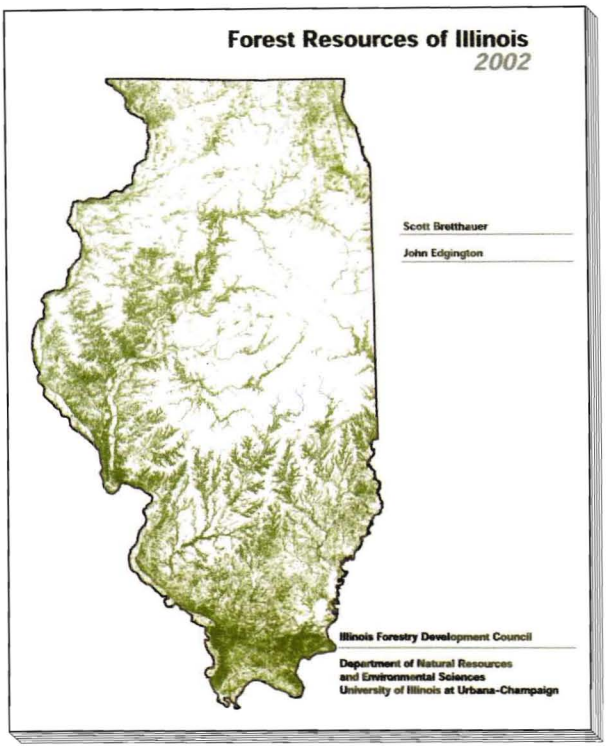
Preface

After its creation by the Forestry Development Act in 1983, the Illinois Forestry Development Council was given the responsibility of periodically reporting the status of the forest resources of Illinois. *Forest Resources of Illinois: 2002* was the second report in response to the mandate to provide resource information for the management, development, and preservation of Illinois forests. *Illinois Forests* is a summary report of *Forest Resources of Illinois: 2002* that highlights the most important conditions and trends of Illinois forests.

Most of the information for this summary report is from data collected by the Forest Inventory and Analysis (FIA) section of the USDA Forest Service. The FIA assessment provides an inventory of the extent, composition, and condition of the forest resource in each state. The Illinois forest resource was assessed in 1948, 1962, and 1985, with the most recent FIA assessment for Illinois forests completed in 1998. In conjunction with the FIA assessment, the USDA Forest Service Timber Product Output (TPO) provides information on the trends and conditions related to the forest products industry in Illinois. Additional information and data were obtained from the Illinois Geographical Information System, General Land Office records, the Illinois Department of Natural Resources Division of Forest Resources, Dun and Bradstreet, the USDA Natural Resources Conservation Service, and the USDA Forest Service Northeastern Forest Experiment Station. A complete list of data sources and references may be obtained from the publication *Forest Resources of Illinois: 2002*.



Forest Resources of Illinois: 2002 is a detailed assessment of Illinois forest resources. For more information, contact the Department of Natural Resources and Environmental Sciences at the University of Illinois at Urbana-Champaign.

Illinois Forests

Throughout the world, forests have played an important role in human progress and welfare. Forests supplied early inhabitants with food, shelter, fuel, medicines, tools, and commerce. Forests continue to provide numerous products and benefits today. Our forests supply wood, the raw material from which countless products are manufactured for consumers. Forests provide many social benefits, including recreation, wilderness areas, wildlife habitat, and improved water quality.

Enhancing, protecting, and maintaining the forests of Illinois should be priorities shared by all. Through establishment and reforestation, the benefits provided by forests can be ensured for future generations. Conversely, the loss of forest land means the loss of associated forest benefits. Dwindling forest land reduces timber output, affecting local and state economies. Wildlife is displaced with the loss of habitat, and forest-based recreation is diminished. Loss of forest cover increases soil erosion, which results in deteriorating water quality. Loss of forests reduces the biological diversity of Illinois flora.

This report highlights the current extent, condition, and trends of the Illinois forest resource and summarizes the benefits derived from Illinois forests. With this information, it is hoped that readers will understand the importance of protecting and enhancing this valuable and essential resource.

Clarence J. Telford (on the right) completed the first statewide survey of Illinois forest resources.

What were the early forests of Illinois like?

The first settlers arriving in Illinois found a land of forests and tall-grass prairies. Prairies covered almost 61 percent (21.6 million acres) of the 35.6 million acres of total land area in the state. Forests covered more than 38 percent (13.8 million acres). Less than 1 percent of Illinois was covered by water. The forests were concentrated in the southern one-third of Illinois and along the northern and western parts of the state. Forest lands also extended along the streams and rivers throughout the prairies.

Between 1800 and 1830, extensive clearing of forest land took place as more people settled in Illinois. Forested land was often more valuable than prairie because of the need for wood used in building and heating homes. Since the heavy sod of the tall-grass prairies was not easily tilled, the settlers chose to clear the forested areas to build their homes and farms. With the advent of the moldboard plow, settlers began to cultivate the treeless prairies, and settlements rapidly expanded northward into the prairie regions. By the late 1830s, the population of Illinois had swelled to 46 times larger than the 1820 population. Cutting of the timber resources in Illinois increased tremendously during this period because the demand for wood had to be met primarily through local forests.

The coming of the railroads in the mid-1800s brought about a new demand for wood. Extensive cutting resulted as the railroads consumed wood for rail crossties and locomotive fuel. Cutting accelerated as export markets for Illinois timber products developed and products were shipped by rail. Timber from other states was imported for processing in Illinois mills. Toward the end of the 1800s, Illinois had become an important wood-producing and wood-manufacturing state. Wood products manufacturing accounted for 20 percent of the value of all manufacturing in the state by 1870. Annual production began to decrease, however, as the forest resources began to disappear. By 1920, the forests of Illinois were almost completely cut over.

It was at this time in the history of Illinois forests that Clarence J. Telford completed the first statewide forest resources survey. Telford's 1924

survey reported that the total acreage of Illinois forests had been reduced from the pre-settlement estimate of 13.8 million acres to a mere 3.0 million acres. The upland forests had been reduced to approximately 1.8 million acres, while the bottomland forests had been reduced to 739.4 thousand acres. Only 22 thousand acres of undisturbed forest remained, and this forest land was located primarily in the floodplains of large rivers.

