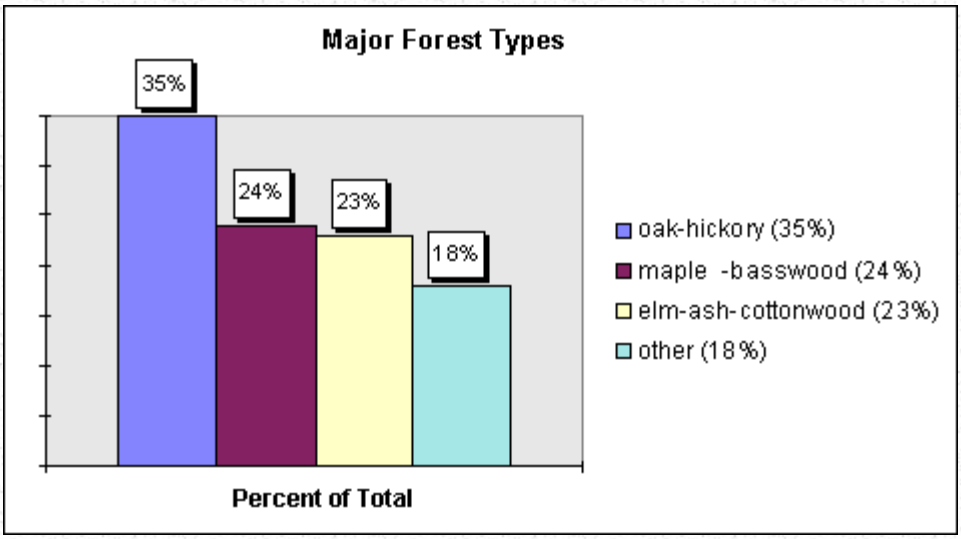
1996 Forest Health Highlights

Iowa

The Resource

Iowa's 2.1 million acres of forest are critical for soil conservation, water quality, wildlife habitat, outdoor recreation and aesthetic pleasure. The forest resource (92%) is largely controlled by private landowners. Iowa's forests are dominated by oak-hickory and sugar maple-basswood in the uplands and silver maple-ash-cottonwood in the bottomlands.

Iowa's trees not only increase the quality of life for all residents, but they also provide the livelihood for many. In 1996, the wood products industry in Iowa provided 7,000 jobs, with a combined payroll of $142 million. Private landowners sold $12 million worth of timber; a total of 77.9 million board feet of timber were harvested in the state, and 300 wood products firms, including 71 sawmills, processed the timber. Gross sales of wood products exceeded $850 million.



Special Issues

The Iowa Department of Natural Resources **monitors** forest and tree health in order to determine overall forest and tree health conditions, the status of natural and exotic insect and disease problems, and to provide up-to date information for private and public land managers. Estimates of serious forest and tree health problems were determined by aerial surveys of over 64,500 acres of representative forested areas across the state during summer of 1996. Visual surveys from DNR Foresters, municipal foresters, and trained volunteers were also evaluated, as well as results from the Plant Disease Clinic at Iowa State University, to determine forest and tree health conditions and distribution. The issues which impact the highest acreage are shown in the graph.

Oak Wilt continues to be the most serious forest health issue in Iowa. An estimated 4,167 new acres were affected by oak wilt in 1996. Although all species of oak are susceptible, tree in the red oak group often die within weeks of infection. The fungus moves from tree to tree via root grafts, so the disease often occurs in pockets. New pockets are caused by overland spread of fungal spores by sap-feeding beetles. To prevent establishment of new infection centers, avoid pruning or wounding oaks in the spring and early summer (because the beetles are attracted to the open wounds). Also, spread of established pockets can be stopped by severing root grafts between diseased and healthy trees.

Dutch Elm Disease has re-emerged as a serious forest health concern in Iowa in 1996. Much of the re-emergence of DED is due to weather conditions over the past few years that have been favorable to the bark beetles that vector the disease, and due to an increase in the number of 20- 30 year-old American elms that have naturally regenerated in bottomland areas across the state. Lack of sanitation and removal of infected trees over the last few years has

contributed to the increase by providing breeding sites for bark beetles, which then carry the fungus to neighboring elms.

Flooding in late June through July in Western Iowa impacted over 1200 acres of riparian forests along the Missouri, Nishnabotna and Soldier Rivers.

