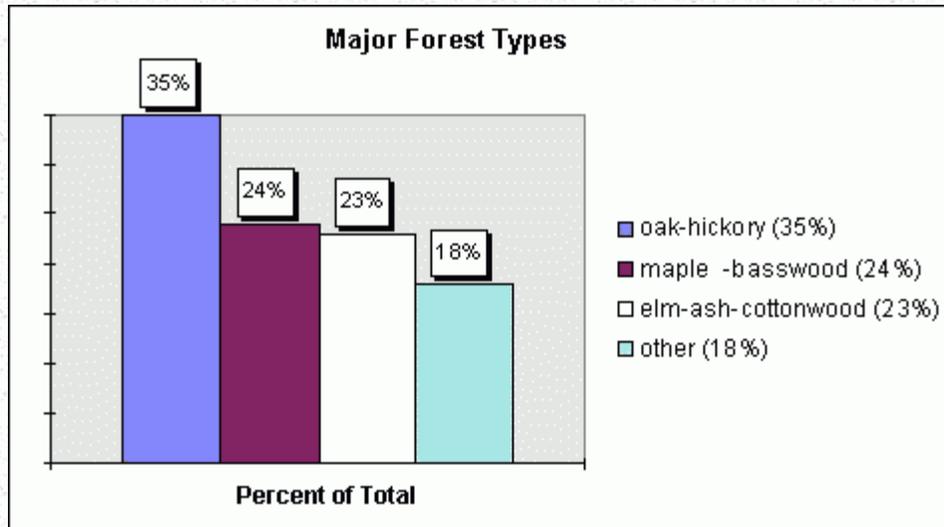


# 1997 Forest Health Highlights Iowa

## 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 98,800 acres of representative forested areas across the state during summer of 1997. 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.

Recent efforts to develop vegetation management plans for selected state park and recreation areas utilizing Geographic Information System (GIS) mapping was continued in 1997, utilizing DNR Forestry aerial survey work. State park areas where this information is being utilized include: Backbone State Park, Geode State Park, George Wyth State Park, Lacey-Keosauqua State Park, Lake Ahquabi State Park, Palisades-Kepler State Park, Pikes Peak State Park, Prairie Rose State Park, Springbrook State Park, Viking Lake State Park, Waubonsie State Park, Wildcat Den State Park, and Wilson Island State Park. In addition, significant areas of forest such as Loess Hills, Shimek State Forest, Stephens State Forests, Yellow River State Forest, and the Amana colonies were also aerial surveyed during late

July to determine the extent of Oak Wilt and other forest health problems.

**Oak Wilt** continues to be the most serious forest health issue in Iowa. 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.

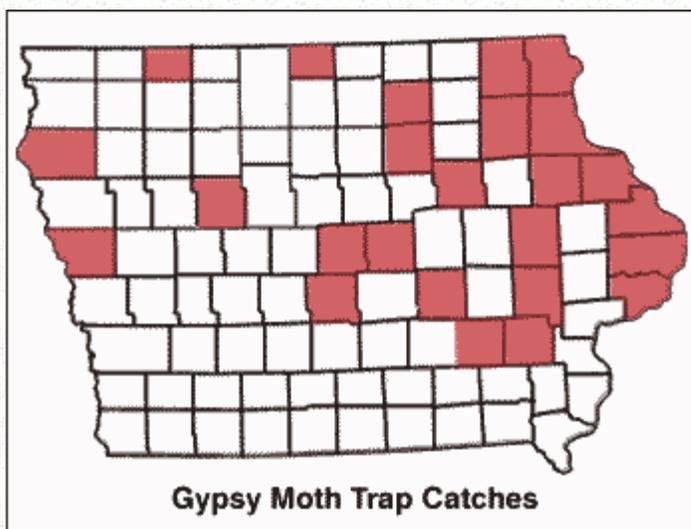
**Dutch Elm Disease** continued as a serious forest health concern in Iowa in 1997. Much of the re-emergence of DED is due to weather conditions over the past few years that have been favorable to the bark beetles that vector the disease, and due to an increase in the number of 20- 30 year-old American 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.

Browsing damage by **white-tailed deer** continued to cause extensive damage to forest and Christmas tree plantations and natural regeneration across the state.

**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. About 170 acres of Austrian, red, Scotch, and ponderosa pines are affected.