The U.S. Forest Service completed the next assessment of Illinois forests in 1948. The total amount of forest land in Illinois had increased by nearly 1 million acres since 1924 (Figure 1). Subsequent assessments by the USDA Forest Service Forest Inventory and Analysis (FIA) section in 1962 and 1985 reported total forest-land acreage had gradually increased. Total forest land reached more than 4.2 million acres in 1985.

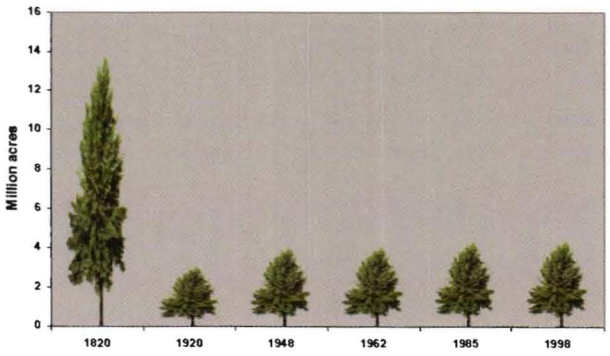


Figure 1. The trends in forest-land acreage clearly indicates that most of the forest resources of Illinois were drastically cut between 1820 and 1920. There has been a gradual increase in forest-land acreage since 1924.

How much forest does Illinois have today?

According to the most recent USDA Forest Service FIA assessment, completed in 1998, about 12 percent (4.3 million acres) of the state's total land area is classified as forest land (Figure 2). Land is considered forest land if it is at least one acre in size and has at least 10 percent of its area covered by trees. Forest land is divided into two classifications, timberland and reserved forest land. Timberland is forest land that is available for wood harvesting. Reserved forest land is forest land that is closed to harvesting and is used for other benefits, such as recreation. Most of the forest land in Illinois is classified as timberland. Illinois currently has slightly less than 6 percent (244.2 thousand acres) of its total forest-land area set aside as reserved forest land.

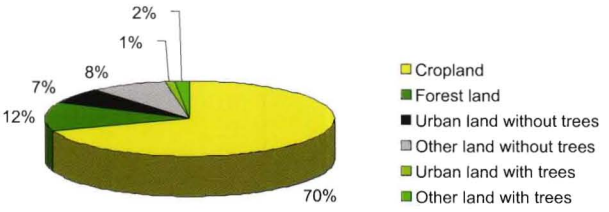


Figure 2. The majority of land in Illinois is used for cropland.

The majority of the forests in Illinois occur as natural forests, with plantations accounting for less than 3 percent of the total forest resource. The highest concentrations of forest land are in the western and southern portions of the state (Figures 3 and 4). The current acreage of forest land in Illinois has increased only 1 percent since 1985 (Figure 5).

Figure 3. Most of the forest land in Illinois is located in the southern and western portions of the state.

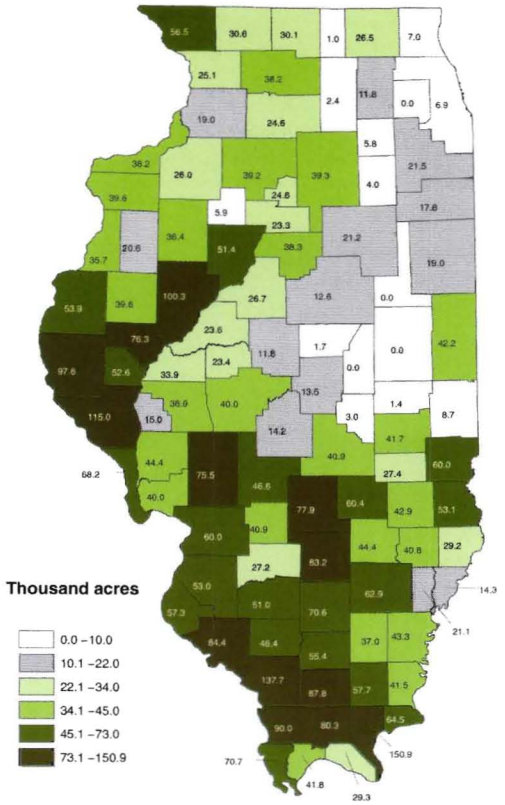


Figure 4. The acreage of timberland (forest land available for wood harvesting) for each county in Illinois. Note the concentration of timberland in the southern and western parts of Illinois.

Forest land is only one of several land-use classes in Illinois. Land-use classes categorize land according to the purposes for which it is used. The highest acreage in a land-use class in Illinois is cropland, which accounts for 70 percent (24.8 million acres) of the total land area in the state (Figure 2). This is not surprising, since almost the entire original prairie and much of the original forest land have been converted to cropland.

Another important land-use class in Illinois is urban land without trees. Most of the downtown and heavily developed areas in our cities and towns are placed in this land-use class. Urban land without trees amounts to almost 2.5 million acres in Illinois. By comparison, only 425 thousand acres of land in Illinois are classified as urban land with trees. Small rural communities and the suburban areas surrounding most cities fit into this classification. The two urban land-use classifications combined have increased by 12 thousand acres since 1985.