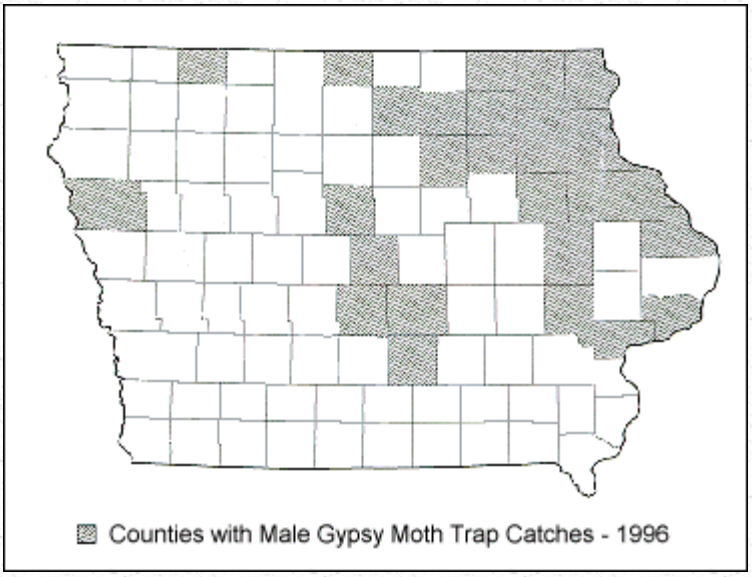
Browsing damage by **white-tailed deer** continued to cause extensive damage to forest and Christmas tree plantations and natural regeneration across the state. In 1996, approximately 800 acres of forest planting were documented as receiving severe browse damage, and increasing amounts of damage to horticultural crops are occurring in the urban/rural interface.

Diplodia Tip Blight, combined with **Dothistroma needle blight**, continue to damage non native conifer plantations, windbreaks and ornamental planting of Austrian pine, red pine, ponderosa pine and Scotch pine. Sources of the fungus increased due to continued humid conditions in 1995-96, and is forcing stand conversions from conifer plantations to native hardwoods on several state forest areas.

Ash Yellows, a recently discovered disease that causes slow growth and chronic decline of ash, impacted scattered green and white ash in the Eastern and Central portions of Iowa. Urban ash trees are also affected and cooperative studies with ISU and the Forest Service are continuing.

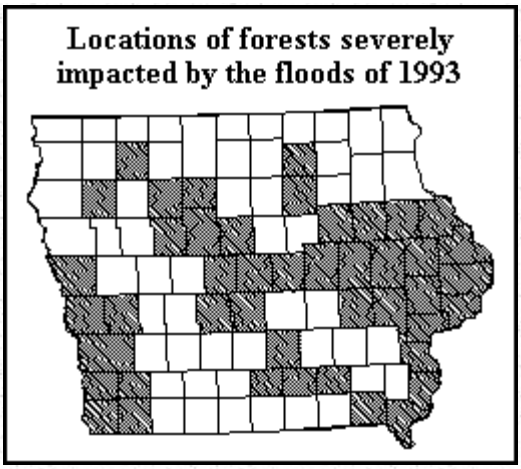
Other Issues

The Iowa DNR continues to work cooperatively with the State Entomologist of the Iowa Department of Agriculture and Land Stewardship to detect, monitor, and eradicate spot infestations of gypsy moth. In 1996, 5241 pheromone survey traps were placed and monitored to determine the presence of **gypsy moth**. A total of 25 acres in two locations (Independence and Spirit Lake) were successfully treated with the biological control agent Bacillus thuringiensis. Another eradication treatment is planned for 1997 in the city of Dundee, where infested nursery stock was planted a couple of years ago. Adult male moth trapping across the state yielded 104 moths in 1996, an increase of over 35% from 1995. Of particular concern is the disturbingly high number of moths caught over the 11 northeastern counties of the state. In 1997, trapping will be intensified in this area in order to determine the location and size of any gypsy moth infestations.



Urban and community tree health is impacted by many environmental stresses, such as severely compacted soils, herbicide injury and mower damage. These stresses often allow opportunistic insects and diseases the chance to become established and cause gradual tree dieback and mortality. The impact of the **floods of 1993** were not only felt by trees near waterways but also by trees growing in **saturated, poorly drained clay soils**. These saturated conditions, combined with secondary insects and diseases, have caused additional tree losses in 74 Iowa communities. Over 2500 maturing white oaks were removed in urban settings due to sudden crown decline and tree mortality. Evidence of **2-lined Chestnut Borer** and **Armillaria root disease** were common.

conditions during 1996 were stressful to many tree species. The



Weather

winter-spring of 1996 was below normal in temperature and above normal in precipitation. Extreme low temperatures (below zero) during February, followed by a cool/wet spring, **delayed bud break** by an average of 2 to 3 weeks beyond normal across the state. Severe **winterburn** impacted conifer windbreak planting across northern Iowa. Cooler than normal temperatures prevailed throughout the months of summer and autumn.

For More Information

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