

1994 Forest Health Highlights

Michigan

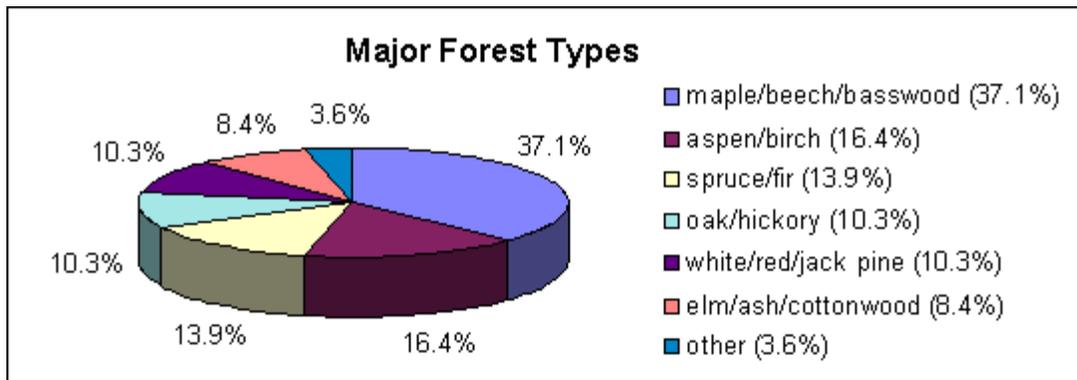
The Resource

Forests comprise 53% of the land area of the State. These forests are a critical component of Michigan's economy for the recreational opportunities and the products they provide. Forestry related industries and manufacturing employ 134,000 people statewide with an annual payroll of \$913 million. The overall contribution of the forest resource exceeds \$3.2 billion. In addition, Michigan's forests contribute to clean air, water, and reduce soil erosion. For these and other reasons, maintaining healthy forests is important.

- 53% of the state is forested (19,280,000 acres)

Out of the forested area:

- 97% timberland
- 2% non commercial or reserved forest land



Special Issues

Gypsy moth, an exotic insect, defoliates millions of acres of trees annually in the eastern United States and is one of the major forest pests in Michigan. Gypsy moth caterpillars feed on a variety of trees, but favor oaks, American basswood, and aspen. Repeated defoliation can result in growth loss, tree mortality, changes in forest composition, and loss of habitat for various animals. Gypsy moth can be found throughout the Lower Peninsula and in a few areas in the eastern part of the Upper Peninsula. In 1994, gypsy moth defoliated 97,287 acres. This was a significant reduction from 1993 levels, when 399,305 acres were defoliated. This marked reduction in defoliation was primarily the result of poor survival of the gypsy moth because of the extremely cold winter. The primary objectives of the gypsy moth management program in the Lower Peninsula are to preserve foliage and maintain populations of the gypsy moth caterpillars at tolerable levels. In the Upper Peninsula, there is a Slow the Spread Project with the objective of retarding the movement of the gypsy moth in the Upper Peninsula and to adjacent states. In 1994, a total of 149,908 acres of forests were treated to control gypsy moth in Michigan.

Oak decline has been a serious problem in the central portion of Michigan's Lower Peninsula. Oak decline is a recurrent problem and impact is greatest on northern pin oak because it grows in areas with shallow, droughty, nutrient-poor soils. Tree mortality has occurred over 387,000 acres of northern pin oak forests and has ranged from 10 to 100 percent. The main causes of mortality have been drought, late spring frosts, repeated gypsy moth defoliation, and old age. There was reduced mortality of northern pin oak in 1994 compared to previous years. This reduction in mortality was due mostly to the return to near normal or

above normal precipitation and reduced gypsy moth defoliation.

In Michigan's Upper Peninsula **birch decline** and death have been major concerns. The causes of the decline of birch include: previous drought, birch leaf miner, advancing age of trees, and often the poor sites on which they are growing. Evaluations have shown that more than 15% of the birch volume has been lost since the late 1980's.