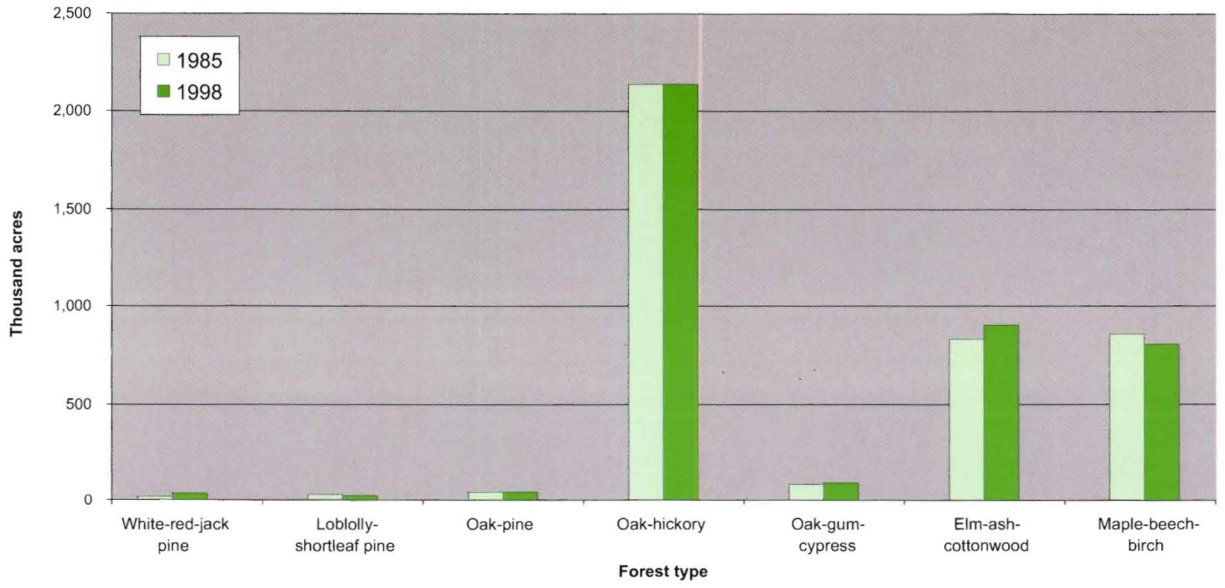


Figure 5. There was a slight increase in the total acreage of forest land between 1985 and 1998. Most forest types increased slightly or remained the same, but two forest types had slight decreases in acreage.

What kinds of forests are found in Illinois?

Illinois is blessed with a great diversity of tree species within its boundaries. This diversity is in part due to the considerable distance between the northern and southern ends of the state. The climatic conditions in northern Illinois are similar to those of the northern states, while the climatic conditions in southern Illinois are more like those of the southern states. The result is a broad range of conditions that are favorable to a large variety of trees.

Forests are often separated into groups called stands. A forest stand is identified and classified because of similar species, similar sizes, or similar ages of trees. Forests are most often classified by the kinds of trees they contain. Although there may be many tree species within a forest, there are usually only a few species that have the greatest numbers of individual trees. The name of a forest type is based on the dominant tree species present in that forest.

The oak-hickory forest is the largest forest type in Illinois. More than half the state's total forest land is oak-hickory forest (Figure 6). This forest type usually occurs on upland areas where the soils are moist to dry. White oak, black oak, northern red oak, and several hickory species are the most common trees within this forest type. The oak-hickory forests are common throughout the state but are more concentrated in the southern and western counties.

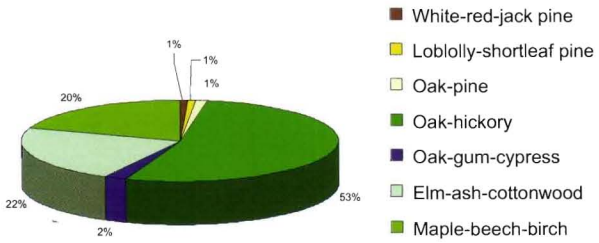


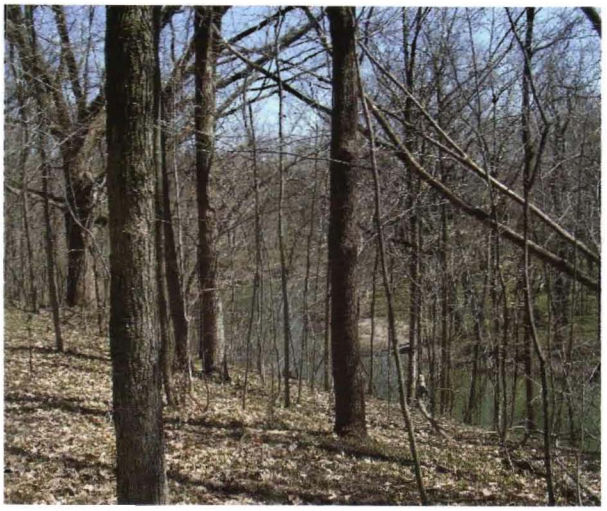
Figure 6. Oak-hickory is the most prominent forest type in Illinois.

The majority of the remaining forest land in Illinois is occupied by two other important forest types, the maple-beech-birch and the elm-ash-cottonwood. The maple-beech-birch forest is another upland forest type often found near the oak-hickory forests. The most common tree in the maple-beech-birch forest type is sugar maple. The elm-ash-cottonwood forest type is typically found on bottomlands along rivers and streams, where the soils are wetter. In Illinois, the most common species found within the elm-ash-cottonwood forest type are silver maple, green ash, American elm, slippery elm, and eastern cottonwood.

There are several other forest types that make up a small part of the total forest land in Illinois. Three of these forest types are dominated by conifers and are mostly plantations. The oak-pine forest type is primarily composed of a mixture of upland oaks and eastern red cedar and is scattered throughout Illinois.

Heron Pond, a baldcypress swamp in southern Illinois.

Northern red oak leaves.



The oak-hickory forest type in Illinois is found along the middle to upper slopes of upland areas where the well-drained soils are moist to dry. Typical species include white oak, black oak, northern red oak, shagbark hickory, mockernut hickory, and bitternut hickory.

The elm-ash-cottonwood forest type is typically found along rivers and streams throughout Illinois. Flooding is frequent in these forests. Common species are silver maple, green ash, American elm, slippery elm, and eastern cottonwood.

The maple-beech-birch forest type is an upland forest type found where soils are well-drained but remain moist. Sugar maple, American beech, American basswood, and Ohio buckeye are common species.

This mixed bottomland forest would be classified in the oak-gum-cypress forest type and is composed of swamp white oak, swamp chestnut oak, shellbark hickory, and swamp red maple.

The white-red-jack pine and loblolly-shortleaf pine forest types are dominated by their namesakes and are located, respectively, in the northern and southern portions of the state. Bottomland oaks, sweetgum, and baldcypress dominate the oak-gum-cypress forest type found in the southern part of Illinois.

What are the current conditions of Illinois forests?

The condition of a forest stand is determined by interpreting several stand characteristics. Consideration must be given to how well the trees are utilizing a site by determining the number of trees, their ages, and their sizes. Forest stands are therefore classified by stocking classes, stand-age classes, and stand-size classes in order to determine stand condition.

A ***stocking class*** is based on the extent land is occupied by trees. A fully stocked condition implies that the site is being fully utilized and that all trees have the proper spacing to allow them to grow rapidly with good form and well-developed crowns. Overstocked conditions occur when an area has too many trees, resulting in greater competition, higher mortality, and lower growth rates. Conversely, poorly stocked conditions occur when an area has too few trees, resulting in the site not being utilized to its fullest potential. Two-thirds of the forest land in Illinois is medium to fully stocked (Figure 7). This indicates the majority of the forests in Illinois are utilizing their sites very well. Maintaining fully stocked stands through proper forest management will assure a sustained yield of forest products. The remaining one-third of Illinois forest land, however, is in nonstocked, poorly stocked, or overstocked condition. This forest land needs to be rehabilitated through appropriate forest management practices to encourage good growing conditions and better site utilization.

