Iowa's Forest Health Report 2000

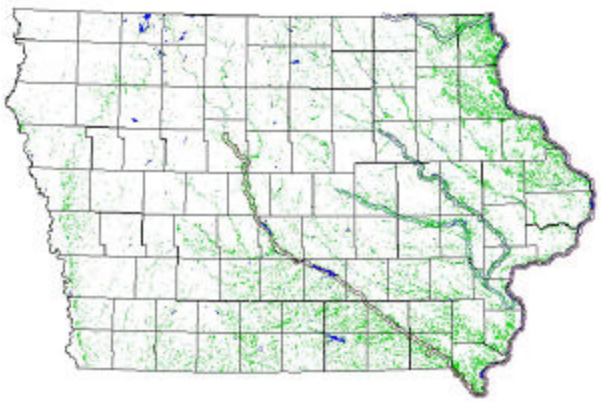
Why worry about Iowa's forest health?

Between 2-2½ million acres of Iowa is covered by trees and forests (6 percent of the landcover). Iowa's forests and trees are largely controlled by private ownership (92%). Our forests have significant impacts on Iowa's agricultural based economy by protecting water quality, providing wildlife habitat and numerous outdoor recreational opportunities. Wood industries in Iowa employ over 7,000 people, producing lumber and high quality wood products. Trees in our small and large communities or "urban forests" increase property values and conserve cooling and heating energy. Our forests are vital to our state's environmental future.

Forest health monitoring efforts are cooperative efforts with the DNR through the USDA Forest Service, USDA Plant Protection Quarantine, State Entomologist of the Iowa Department of Agriculture and Land Stewardship and Iowa State University, along private/public foresters and private landowners. This cooperative effort encourages efficient monitoring efforts and fosters communication with those involved in Iowa's forests and their future health.

Monitoring Efforts for 2000

Estimates of serious forest and tree insect and disease, and severe weather impacts, were determined by aerial surveys of over 279,831 acres of upland forests (141,887 acres) and bottomland or floodplain forests (137,944 acres).



Visual surveys from DNR foresters along with trained master woodland managers and community tree stewards ground checked forest health problems and locations. The "gypsy moth" *Lymantria dispar* a potentially serious, exotic defoliator of Iowa's native trees and shrubs is monitored through the leadership of the State Entomologist, who placed over 7,000 pheromone survey traps across the state.

Weather Impacts

The winter and spring of 2000 were rather mild throughout the state, with snow fall below normal and temperatures above normal. Leaf flush of deciduous trees occurred in mid to late April. There were isolated reports in eastern Iowa of tattered leaves of several species of oaks.

While the majority of the state enjoyed mild temperatures, parts of northeastern Iowa were receiving excessive amounts of precipitation, resulting in flooding. The DNR estimates that 245 acres of forest were significantly impacted by flooding along the Cedar and upper portions of the Mississippi Rivers. At the other extreme, much of the southern half of Iowa experienced drought conditions, causing some mortality of recently established plantings and early leaf drop of many species. In fact, portions of southern Iowa are currently experiencing severe water shortages that, if it continues, could impact future forest and tree resource needs. Severe weather, in the forms of thunderstorms and torandoes, caused extensive damage during early September in the communities of Davenport and Dubuque. Parts of eastern Iowa forests documented over 300 acres of blowdown from severe weather during the course of 2000.

The year 2000 was a year of plentiful seed and fruit production across the state, from fruit trees to timbered areas. Abundant crops of all species of acorns and walnuts were noted across the state. Early and record amounts of snowfall, along with bitter cold temperatures and windchills, during December statewide closed out the year 2000.

Forest Insects & Diseases

Oak wilt caused by the fungus *Ceratocystis fagacearum* invades the water conducting tissues (xylem) of oak trees and causes the foliage to wilt and die. During 2000, using a more accurate tree count rather than area count, DNR foresters reported 388 new acres of oak wilt infections. Although all species of oaks are susceptible, the red oak group especially black oak *Quercus veluntina*, northern red oak *Quercus rubra* and pin oak *Quercus ellipsoidalis* often die within weeks of infection. Bur oak *Quercus marcocarpa* was also observed with oak wilt symptoms. Sanitation of dying and dead oaks before oak

