

# WOODLANDS PROTECTION

## INTRODUCTION

It is important for landowners to recognize threats to the health and productivity of their woodlands. Some of these threats, especially those posed by damaging winds, drought, and other weather conditions, cannot be controlled by landowners. However, landowners can participate in the protection of their woodlands from insect pests, diseases, uncontrolled fire, and livestock grazing.

## INSECT PESTS

Insect pests can cause considerable damage to West Virginia woodlands. Among the most important and well-known is the **gypsy moth**. Gypsy moth caterpillars are defoliators, which means that they feed on the leaves of both mature and young trees. They are a serious pest of oaks, hickories, and other tree species. Although gypsy moth feeding does not usually kill trees outright, it may weaken the trees and make them more susceptible to other insects, drought, and disease.

The gypsy moth was accidentally introduced from Europe in the mid-1800s. It has been spreading steadily from New England, where it was introduced, south and west throughout the northeastern United States. Gypsy moth outbreaks have now occurred in northcentral West Virginia and throughout the Eastern Panhandle. In 1996, 70,726 acres of woodlands in West Virginia were defoliated by the gypsy moth. The West Virginia Department of Agriculture sprayed 67,847 acres in 1996 in an attempt to control the infestation. Other control techniques, such as silvicultural treatments that make woodlands less vulnerable to gypsy moth infestation, can be applied by individual landowners.

Other insect pests of note in West Virginia include the **cherry scallop moth** and **eastern tent caterpillar**; both cause defoliation of black cherry and related tree species. Outbreaks of **looper caterpillars** and **walkingsticks** may also cause defoliation. **Weevil** damage to yellow-poplar leaves and **leaf miner** damage to black locust leaves often cause premature dropping of leaves. Bark and wood borers also can be serious pests; one of these, the **two-lined chestnut borer**, often infests and kills oaks weakened by gypsy moth defoliation. Other species of bark borer cause considerable damage to pines and other softwoods throughout the state.

The West Virginia Department of Agriculture Pest Identification Lab assists landowners in identifying insect pests. Detailed instructions on the proper way to mail specimens can be obtained by writing to the West Virginia Department of Agriculture, Plant Pest Control Division, Pest Identification Laboratory, Charleston, WV 25305. Advice and assistance in controlling insect pests may be obtained through the WVU Extension Service, the West Virginia Division of Forestry, and West Virginia University.

## DISEASES

Several serious diseases threaten West Virginia's woodlands. One of these, **beech bark disease**, is carried by an insect called the beech scale. The beech scale spreads a usually fatal disease to previously healthy American beech trees. The insect and disease have been identified in several counties in West Virginia. At this time, there is no control for this disease.

Other diseases spread by insects include **ash yellows** and **Dutch elm disease**. Ash yellows affects all species of ash trees and has recently been found in scattered locations throughout West Virginia. Dutch elm disease, which has been well-established throughout the state for some time, continues to cause considerable damage to American elm trees.

Other diseases of concern include **butternut canker**, which threatens to eliminate butternut, or white walnut, from the state and **dogwood anthracnose**, a fatal disease of flowering and other species of dogwood. **Armillaria**, or shoestring fungus, attacks oaks weakened by gypsy moth defoliation and other agents.

The Pest Identification Lab will also assist landowners in the identification of plant diseases. Write for instructions on mailing specimens. The WVU Extension Service, West Virginia Division of Forestry, and West Virginia University can inform landowners of appropriate disease controls.

## **UNCONTROLLED FIRES**

Uncontrolled fires, or wildfires, may cause considerable damage to unprotected woodlands. In West Virginia, rapidly spreading and dangerous crown fires that kill mature trees outright are usually rare. However, ground fires are prevalent, especially in early spring before trees have foliated and in the fall after leaves have fallen. Ground fires may kill saplings and damage the bark and trunks of mature trees. Scars, or cat-faces, left on tree trunks by even relatively “cool” fires may significantly reduce the value of timber cut from the trees. Fire damage also reduces tree growth rates and makes trees more susceptible to insects, diseases, and drought.

Wildfires drastically decrease West Virginia’s woodland values, potential forest production, and economic growth. In the years from 1986 through 1995, an average of 1,437 wildfires per year were recorded. Over this 10-year period, the average fire burned 76 acres, totaling approximately 109,000 acres each year. Estimates placed the average annual economic loss at nearly \$22 million during that decade. These figures are likely to increase as timber values increase.

Many forest fires in West Virginia are started accidentally, through carelessness, or are the result of arson. Prevention is the best protection against wildfire, although individual landowners can do several things to reduce damage should a fire threaten their woodlands. These include having tools such as hand pumps, axes, fire rakes, and shovels on hand and participating with neighbors and local fire departments in setting up alarm and assistance networks. Landowners also might choose to construct fire lanes through and around their wooded property to contain potential fires and provide easier access to fire crews.

The West Virginia Division of Forestry is the best source of information concerning forest fire control. Additional information may be obtained from the USDA Forest Service, Northeastern Area State and Private Forestry office, in Morgantown.

## **LIVESTOCK GRAZING**

Livestock grazing may be the most damaging and yet most preventable of all threats to woodland health and productivity. Cattle and other livestock may cause serious immediate damage to seedlings, saplings, and ground vegetation; what is not browsed by livestock will be trampled. In just a few years, the understory may be completely gone or may be replaced by less valuable species, such as ironwood and hawthorn. At the same time, livestock compact forest soils, which in turn damages mature trees. Within 10 years, continued grazing causes weakening and mortality of the trees. More sunlight then reaches the ground and, with luck, grasses grow in to cover the soil. In some cases, however, the soil is so compacted that even grasses cannot become established; severe erosion results.

It is safe to say that grazing of woodlands is not compatible with good forest management. Property will not remain wooded if livestock is allowed access. In addition, woodlands make very poor pasture; studies have shown that livestock lose weight when grazed in woodlands. Therefore, grazed woodlands result in loss of both livestock and natural resources values. Cost sharing for fencing woodlands may be available through the USDA Farm Service Agency as part of the Stewardship Incentive Program (SIP).