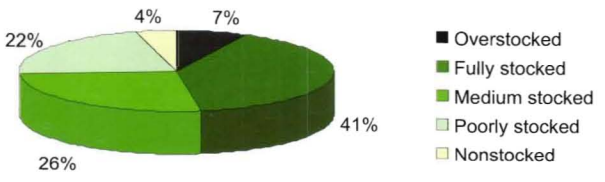


Figure 7. Two-thirds of the forest land in Illinois is fully or medium stocked, indicating nearly ideal growing conditions.

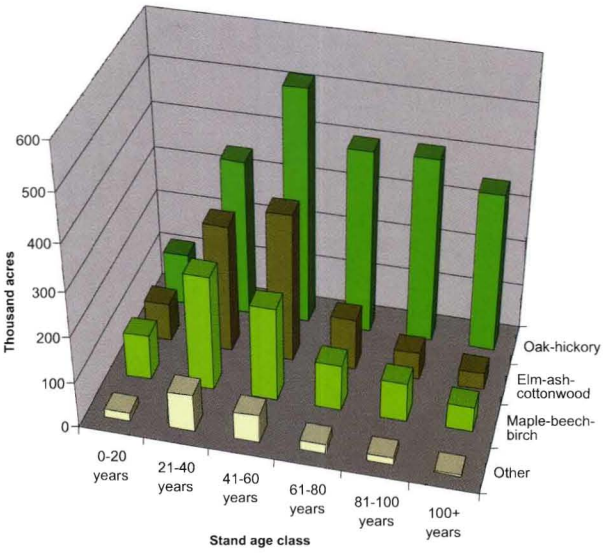


Figure 8. The majority of the forests in Illinois are less than 60 years old. The oak-hickory forest type dominates the older stand age classes. When combined, the elm-ash-cottonwood and maple-beech-birch are much more important in the younger age classes. This has important implications for the future forests of Illinois.

A forest stand can also be classified by its ***stand-age class***, which is determined by the general age of the trees within the stand. Age classes span a range of years because the trees in a stand are seldom all exactly the same age. Knowing stand age provides valuable information on the current status of a forest and helps predict when trees will reach maturity.

Recall that in 1924 only about 3 million acres of forest land remained in Illinois and all but an estimated 22 thousand acres had been cut over. Most of the cut-over forest lands now have secondary forests that became established after the original forests were cut. Slightly less than 11 percent (447 thousand acres) of Illinois forests have stand ages over 100 years old (Figure 8). Well over half (59 percent) of the forest land in Illinois has stands less than 60 years old. It is apparent that the forests of Illinois are recovering from being cut over, but it is important to consider what kinds of forests are recovering.

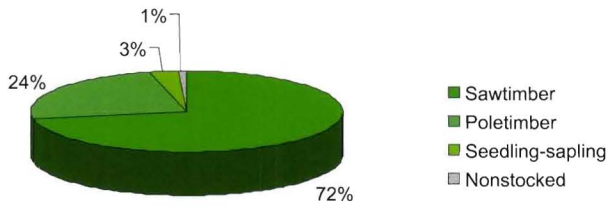


Figure 9. The majority of Illinois forest land is dominated by large, sawtimber-sized trees.

The oak-hickory forest type dominates all stand-age classes in Illinois forests, but it is not as dominant in the younger stand-age classes as it is in the older stand-age classes. The oak-hickory forest type represents 78 percent of the forest land where stand ages exceed 100 years old; however, it composes only 35 percent of the forest land where stand ages are less than 20 years old.

When combined, the maple-beech-birch and elm-ash-cottonwood forest types are distributed oppositely compared with the oak-hickory forest type. Together they compose 58 percent of the forest stands in Illinois that are 20 years old or less but make up only 21 percent of the forest stands that are over 100 years old.

Currently, the younger stand-age classes of Illinois forests consist of less oak-hickory and more maple-beech-birch and elm-ash-cottonwood. As the forests of Illinois continue to age, the older oak-hickory forests will gradually be replaced by species in the younger maple-beech-birch and elm-ash-cottonwood forests. This has significant management and economic implications. Without disturbance, the valuable oak species will gradually be replaced by the less valuable species, such as sugar maple and elm.

A final way a forest stand can be classified is by its ***stand-size class***. Stand-size class refers to the size of the dominant trees within a stand. Tree size is most commonly expressed as the diameter of the trunk. Tree diameter is measured at breast height, which is 4.5 feet above ground.

A stand is categorized as the seedling-sapling stand-size class when the majority of the trees have a diameter at breast height (dbh) of less than 5 inches. The poletimber stand-size class is recognized when most of the trees are between 5 and 11 inches dbh. Finally, the sawtimber stand-size class is recognized when the majority of the trees in a stand are over 11 inches dbh. Seventy-two percent of the forest land in Illinois is in the sawtimber stand-size class (Figure 9). This means the forests of Illinois are predominantly made up of large trees. Management activities need to focus on increasing the acreage of the seedling-sapling stand-size class

