

1995 Forest Health Highlights

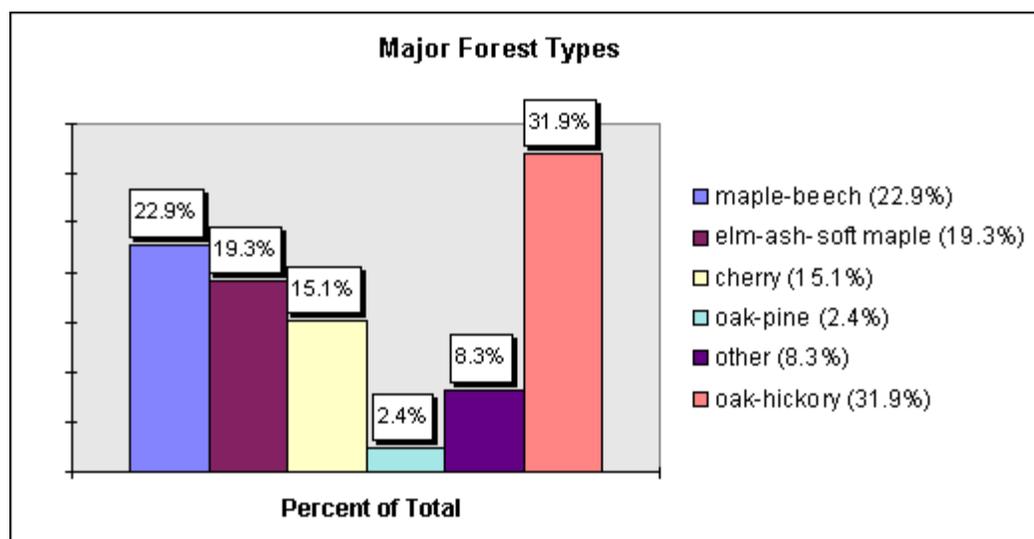
Indiana

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.



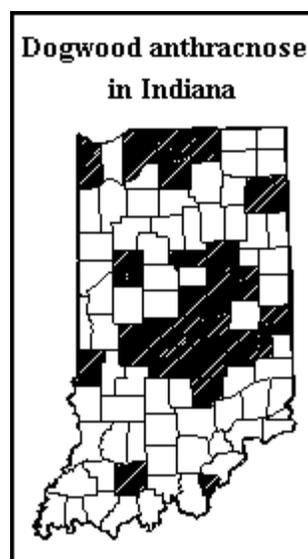
Special Issues

The fungus disease, [dogwood anthracnose](#), was introduced across the state in 1994 on infected nursery stock. Nursery inspectors found and stopped movement of the infected stock, however, some stock got into the landscape sites. This raised the concern that native dogwoods could become infected.

Thirty counties were surveyed during 1994. In 1995, an additional 37 counties were surveyed for this disease. Surveys were also conducted around nurseries receiving infected stock to determine if transmission of the disease has occurred from the nursery to nearby trees.

The surveys have not detected this disease in the native population as a result of this introduction. However, previously dogwood anthracnose had been detected in native trees in LaPorte county. The origin is believed to be from infected nursery stock received several years ago.

Powdery mildew on dogwood was again present for the third consecutive year on the understory trees. Although no leaf spot symptoms develop, the symptoms appear similar to drought.



The symptoms also give landowners concern that their trees have dogwood anthracnose because of the recent publicity. The powdery mildew occurs across the state where ever dogwood occurs.

Another year has passed and **gypsy moth** comes closer to Indiana. About 12,500 traps were deployed during 1995, and 4,993 moths were detected in 41 counties. Five northern counties adjacent to Michigan had 3,317 moths (2/3 of the total).

Although no infestations have become established in the state, five introductions were detected in 1995. These are scheduled for eradication in 1996. Additional introductions are expected in the northern part of the state once eggmass surveys have been completed. Two sites were treated in 1995 to eradicate the gypsy moth and met with partial success. One site had very low moth counts in the spray block and moths are expected to be eradicated using mass trapping in 1996. In the second site, the moth had moved east from the spray block. The 1994 eradication site in Fort Wayne had no moth catches within the spray block indicating that eradication was successful.

Other Issues

White oak tatters is a disease primarily affecting white oak. The incidence of the disease increased in 1995. The disease manifests itself as a shredded appearance of the leaves. The cause is still in question. Surveys and studies in the past have not specifically identified a cause. Temperature injury, thrips, plant bugs and leafhoppers have all been suspected but never verified. One thing has been learned. Protecting the buds and leaves with pollen bags during budbreak and leaf expansion in the spring prevents the injury. The question remains, do the bags protect injury from insects or extreme weather, or both?

Another disease affected white oak primarily in northern Indiana. Foliage developed a curl and roll that is believed to be the result of herbicide injury. Although this symptom has been occurring each year for the last five years, no serious damage has been observed.

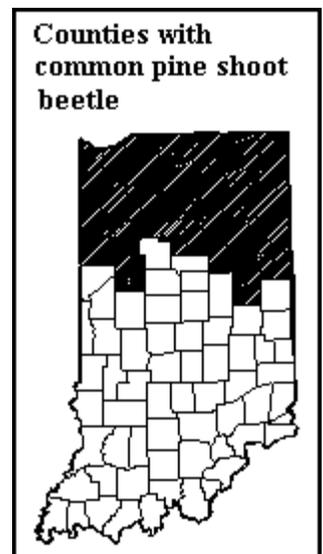
The Christmas tree industry had an outbreak of **European pine sawfly** this spring. Defoliation was heavy in plantations, however infested plantations occurred sporadically across the state.

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.

The **common pine shoot beetle** continues to be a regulatory problem for the Christmas tree industry. All counties in the northern third of the state have pine shoot beetle. Growers in these counties are now beginning to implement management measures to allow their trees to be inspected and certified beetle-free.

Due to mortality caused by **butternut canker**, the interest in butternut trees has increased in Indiana. The USDA Forest Service, and Forest Health and Tree Improvement, Indiana Division of Forestry, began efforts to locate healthy butternuts across Indiana.

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.



1. 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.
2. 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.
3. The manager/landowner must be willing to allow collection of scion wood and seed from the tree for several years.

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