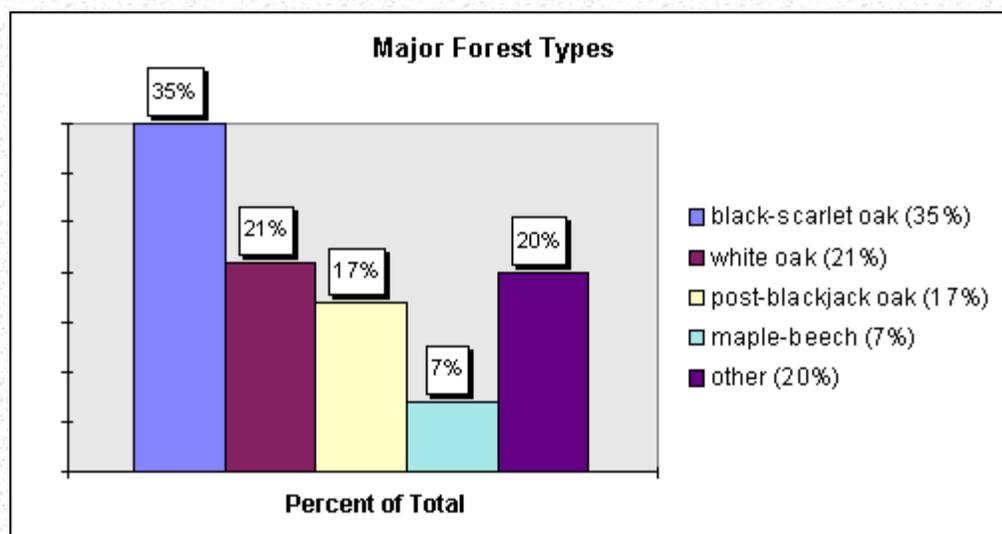


1996 Forest Health Highlights

Missouri

The Resource

Missouri is almost one-third forested. There are about 14 million acres of forest land, an increase of 10% since 1972. The eastern Ozarks have 67% of the State's forest land. In addition to recreation and wildlife benefits these forests provide, the latest statistics indicate the value of forest products produced annually exceeds \$3.3 billion. There are over 2,600 firms employing more than 33,000 people with a payroll of about \$500 million per year. In 1994, 709 million board feet were cut, 90% was oak, with a stumpage value of about \$109.5 million.



Special Issues

Gypsy Moth remains a major concern for Missouri. The Departments of Agriculture (MDA) and Conservation (MDC) placed over 11,000 traps in 1996 with the help of several other agencies, and volunteers. New trapping procedures were used to put traps up based on a newly developed risk map for the state. The map outlines the risk of gypsy moth introduction based on forest cover, demographics, trucking, tourism and import/export facilities. The map defines five risk categories and assigns trap densities accordingly. All counties were trapped for the first time since the state began trapping in the 1960's. Past methods used a rotating system of trapping that left some counties untrapped for up to 3-5 years.

Trapping in 1996, produced only five moths in four counties, the lowest number since 1987. The area that officials were most concerned with going into the year - Eureka in west St Louis county - produced no moths. That is indeed good news, because the area is sandwiched between large tracts of high value forest (including Rockwoods CA and Babler State Park) adjacent to residential areas that are rapidly being developed. Although, 1-2 more years of moth-free trapping are needed to verify that no moth population exists, officials are much relieved. Counties where moths were found (all single catches) include Christian, Holt, Taney and Texas counties. These will be closely monitored in 1997.

All participating agencies and groups used the new procedures, which will greatly improve consistency and date reliability. This was also the first year such data has been digitized, substantially expanding opportunities for data analysis and modeling. Such analysis will be used to examine trap distribution and efficiency, patterns of moth catches, weather and human variable and their interaction with regards to risk

predictions.

In most other states, trap catches were down in 1996 due to a combination of weather factors and natural control (primarily a fungus, *Entomophaga maimaiga* which kills the caterpillar). In Arkansas, where spray treatments for gypsy moth were applied in 1993, 1994 and 1995, only 12 moths were caught. No treatment was necessary in 1996. Arkansas did an excellent job of controlling a sizable population within three years, possibly even eradicating it. That's good news for southwest Missouri.