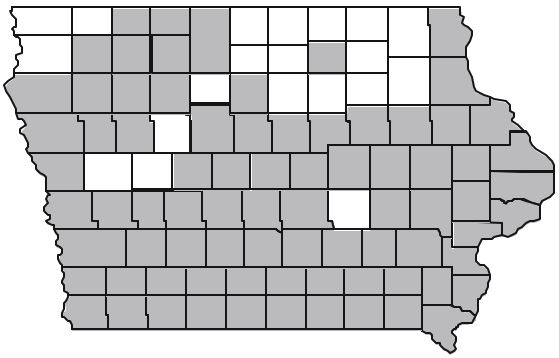
wilt fruiting bodies appear in the following spring reduces the risk of overland spread. This year in the Des Moines metro area, oak wilt was confirmed in late August and early September on red and bur oaks. High-valued oaks can be protected through high cost systematic injections of a fungicide.

According to DNR foresters, browse damage by white-tailed deer *Odocoileus virginanus* impacted over 600 acres of recently established forest and Christmas tree plantations in 72 out of 99 Iowa counties. Expanded deer hunting seasons, combined with fencing and repellent efforts by private landowners have been encouraged in hopes of reducing future impacts of deer browse on tree seedlings.

Reports of scattered ash dieback/decline of native white and green ash Fraxiness americana and pennsylvanica was reported in 44 Iowa counties by field foresters in central and eastern Iowa. DNR field foresters are recommending early removal of white ash during commecial and pre-commercial thinnings of forests.

Non-native Scotch pine *Pinus sylvestris* is one of the most commonly planted conifers or evergreens for wildlife habitat, windbreaks and ornamental trees in Iowa. Over the past 3 years increased reports of sudden browsing and mortality of Scotch pine has occurred. Iowa State University's interpretation is that Scotch pine decline is being caused by bark beetle (*Ips grandicollis*) attack and pine wood nematode *Bursaphelenchus xylophilus* action. Another factor, the Iowa environment and its limitations on moisture, also figure into the whole scheme of Scotch pine decline, but there is still not enough information to declare a definitive cause and effect. The particular loss of Scotch pine occurs most often in stagnate and dense plantings on heavy clay soils, when the trees are 20-30+ years of age. DNR foresters documented that 66+ acres of Scotch pine were lost over the year 2000 in 73 out of Iowa's 99 counties.

Reports of Significant
Scotch Pine Mortality 2000



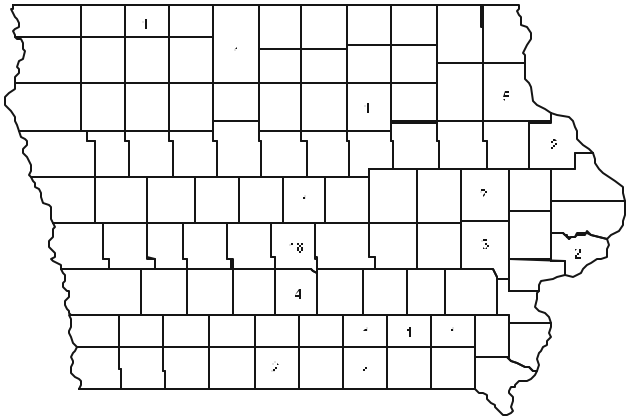
Dutch elm disease (DED) caused by the fungus *Ophiostoma umli/novo-umli* impacted approximately 78 acres of American elms *Ulmus americana* across the state in small, scattered and isolated spots. Continued lack of sanitation efforts provides breeding sites for DED fungus carrying bark beetles that spread the disease over land.

Gypsy Moth in Iowa

The gypsy moth *Lymantria dispar* is a potentially serious exotic defoliator of Iowa's native deciduous trees and shrubs.

The gypsy moth program in Iowa is coordinated by the State Entomologist with the Iowa Department of Agriculture and Land Stewardship, along with the Iowa DNR and ISU Extension. Gypsy moth trapping results in Iowa from 1999, identified four nursery dealers for eradication treatment with *Bacillus thuringiensis*. Two sites were treated by IDALS and USDA personnel involving 22.5 acres, another site of approximately 10 acres was treated by the nursery operator with *Sevin*. The other site was monitored for evidence of other life stages of the gypsy moth during 2000.

Gypsy Moth Catches 2000



During the 2000 gypsy moth trapping season (May 1st to September 1st) a total of 46 male moths were caught in 16 Iowa counties. This is a significant drop from the 135 male moths caught in 1999 and the 371 moths caught in 1998. No male moths were caught in the areas treated based upon the 1999 survey. The greatest number were caught in Polk county, associated with imported and infested nursery stock from Michigan.

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