Other Issues

The **common pine shoot beetle** continues to be found in new counties throughout the eastern United States. This beetle, native to Europe and Asia, was first found in the United States in 1992. New adults fly to the crowns of living pine trees and enter shoots and feed throughout the summer and fall. Attacked shoots typically discolor, die, and eventually fall to the ground. Because of the potential for damage and the beetle's non-native status, APHIS has imposed a federal quarantine on all areas where it is known to occur. The quarantine controls the movement of pine materials from infested to non-infested areas. Quarantined materials include: Christmas trees, nursery stock, and logs or lumber with bark. The common pine shoot beetle has been found in 37 counties in Michigan. Counties where this beetle was first found in 1994 are Bay, Clare, Huron, Kent, Lapeer, Sanilac, and St. Clair. Significant damage by this insect has not occurred in Michigan. Effective control can be accomplished by sanitation and proper management.

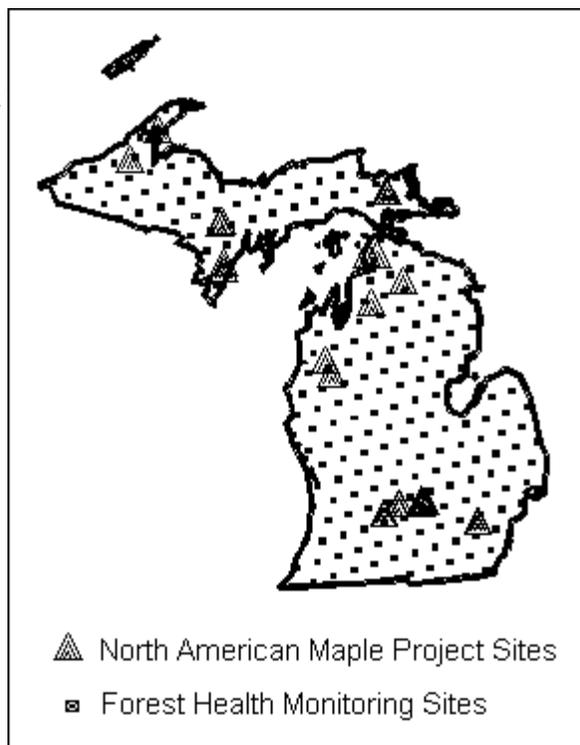
In 1994, an outbreak of the **cherry scallop shell moth** occurred in the northern portion of Michigan's Lower Peninsula. Black and pin cherries were completely defoliated in some areas. In addition, late last growing season there were numerous reports of damage by the **oak skeletonizer**. Because of these reports an early season outbreak of this insect is anticipated.

Regional Surveys

North American Maple Project - Michigan is a participant in an international project to evaluate the health of sugar maple forests in eastern North America. This project grew out of a concern about sugar maple decline and mortality expressed by foresters and sugarbush managers. A total of 18 plots have been established in Michigan and trees are evaluated annually. Results indicate the condition of sugar maples in Michigan has improved since 1988 and tree health was not adversely impacted when managed for maple syrup. Widespread decline or mortality of sugar maple has not occurred in eastern North America.

Forest Health Monitoring - In 1994, plots were established to monitor the health of Michigan's forests. This is part of a nationwide Forest Health Monitoring Program in partnership with the Environmental Protection Administration. The motivation to begin monitoring the health of forested ecosystems grew out of the concern over the potential effects of air pollutants, insects, diseases, and other stressors, as well as concern over the potential effects of global climate changes to the composition and stability of forests. The

monitoring program includes a network of permanent plots and surveys of forest pests and other stressors. In Michigan there are 247 plots, of which 133 are forested. In addition, surveys for Jack pine and spruce budworms, pine tussock moth, and gypsy moth are done to supplement plot information. Monitoring will be useful to look at current health and changes in forest conditions.



For More Information

Gerald Thiede, State Forester
MI DNR
Forestry Division
P.O. Box 30028
Lansing, MI 48909

(517) 373-1275

Forest Health Protection
USDA Forest Service
1992 Folwell Avenue
St. Paul, MN 55108

(612) 649-5261

September 1995