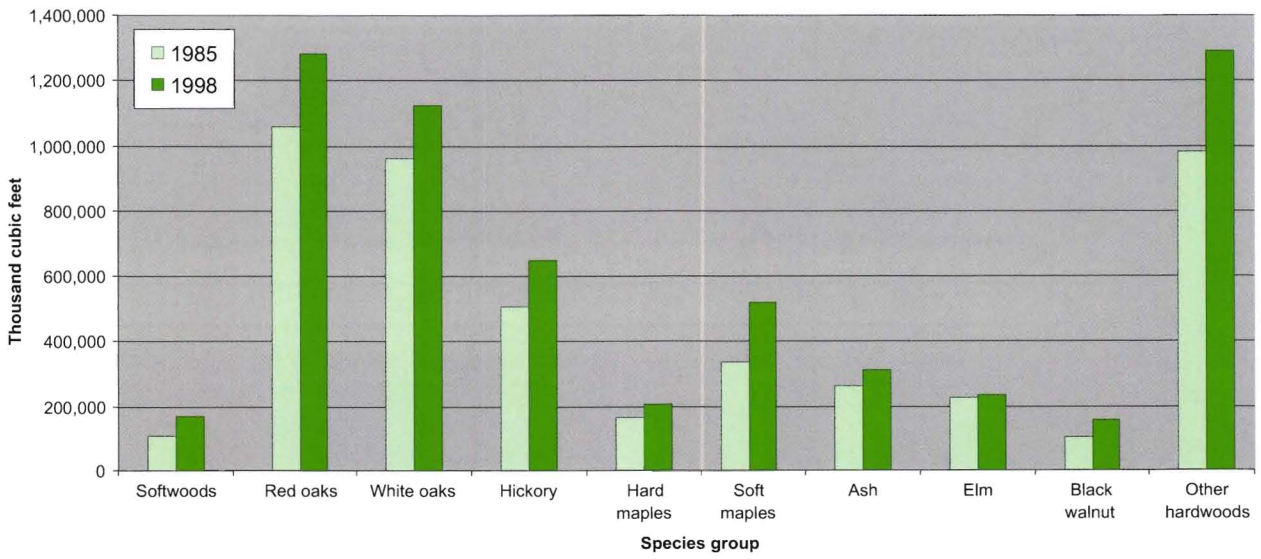


Figure 10. All species groups increased in growing stock volume between 1985 and 1998. Many of these increases were substantial.

to ensure future forest resources for the state. These management activities may include planting the seedlings of valuable tree species in areas of nonstocked or poorly stocked forest land. Some of the larger, mature sawtimber-size-class stands could be cut to provide the proper conditions for regeneration of the valuable species.

"Growing stock" is a term used to indicate the commercially desirable live trees in a forest. These trees must be neither rotten nor dying. Growing stock is commonly expressed as both the number of growing-stock trees and the cubic-foot volume of wood represented by those growing-stock trees. The details about growing-stock volume that are particularly useful in describing a forest are the forest's existing volume and annual changes to that volume through growth, mortality, and removals by harvesting. Volume of growing stock and its changes are discussed in terms of species groups, which are groups of related species. This is similar to the way forest types are used to describe forest land.

Data on growth, mortality, and removals of growing stock are determined by calculating the average yearly changes in the volume of the growing stock. The most recent information on growing stock in Illinois is based on the volume changes between 1985 and 1998 (Figure 10).

The total ***growing-stock volume*** in Illinois forests is nearly 6 billion cubic feet. This is a dramatic increase from 1985, when the growing-stock volume was 4.7 billion cubic feet. The oak and hickory species groups make up approximately 52 percent (more than 3 billion cubic feet) of the total volume of growing stock (Figure 11). Oaks alone make up 41 percent of the total volume of growing stock. The most common oak species in Illinois are white oak, black oak, and northern red oak. The most common hickory species are shagbark hickory, pignut hickory, and mockernut hickory. The other hardwoods species group has a large volume but is composed of a variety of species, none of which dominates this group. The soft maples (primarily silver maple) and ash (primarily white and green ash) together yield a relatively high volume of more than 830 million cubic feet. Elm (mostly American and slippery elm) makes up 4 percent (236 thousand cubic feet) of the total growing-stock volume. Hard maples (primarily sugar maple) account for slightly more than 206 thousand cubic feet of the total growing-stock volume. All softwoods combined total nearly 169 thousand cubic feet of the total growing-stock volume. The distribution of growing-stock volume for each county is shown in Figure 12.

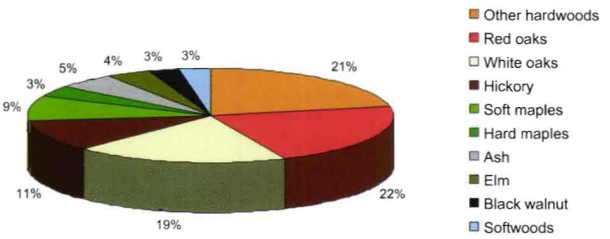


Figure 11. The oak and hickory species groups contain just over half of the growing stock volume in Illinois.

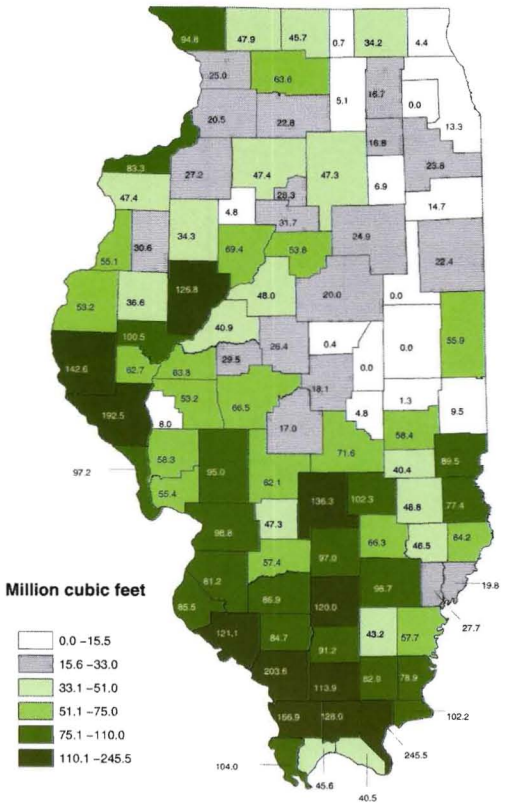


Figure 12. The distribution of growing stock volume for each county in Illinois is similar to the distribution of timberland.

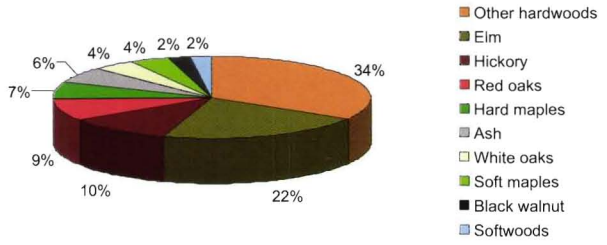


Figure 13. The elm species group has a higher number of growing stock trees than all other species groups except other hardwoods. Compare this figure with Figure 11.

When the total ***number of growing-stock trees*** is compared with the total growing-stock volume, the ranking of the species changes (Figure 13). Elm accounts for 22 percent of the total number of growing-stock trees, while it makes up only 4 percent of the total growing-stock volume. There are more than twice as many elms as there are hickories, which have the next highest number of trees. Elm species are commonly abundant in the smaller size classes in Illinois forests, but they will likely fail to grow into larger size classes because of their susceptibility to Dutch elm disease.

