

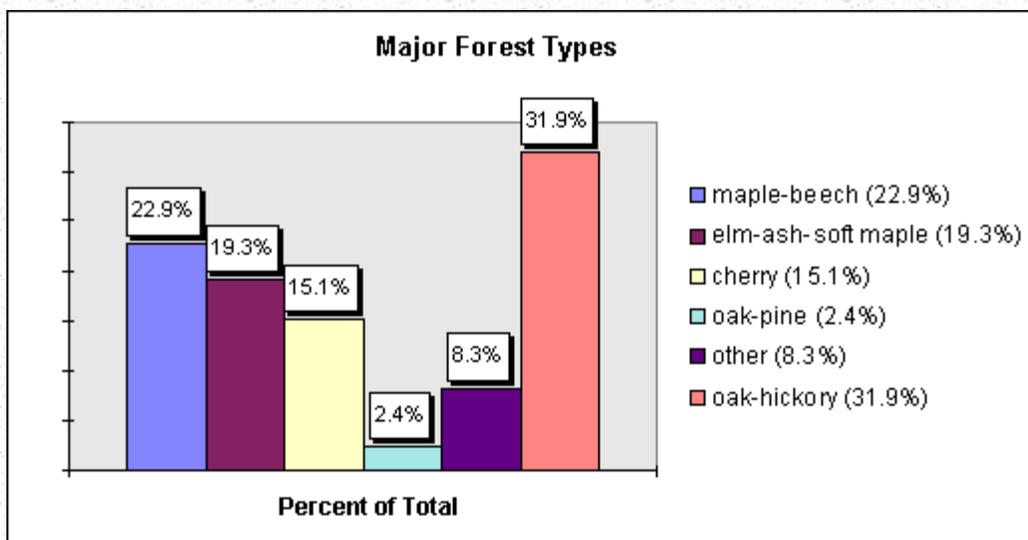
1996 Forest Health Highlights

Indiana

The Resource

Indiana has some of the highest quality hardwoods found anywhere in the United States. The value of sawlogs delivered to the mill is about \$175 million. About 90 million out of 500 million board feet harvested annually, are exported veneer quality logs. Other major products include handlestock, cooperage, and specialty products. The estimated gross value of the wood products industry is \$3.5 billion, including employment for about 42,000 people with a total payroll of \$1.05 billion.

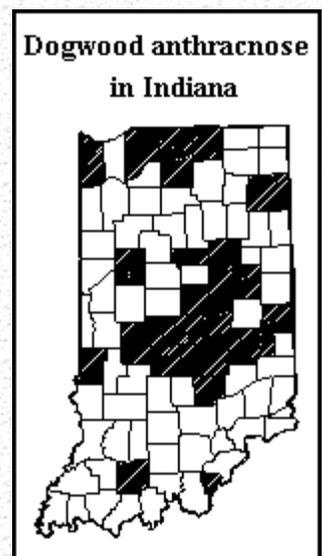
In addition to these economic benefits, wildlife, recreation and scenic beauty are provided by Indiana's forests.



Special Issues

Gypsy moth continues to encroach on Indiana. Eight locations in northern Indiana were aerially sprayed with B.t. to eradicate gypsy moth during 1996. A total of 211 acres were treated. The post-treatment survey showed that traps within the spray blocks had no to very few moths. However, in 5 of the locations, moth counts were high in traps in the vicinity of the spray blocks. The statewide survey with pheromone traps detected 5798 gypsy moths during 1996, an increase of 750 moths from the 1995 survey. As in previous surveys, most of the moths were caught in the counties bordering Michigan and northwestern Ohio. Forty locations were identified from the survey and inspected for egg masses. Eradication treatments have been proposed for 1997 on six of the locations after finding multiple life stages.

Dogwood anthracnose was introduced across the state in 1994 on infected nursery stock. In previous years, the disease was found on ornamental trees in two northern counties (Laporte & St. Joseph). The first confirmation of the dogwood anthracnose in a forest setting was found during 1996, in Brown County. This finding poses a serious threat to the native dogwoods as it is located in the heart of Indiana's forest resource. Surveys in 14 counties around Brown County and in south central Indiana to detect the spread of the disease did not find any additional infection centers. However, a serious epidemic



of powdery mildew continues to infect and damage flowering dogwood in this area as well as across the state.

Other Issues

Butternut canker is prevalent throughout the state. A survey for healthy butternuts is continuing. To date, 33 healthy butternuts have been located and 9 clones have been selected for grafting. Over 500 butternuts from across the state were examined to find these 33 healthy trees.

Occasionally healthy butternut are found in close proximity to diseased and dying trees. While escape from the fungus cannot be completely ruled out, these trees may have resistance to the disease. Trees that are disease-free, or are apparently able to reduce or inhibit canker expansion, may have value in future tree improvement efforts and should be retained in the stand.

Candidate trees for study of canker resistance must be in a stand that exhibits a high incidence of the disease and should be within 100 feet of a diseased tree so that selected trees have had a reasonable chance of having been exposed to the pathogen.

The candidate tree should be at least 10 inches dbh and must be free of cankers, or if cankers are present, the tree must have overgrown them.

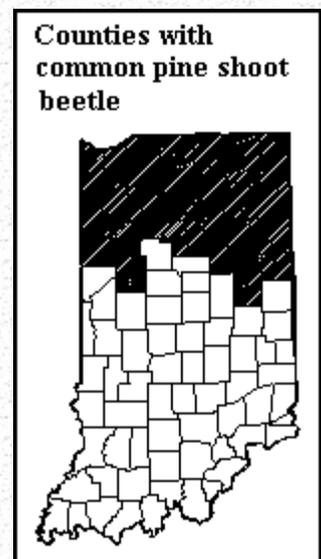
Ash yellows continues to cause decline and slow death to individual trees in forests across the state. While the disease is more prevalent in northern Indiana, it does occur in southern Indiana. Infected trees slow their growth rate and eventually die. Also, there is a question of wood quality associated with ash yellows. Industry foresters have noticed more discolored (brown) wood in affected trees. The brown wood, instead of white wood, reduces the value of ash lumber and veneer. This relationship has not been fully studied. Approximately 3% of the ash population start declining from this disease each year and mortality ranges from 2-7% annually.

Common **pine shoot beetle** (*Tomicus piniperda*) continues to be a pest for the Christmas tree industry. Currently, 33 counties in the northern third of the state are quarantined. A new compliance and certification program is being developed. Growers will be able to implement a management program to certify their trees "beetle-free" and export them outside of the quarantined area.

Weather events always affect forests. In 1996, a **tornado** destroyed trees over 480 acres in several south central counties, including damage on the Hoosier National Forest and Harrison- Crawford State Forest. A **snow storm** in mid-March across southern Indiana broke, bent over and uprooted trees in both the forest and urban environment. Eastern Red Cedar throughout the region received the most damage followed by other conifers, such as arborvitae and eastern white pine. Hardwoods were not spared from the weight of the snow as some clearcuts regenerating to yellow poplar were totally laid over and individual sawtimber and larger trees in the forest were uprooted.

Regional Issues

Forest Health Monitoring was started in Indiana during 1996, joining Michigan, Wisconsin and Minnesota as the participating states in the north central region. There are now 20 states nationwide that participate in this program. Of the potential 144 plot locations across Indiana, 38 plots were forested and FHM data were collected on these plots. Data from 1996 will serve as the baseline, and together with data collected in future years from surrounding states, estimates can be made of changes and trends in forest health. Additional plots may be added to increase the sampling intensity to enable better state level estimates of forest health.



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