

Ohio

Forest Health Highlights



January 2000

The Resource

Ohio covers an area of 26,209,700 acres of which forests comprise 30 percent and agricultural lands another 48 percent. Forests have increased dramatically since 1940, including an increase from 7.1 to 7.9 million acres since the late 1970's. Ohio's forests are 93 percent privately owned and 96 percent deciduous forest types.

<http://www.hcs.ohio-state.edu/ODNR/Forestry.htm>

Urban Forestry

Within the state, there are 11,102,000 people (1994 U.S. Census). Ohio's 942 incorporated municipalities (cities and villages) occupy 11 percent of the land area and represent a substantial urban forest resource. Ohio communities continued during 1999 to plant more trees than they removed, while maintaining more trees than they planted. This represents a significant commitment to the quality of life for roughly 80 percent of Ohioans living and/or working in urban areas. A series of statewide surveys and open forums conducted with municipal leaders last year revealed that managing an aging forest is their major concern. The ramifications of over-mature urban trees are substantial, and will be a primary community tree care focus for years to come.

<http://www.hcs.ohio-state.edu/ODNR/Urban/Urbanfor.htm>

Special Issues

Drought — A statewide drought caused problems in 1999. Rainfall was 4.87 inches (27 percent) below normal during the 1999 growing season (May to September). The southern part of the State experienced the worst conditions, with the southwest region of Ohio recording the driest growing season in the last 117 years. This region experienced a 7.87-inch rainfall deficit (43 percent) from May to Sep-

tember. How the drought will affect trees and forests is not yet known. The impacts on trees may last for several years beyond 1999 as insects and diseases attack weakened trees. Trees growing in urban forests probably will be more affected than those in rural areas because they often grow under more stressful conditions, whereas forests tend to buffer the impact of drought on any individual tree. The immediate concern was a severe wildfire season due to dry conditions. Approximately 1,400 wildfires damaged over 7,600 acres in 1999.

Forest Fragmentation — Changing land use in Ohio has converted forests to other uses. Historically, forests were often cleared for farming. Some of these agricultural lands are reverting to forests, resulting in increased forested acreage. Today, however, land development breaks forests into smaller parcels as an increasing human population places demands on Ohio's land. Forest fragmentation decreases woodland continuity, impacting plants and animals that depend upon large areas of continuous forest cover. Construction of buildings, roads, and utility corridors, while important to our economy, significantly impacts the quantity and quality of Ohio forests. The Ohio Division of Forestry's land acquisition program focuses on purchasing parcels of land connecting existing parcels of state forests. The goal is to create larger, contiguous acreages of permanent forests within Ohio.

Forest Pest Issues

Gypsy Moth — Gypsy moth surveys conducted by the Ohio Department of Agriculture revealed high population densities on State and private forests throughout Ohio. In addition, oak mortality has occurred in four counties due to repeated defoliation. In 1999, defoliation increased to 1996 levels with almost 50,000 acres defoliated. The impact of gypsy moth includes forest ecosystem degradation, economic losses to businesses, loss of recreational opportunities in areas severely defoliated, reduced private property values, and nuisance from gypsy moth caterpillars. The threat of gypsy moth has been lessened recently by the occurrence of the insect pathogen, *Entomophaga maimaiga*. This fungal pathogen has drastically reduced gypsy moth populations in many areas since 1996. Even though this insect pathogen is present in Ohio, the fungus did not control gypsy moth numbers during the dry weather in 1999. Though not much is known about how the pathogen survives or spreads, it is generally thought that abundant rainfall and high humidity during the late spring and early summer favor growth of the fungus.

Periodical Cicadas — Three species of periodical cicadas (genus *Magicicada*) noisily invaded the eastern half of Ohio in the spring of 1999. Based on the year of adult emergence, cicadas are grouped into broods with each appearing during a different year. The 1999 emer-

gence is identified as Brood V. It is the largest that occurs in the region including eastern Ohio, northern West Virginia, southwest Pennsylvania, western Maryland and northwest Virginia. Cicada oviposition damage did not significantly affect large, healthy trees. Small trees, however, are sometimes more seriously damaged.

<http://www.hcs.ohio-state.edu/odnr/health/cicada/cicada.htm>

Elm Mortality — Two diseases, Dutch elm disease and elm yellows, are affecting both elm species in Ohio, the American elm, and red elm. Dutch elm disease is caused by a fungus often spread by bark beetles. Elm yellows, once referred to as elm phloem necrosis, is caused by a phytoplasma (a bacteria-like organism). Both diseases result in tree mortality. Historically, elms affected by elm yellows were more prevalent in southern Ohio and Dutch elm disease was more common in northern Ohio. Both diseases have been found extensively in central Ohio. In 1998-99, the Ohio Division of Forestry participated in a multi-state survey to delineate areas of elm mortality. Results of this survey indicated the presence of both elm yellows and Dutch elm disease across the State.

Butternut Canker — Decline and mortality of butternut, *Juglans cinerea*, has occurred throughout Ohio. The Ohio Department of Natural Resources, Division of Forestry, developed and implemented a butternut management policy in 1994 to protect the remaining resources and promote any potential genetic resistance to the disease. The policy requires retention of healthy butternut trees in state forests. It also encourages education of private woodland owners regarding proper health assessment and management of this threatened species.

Scarlet Oak Sawfly — An outbreak of the scarlet oak sawfly, *Caliroa quercuscoccinea*, in scarlet oak across Lawrence, Scioto, Gallia, and Jackson Counties collapsed in 1999 following 290,000 acres of damage in 1998. The sawfly damages oak foliage by skeletonizing the leaves resulting in a browning of treetops.

Dogwood Anthracnose — From 1996 to 1998, cool and moist spring weather contributed to the occurrence of dogwood anthracnose across the State. Dogwood anthracnose is a fungal disease first reported in 1978. It has caused widespread and often rapid deterioration of flowering dogwood trees across many areas of the northeast United States. In Ohio, reports of dogwood mortality have been increasing, especially from counties in southern and southeastern Ohio. Dry weather in 1999 greatly reduced reports of the disease, but dogwood decline and mortality could still be detected.

<http://www.hcs.ohio-state.edu/ODNR/Health/forestpests.htm>

Forest Health Monitoring

A forest health monitoring system was started by the Ohio Division of Forestry on state forest lands in 1996 with 26 permanent plots established using guidelines set by the USDA Forest Service, National Forest Health Monitoring Program. Measurements include tree data, crown conditions, and damage. The 1996 data represented baseline conditions. Each year, thereafter, one-third of the plots have been measured to monitor conditions and determine trends. The 1999 data completed the first three-year cycle for Forest Health Monitoring in Ohio. Basic statistics about the health of Ohio's state forest lands collected from these plots will be used to detect changes in forest conditions related to forest health issues. For example, crown dieback or the progression of branch and twig dieback is an indicator of tree health. Ninety percent of all trees measured in 1996 had less than 5 percent crown dieback. This indicator will be assessed over time as a detection method for problems that might otherwise have gone unnoticed.

Landowner Assistance

Under the Northwest Ohio Windbreak Program, trees planted in field windbreaks have become an important component of many non-forested agricultural areas in 17 northwestern Ohio counties. With fewer fencerows, less woodlots, and fall plowing, Ohio farms lose more and more soil to wind erosion. Sandy soils typically found in northwestern Ohio are very susceptible to wind erosion. Since 1977, more than 1,150 field windbreak plantings, totaling over 630 row miles, have been documented.

<http://www.hcs.ohio-state.edu/ODNR/Landownerasst/Landownerasst.htm>

For More Information



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