Oaks are less dominant in their number of growing-stock trees than they are in growing-stock volume, when compared with elm and hickory. There are fewer oak trees, but they are in the larger size classes and therefore have a larger volume. Hard maples, with 7 percent of the total number of growing-stock trees, have more trees than the white oaks but fewer than the red oaks. The softwoods combined represent only 2 percent of the total number of trees.

The ***annual growth of growing-stock trees*** in Illinois forests far exceeds annual losses from mortality and removals (Figure 14). It is important to note that annual growth is a calculation of net annual growth (gross annual growth minus annual mortality). The average annual growth (174 million cubic feet) is more than 2.5 times the average annual removals (67 million cubic feet). This is a major reason the volume of growing stock in Illinois increased substantially between 1985 and 1998 (Figure 10). This is an important trend to highlight for Illinois forest resources. While the total area of forest land increased by only 1 percent, the volume of the growing-stock trees on that forest land increased

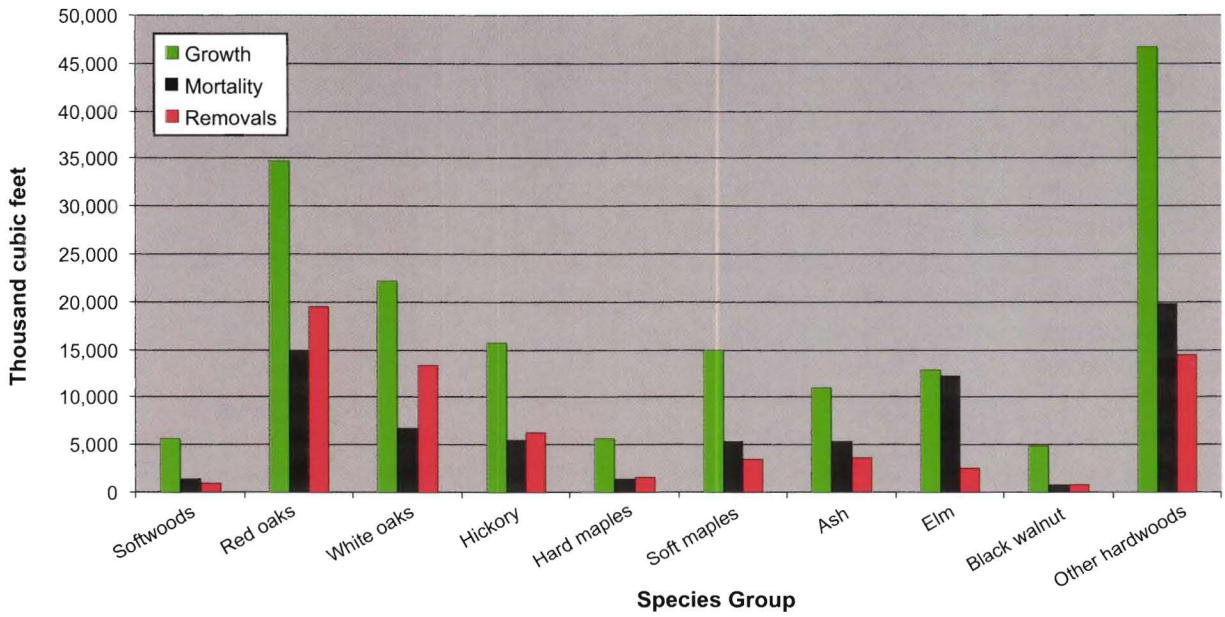
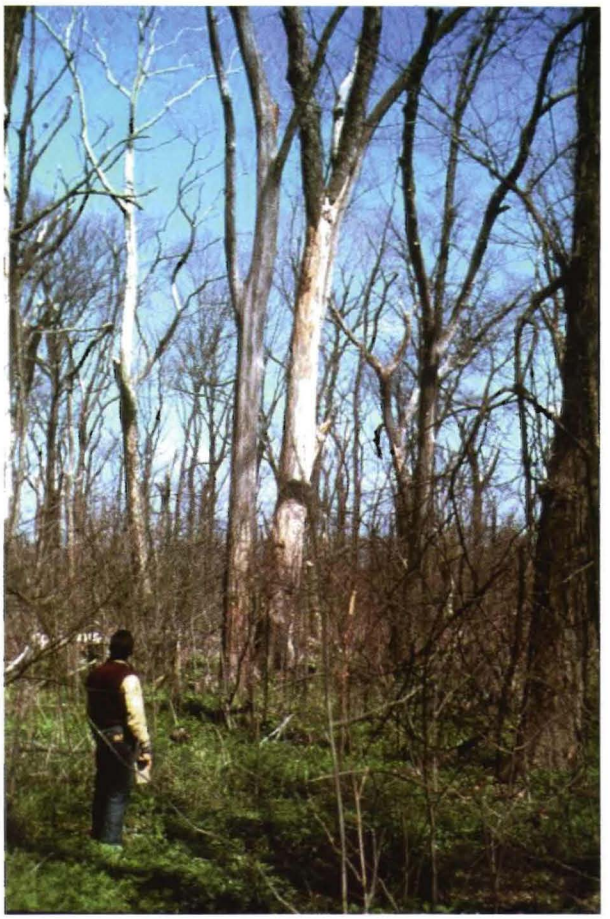


Figure 14. Growth was much greater than mortality and removals between 1985 and 1998 for most species groups. Elm mortality is high due to Dutch elm disease.

by 26 percent. The trees within the state are growing well. The fact that average annual mortality (73 million cubic feet) is greater than average annual removals suggests that Illinois forest resources are being underutilized. Illinois is losing more trees through natural death than through harvesting.

Oaks are responsible for about 33 percent of the total volume growth in growing stock. The oaks are also the species with the highest average annual removals because they have the highest total growing-stock volume in Illinois forests and they have high commercial value. Elm has the highest average annual mortality, likely due to Dutch elm disease. The volume of elm lost by mortality each year is almost equal to the net volume added through its annual growth.

Thinning removes diseased or unhealthy trees and also provides more growing space with less competition for the selected growing stock trees. *(Photo courtesy of Heikki Suomala, Partek Forest LLC, Gladstone, MI)*



The high annual mortality of elm is due to Dutch elm disease. Maintenance of forest health is a primary goal of forest management.