Dogwood anthracnose was detected in Missouri by MDA for the first time in 1994. It was found on shipments that were distributed through numerous retail outlets and at a small commercial nursery in Montgomery county. Infected trees at the nursery were destroyed and the area was treated. The disease was detected again at the same nursery in 1995, indicating spread outside the treatment area. Treatment was repeated and no diseased plants were found in 1996. Anthracnose was found again by MDA at a second nursery in Crawford county in 1995 and after treatments that year, was found again in 1996. Quarantine and treatment of surrounding dogwoods is underway.

Two new reports were confirmed in 1996 at nurseries in the Kansas City and St Louis areas. The source of the infected stock is not yet known, but is under investigation. Both are small retail outlets that sell cash-and-carry. This makes the job of tracking plants sold and planted in the neighborhood difficult to trace. Homeowners buying dogwoods are advised to inspect new plants and report any tip blighting or severe die-back to the nursery where it was purchased, MDA (573-751-5505) or MDC (573-751-4115). Although the state's intention is to keep the disease out, it appears only a matter of time before it is found among our native trees.



Department of Conservation personnel extensively surveyed the Trail of Tears State Park in 1996 after reports of suspected anthracnose symptoms. No anthracnose was found, but dogwoods were suffering from severe infection by powdery mildew. Mildew is not usually considered a serious problem. However, the severity of infection found in the park has not been seen before. There have also been several reports of severe mildew in the eastern states. Forest Service researchers are looking at the possibility that the fungus causing the mildew is also an imported pest, new to the United States. Conditions will be monitored in 1997.

Other Issues

Flood related mortality was down in 1996 even after the harsh 1995 winter. However, decline symptoms among flood plain trees, such as bark cracking and sloughing, branch die-back and breakage, continue to increase. Affected trees which include silver maple, cottonwood, and some oak may continue to die out over the next few years. Another phenomenon seen this year is extensive streaking in the wood of surviving trees. In several areas, trees with healthy looking crowns were harvested and taken to the mills, only to be refused because of extensive streaking. The result has been that timber prices are down in some areas where flooding has occurred. The cause of the streaking is not known, but may indicate root damage and/or decay that may affect the health of remaining trees.

White oak on harsh sites are showing increased mortality, most likely due to the drought and severe winter of 1995. Symptoms include bark sloughing and rapid browning of the crown. We do not have a good measure of how extensive associated losses are. The same is also true for losses due to oak wilt and Dutch elm disease. Wide-spread rapid decline among both American and red elms have been reported this year across the entire state. Losses appear to approach those seen in the 1970's when the Dutch elm disease fungus first moved through the state. Oak wilt, while not as severe as Dutch elm disease, has also increased

this year. Because both of these fungi can create permanent disease pockets that influence species composition for many years, we need a system of detecting and mapping these pockets. If you have a pocket of dying oak and suspect oak wilt, contact the MDC diagnostic laboratory at (573) 751-4115.

Cold winter temperatures and a late spring in 1996, greatly reduced the number of spring hatching insect pests. However, mild summer temperatures favored the summer defoliators, and higher than usual numbers were seen among bagworms, walnut caterpillar and relatives, walking sticks, fall webworms and variable oak leaf caterpillars. Although many trees were completely defoliated, the long term impacts are not expected to be great.

The mild summer in the northern half of the state allowed many stressed trees to recover. Over all, these forest resources look good. Precipitation rates in the southern portion of the state have stayed low, so growth has slowed and trees are browning early this fall. However, neither the scorching seen in 1995, nor the expected mortality were seen in 1996.

Missouri Forestkeepers Network is a new program that was launched in 1996 to promote forest health in Missouri by helping volunteers monitor the condition of the forests around them. Participants receive a stand assessment kit that will guide them through a basic stand inventory and condition evaluation. They are free to choose the stand(s) they wish to monitor, be it urban, rural or their own back yard. Participants will also decide for themselves their level of involvement and future commitment. Forest health news, pest alerts, training materials, and management assistance are among the services available to participating Forestkeepers. Shared data from willing participants will be used to describe trends among Missouri s forests and forest pests. For additional information on the Missouri Forestkeepers Network call or write:

- The Missouri Forestkeepers Network
c/o Forest ReLeaf of Missouri
4207 Lindell Blvd. Suite 120
St Louis, MO 63108
Toll free: 1-888-9-FOREST or 1-888-939-7378

For additional information on Missouri forests and pest management call or write:

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For More Information

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