

Pennsylvania

Forest Health Highlights



April 1998

The Resource

There are 17 million acres of forestland in Pennsylvania, which is nearly 60 percent of the State's total land area. The Hardwood Lumber Manufacturers' Association estimates that \$5 billion of timber products are produced annually within the state. This includes lumber, export logs, and pulpwood, as well as finished products such as furniture, crating, pallets, and veneer. The forests also provide watershed protection, wildlife habitat, and recreational benefits. Pennsylvania's forests are dominated by hardwoods, particularly maples and oaks.

Forest Stewardship

During the last week of September and the first week of October in 1997, seedlings were lifted from the former Musser Nursery site in Indiana County because a new prison is being built there. The Departments of General Services and Corrections donated the seedlings to the governor's effort to plant forested buffers along 60 miles of streams in the state by the year 2010. Equipment was provided by the Bureau of Forestry and Game Commission nurseries, and labor was provided by Youth Conservation Corps groups throughout the area. The seedlings were bundled and heeled in for the winter in a location away from the building site. They will be provided to conservation groups and the general public free of charge for planting in riparian zones in the spring of 1998. The County Conservation Districts will compile orders and distribute seedlings. Additional seedlings will be lifted in the spring of 1999 to be distributed for planting at that time.

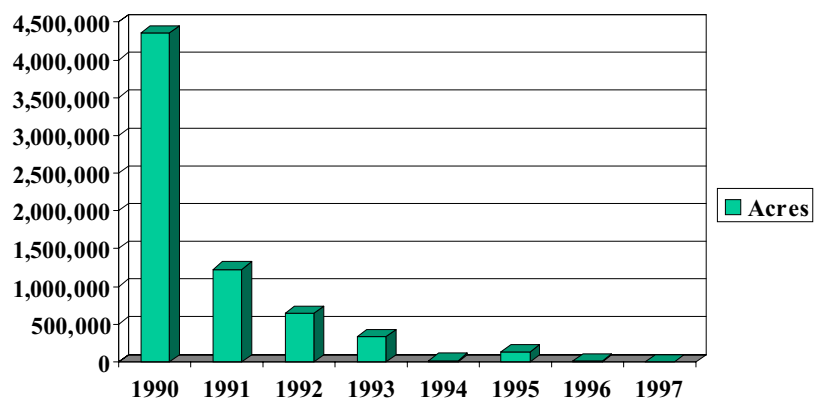
In July, training was held at Keystone College near Scranton for twenty outstanding forest landowners interested in becoming Forest Stewardship Program volunteers. This was the tenth group to be trained since 1991. Participants in the training program receive about 40 hours of training over two full weekends. Field work is combined with indoor sessions to increase landowner understanding of forest resources and to provide them with the tools they need to speak as ambassadors of good forestry. There is no charge for the training, but landowners are required to attend both weekends and agree to contribute about 40 hours of their time in helping to promote forest stewardship.

Pest Issues

Defoliation — There has been a decrease in both the extent and severity of spring defoliators, primarily gypsy moth, during the past several years. The total area reported as defoliated in Pennsylvania woodlands in the spring of 1997 was 5,859 acres — a mere 0.4 percent of the 1962-1996 average. This low figure is all the more significant given that gypsy moth defoliation has decreased an average of 65 percent annually for the past seven years. Biological evaluations implicate the fungus, *Entomophaga maimaiga*, as the responsible agent for the dramatic decrease in the gypsy moth population.

Gypsy Moth Defoliation for PA

Total Acres (6,722,592) Includes all Ownerships



Maple Decline— The sugar maple decline prevalent in the northern portions of Pennsylvania is being studied by researchers from the Pennsylvania Bureau of Forestry, the Northeastern Research Station (USFS), and Pennsylvania State University. One such study known as the “Lime Study,” so named because of the addition of limestone to the forest floor in some of the plots, is now showing significant results with regard to the combined effects of fencing, herbiciding, and lime amendments. Published results show that liming improved diameter growth and vigor of overstory sugar maple and improved availability of exchangeable calcium and magnesium. Growth and vigor of black cherry and American beech was not affected. Additional studies are being conducted to evaluate edaphic factors associated with elevation gradients on glaciated and nonglaciated soils as related to sugar maple health. This and other studies of maple decline will be helpful to forest landowners in the management of both forest and sugarbush stands.

Elm Yellows — A survey for elm yellows was conducted in the south central region of Pennsylvania. This disease is caused by a phytoplasma that is likely transmitted by leafhoppers. The symptoms appear in late summer as yellowing, drooping, and premature leaf drop. All North American elm species are susceptible. Elm yellows was prevalent throughout Adams, Franklin, Fulton, and York counties, and it was detected in Lycoming and Washington counties. Additional south-central counties will be surveyed in 1998.

Soil Fungi — A long-term study has shown that amendments of municipal sewage compost and spent mushroom compost applied to nursery beds resulted in declining levels of *Cylindrocodium scoparium* at Penn Nursery. This study,

conducted in cooperation with California University of Pennsylvania, was designed to evaluate alternatives to methyl bromide fumigation to control soil-borne plant pathogens in tree nurseries.

Hemlock Woolly Adelgid — The hemlock woolly adelgid (HWA) has been in the forest pest spotlight during the past several years. The impact of this exotic pest in Pennsylvania has not been as severe as that attributed to HWA in Connecticut and New Jersey. While there has been some mortality of hemlock in Pennsylvania, it has not occurred in the absence of hemlock looper, gypsy moth, or summer drought.

Other Forest Health Concerns

Weather — Most areas of Pennsylvania received less than average rainfall from April through September, 1997. In early August, there was an average deficit of 22 percent for all 20 reporting stations. Precipitation in September probably prevented any serious deleterious effects on trees. Shallow-rooted trees such as dogwood and hemlock may be impacted by the deficit in precipitation.

Tree Mortality — A state-wide forest tree mortality survey that began in 1996 was completed in 1997. Nearly 180,000 acres of forestland in several northeastern counties were severely impacted by the combination of a spring defoliation followed by maple leaf anthracnose. Other pests that were instrumental in causing excessive tree mortality in the survey period 1994-1996 included elm spanworm, gypsy moth, fall cankerworm, beech bark disease, and forest tent caterpillar. Twenty-three counties, mostly in the northern quarter of the state, had a reported 437,271 acres of tree mortality.

Deer Browsing — The increasing number of white-tailed deer in forested areas is impacting successful tree seedling regeneration. Deer fencing has been shown to be the most effective means of keeping deer out of areas where seedling regeneration is necessary.

For More Information



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