Ownership of Illinois Forest Resources

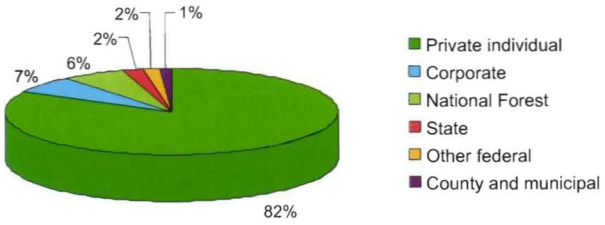


Figure 15. Most of the forest land in Illinois is owned by private individuals.

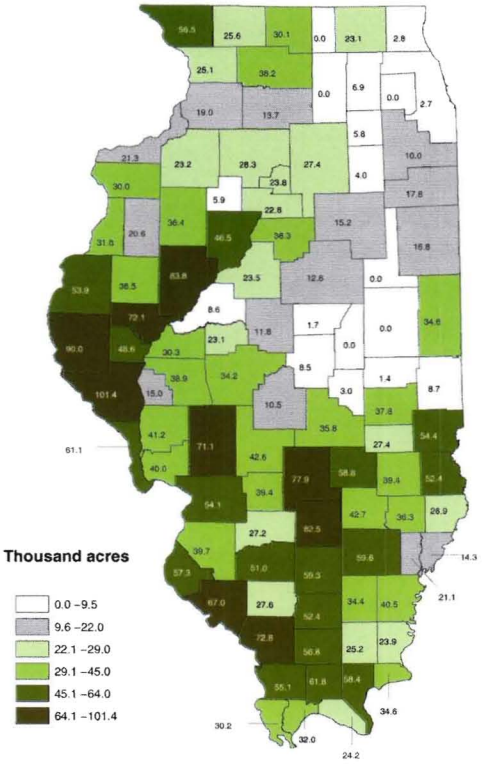


Figure 16. By comparing this map to figure 15, it is evident that most of the forest land in each Illinois county is owned by private individuals.

Who owns the forest resources of Illinois?

Private individuals own 82 percent (3.4 million acres) of all forest land in Illinois (Figure 15). Corporate and National Forest ownership accounts for 7 percent and 6 percent, respectively. The remaining 5 percent of Illinois forest land is held in other federal, state, county, and municipal ownerships. The county distribution of forest land owned by the private individual ownership class is shown in Figure 16.

Ninety-four percent of the private forest-land owners own parcels of less than 100 acres in size (Figure 17). Of the private individuals who own forest land in Illinois, 36 percent own parcels of less than 10 acres. Fifty-eight percent own forest-land parcels of between 10 and 99 acres. Only 6 percent of all private individuals own between 100 and 499 acres of forest land, and less than 1 percent own more than 500 acres of forest land. These numbers show that not only do private owners own the majority of forest land in Illinois but also that most individuals own small acreages of forest land. These owners will be responsible for ensuring that Illinois continues to have a healthy and bountiful forest resource.

Between 1985 and 1998, the highest amount of growing-stock volume removed through harvesting came from forests owned by private individuals. This places great importance on government programs that assist private forest-land owners in managing their forests.

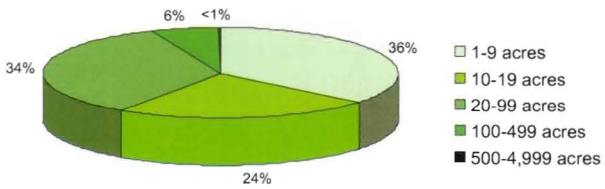


Figure 17. Grouping private forest land owners by the acreage they own indicates the majority own less than 100 acres.

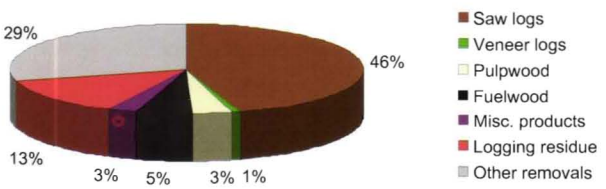


Figure 18. Much of the growing stock volume removed from Illinois forests is used for saw logs.

What assistance programs are available to private individual forest owners?

In Illinois, many assistance programs are available to help private landowners establish, improve, and manage their forest resources. Most of these are cost-share programs, in which the state or federal government pays part of the cost for activities related to proper forest management practices. The requirements of all programs, while differing in nature, specify certain management goals and objectives that must be met in order to receive cost-sharing benefits.

One of the most important programs in Illinois is provided through the Forestry Development Act (FDA). The Illinois Department of Natural Resources administers this cost-share program.

Another important cost-share program is the Conservation Reserve Program (CRP), which is a national program administered by the Commodity Credit Corporation (CCC) and the USDA Farm Service Agency (FSA). CRP provides cost sharing for a wide variety of resource conservation activities, many of which relate to forestry. In Illinois, the IDNR administers management of forest land enrolled in CRP.

There are currently 340 thousand acres of land in Illinois enrolled in these cost-share programs. One management activity under which a large amount of acreage has been enrolled is tree planting, with 70 thousand acres. Other management activities include sustainable forestry management plans, timber stand improvement, establishment of riparian buffer zones, and protection of private forest lands from conversion to nonforest uses.

A private forest land owner gets professional assistance.

A group of farmers and school boys at a woodland improvement demonstration on March 4, 1936 at the R.J. Rankin farm near Lawrenceville, Illinois.

A group of landowners at a woodland improvement demonstration during Forestry Field Days in the 1980's at the Dixon Springs Agricultural Center, Simpson, Illinois.

A recent tree planting on ground previously used as cropland.

Benefits from Illinois Forest Resources

Many benefits are received from the forest resources of Illinois, ranging from lumber to natural areas for public enjoyment and relaxation. The forest resources of Illinois contribute financially to the state through jobs and income generated by forestry-related businesses and industries.

A Christmas tree farm.

What are some important economic benefits from Illinois forests?

Of the 75.2 million cubic feet of growing-stock volume removed in 1997, 43 million cubic feet were used for timber products. The main timber product derived from Illinois forests is saw logs, which amounted to 46 percent of the annual growing-stock removals (Figure 18). Veneer logs, pulpwood, fuelwood, and miscellaneous products combined totaled only 12 percent of the volume of growing-stock removals, while logging residue made up 13 percent. Other removals, including trees removed during land conversion and for the improvement of the composition of a forest stand, accounted for 29 percent of the growing-stock removals and represented a loss of wood that was not used for products.