**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

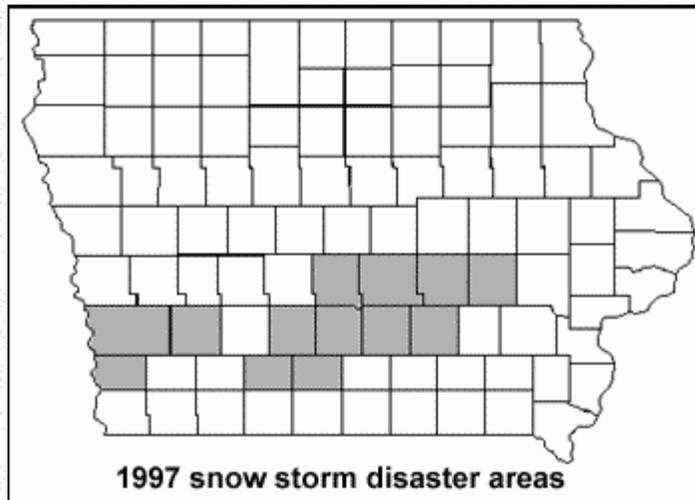


The Iowa DNR continues to work cooperatively with the State Entomologist of the Iowa Department of Agriculture and Land Stewardship to detect, monitor, and eradicate spot infestations of gypsy moth. In 1997, 6,000 pheromone survey traps were placed and monitored to determine the presence of **gypsy moth**. 10 acres were successfully treated with the biological control agent *Bacillus thuringiensis* 1997 in the city of Dundee, Delaware County. Adult male moth trapping across the state yielded

150 moths in 1997, an increase of over 25% from 1996. Gypsy moth populations are building in neighboring states to the east in Illinois and Wisconsin. Establishment in Iowa can only be prevented by continued vigilance.

Urban and community tree health is

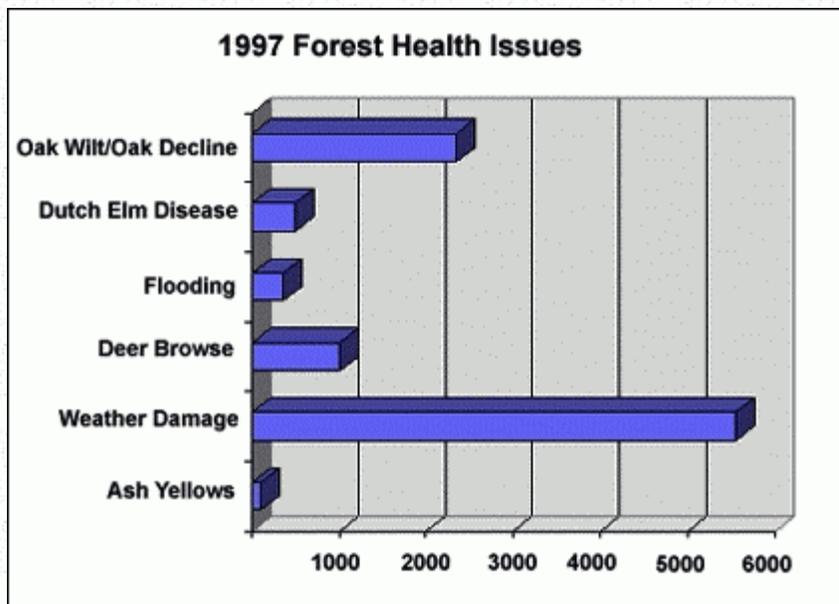
impacted by many environmental stresses, such as severely compacted soils, herbicide injury and mower damage. These stresses often allow opportunistic insects and diseases the chance to become established and cause gradual tree dieback and mortality. The impact of the **floods of 1993** were not only 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.

**Weather** conditions during 1997 were stressful to many tree species. The winter-spring of 1997 was below normal in temperature and below 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.

Severe wind storms and tornadoes were common during the Summer impacting areas of Knoxville and Davenport. Warm temperatures and low rainfall during the late Summer to early Autumn delayed leaf drop and fall color. A major snowfall on October 26th caused extensive limb damages to trees in 52 counties across the state. A total of 58,000 urban trees had significant damage, resulting in over \$5.1 million in clean up costs in 80+ Iowa communities. As a result, President Clinton declared on November 20th, 13 counties as Disaster areas.



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