Seventy-two percent of the total saw-log volume harvested in Illinois is used as the raw material for Illinois wood-using industries. Twenty-eight percent of the saw-log volume produced in Illinois is exported to adjacent states, and in many instances manufactured products are then imported back into Illinois. There is an opportunity for more wood-using industries in Illinois to take advantage of the exported saw-log volume. The economic benefit of keeping the saw-logs within the state would provide jobs, increase sales, and add value to local communities.

More than 2,000 businesses in Illinois depend on forest resources. These businesses employ more than 68,000 workers and contribute nearly $30 billion in annual sales volume to the Illinois economy. Some of these businesses deal directly with the forest resource itself, while others convert raw wood into consumer products.

Businesses that deal directly with the forest resource include Christmas tree farms and forest tracts where trees are grown as commercial timber crops. They also include firms providing professional services that assist forest-land owners with the various aspects of managing their forests. Currently, these types of businesses are much fewer in number than the other forestry-related businesses in Illinois. The importance of privately owned forest land in Illinois means that proper management of privately owned forests

Timber harvesting.

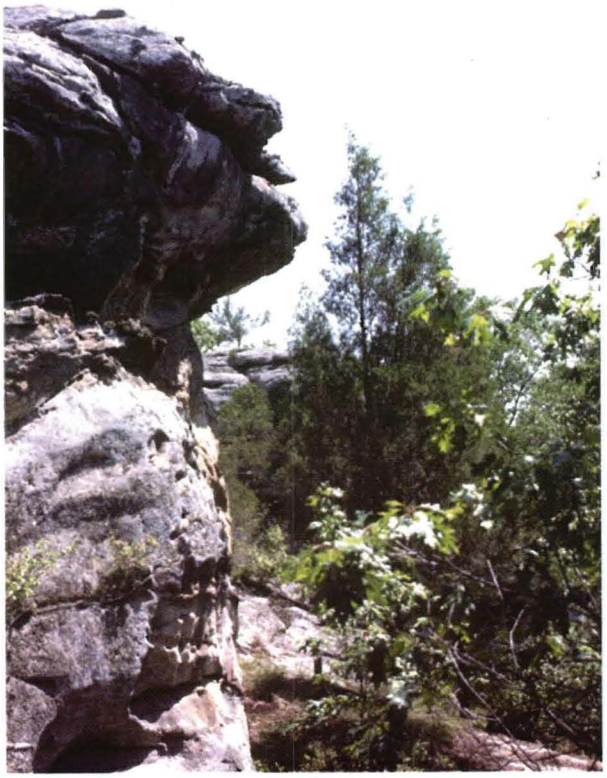
Small diameter pulpwood used in manufacturing paper.

is critical for ensuring the future of Illinois forest resources. The importance of proper forest management will lead to an increasing need and new opportunities for professional forestry services. There are many businesses in Illinois that convert raw wood into consumer products. These businesses are separated into those that produce lumber and wood products and those that produce paper products. Sixty percent of forestry related businesses in Illinois are in the lumber and wood products industry. Although the paper products industry makes up just 35 percent of the total number of forestry related businesses, it accounts for 90 percent of the annual sales volume and 75 percent of the employment.

Not all the benefits received from the forest resources of Illinois are in the form of wood products. Many private landowners make their forest lands available for hunting and fishing through fees and leases. Some Illinois forests provide non-timber forest products, such as medicinal plants, syrup, nuts, berries, fruits, and other edible plants and fungi.

(Photo courtesy of Heikki Suomala, Partek Forest LLC, Gladstone, MI)

Collecting sap from a sugar maple to make maple syrup.



The forests of Illinois are a valuable resource for a variety of recreational activities.

Urban forests provide many benefits such as shade and aesthetic values.

The forests of Illinois provide habitat for many wildlife species.

What are some important noncommodity benefits from Illinois forests?

A variety of noncommodity benefits are also derived from a healthy and viable forest resource. Such benefits include maintenance of biological diversity, improved air and water quality, reduced soil erosion through watershed protection, providing of wildlife habitat, and many recreational opportunities.

There are more than 244 thousand acres of publicly owned reserved forest land designated as state parks, conservation areas, wildlife management areas, nature preserves, and recreational areas. Many recreational benefits exist within Illinois forests, where activities such as hiking, horseback riding, camping, fishing, and picnicking are accommodated. The Illinois Department of Natural Resources (IDNR) estimates that more than 3.4 million Illinoisans spend in excess of $670 million every year participating in activities such as observing, feeding, and photographing wildlife. An estimated 350,000 hunters and trappers spend more than 7.4 million user-days in Illinois each year. Their activities contribute as much as $627 million to the state's economy.

Illinois Forest Resources Facts

- The Illinois state tree is the white oak.
- Currently, the largest tree in Illinois is an American sycamore measuring 31 feet in circumference and 119 feet in height, with a crown spread of 133.5 feet.
- Since 1985, forest-land acreage has increased 66 thousand acres to total 4.3 million acres.
- The majority of forest land in Illinois is dominated by trees in the sawtimber size class.
- The majority of the growing stock trees in Illinois forests are less than 60 years old.
- Annual growth of Illinois forests exceeds annual removals.
- There are seven forest types making up Illinois forests. These types are oak-hickory, maple-beech-birch, elm-ash-cottonwood, oak-pine, white-red-jack pine, loblolly-shortleaf pine, and oak-gum-cypress.
- The primary reasons for changes in the conditions of the forests of Illinois are due to natural processes such as succession, growth, mortality, and natural disturbances; and human-induced changes such as harvesting and land-use conversion.
- More than half of the Illinois forest resource is the oak-hickory forest type. Forty-one percent of the growing stock volume is oak.
- Private individuals own 82 percent of Illinois forests. Ninety-four percent of the private ownerships are less than 100 acres in size.
- There are 508 species of woody plants recorded in Illinois of which 138 are introduced.
- It is estimated that over 75 percent of the wildlife in Illinois need forested habitat.
- Illinois forests provide habitat for more than 420 vertebrate species.
- Illinois forests provide nesting for 120 bird species.
- In Illinois, 82 percent of the mammals, 62 percent of the birds, and 79 percent of the amphibians and reptiles require forested habitat for a portion of their life cycles.