



# Pennsylvania Woodlands

## *Introduction to woodland management*

NUMBER 2

Wise decisions about woodland management can be made only by landowners who know what their options are. The *Pennsylvania Woodlands* series is intended to help woodland owners recognize their options and exercise some control over the quantity and quality of benefits their woodlands provide.

### **WHAT IS WOODLAND MANAGEMENT?**

Managing your woodland means carrying out a series of planned activities intended to achieve your objectives. It involves treating your woodland in a way that encourages the steady production of some benefit or combination of benefits.

You may, for example, want to improve woodland habitat for game or nongame species of wildlife. You may want to obtain additional income through the sale of timber or pulpwood. You may want to have a steady supply of firewood, preserve or improve scenic values, or protect a high-quality trout stream.

The reason you should manage your woodland is to make the woodland more useful to you. A woodland does not *have* to be managed. But like a vegetable garden, it's more productive if it's nurtured.

### **PENNSYLVANIA'S FOREST RESOURCES**

Forests cover more than 16 million acres—58 percent—of Pennsylvania's land area. Hardwood species, including oak, hickory, maple, cherry, beech, ash, yellow poplar, and a host of associated species such as white pine and hemlock dominate our forests.

Pennsylvania's present-day forests originated after the heavy, repeated cutting and burning of

mature forests around the turn of the century. Over the last 60 to 80 years, in the absence of major disturbance, the forests have grown back and are again reaching maturity.

Today, Pennsylvania ranks first in the nation in volume of hardwoods and our forests contain some of the nation's finest quality timber. Much of the world's supply of black cherry comes from our forests, as does some of the finest red oak, white oak, and ash. Pennsylvania's forest products industry currently contributes about \$5 billion per year to state and local economies.

The value of these same forests as sources of wildlife habitat, clean water, and recreation sites is greater than ever before. Pennsylvania leads the nation in number of hunters and is fifth in the number of sport anglers. Pennsylvania's forests are the primary habitat for 120 species of birds and more than 50 species of mammals. Watersheds protected by our forests provide clean water for domestic and recreational use by millions of people.

Our forests are a valuable and renewable resource which, if conserved and managed properly, can continue to provide these benefits for future generations.

### **PRIVATE WOODLAND OWNERS**

About 12.5 million acres—70 percent—of the forest land in Pennsylvania is privately owned. One million of these acres are owned by about 700 wood products firms. The remaining 11.5 million are owned by nearly half a million people like you.

Private woodland owners have historically been referred to as "small woodlot owners" and their woodlands have often been labeled "farm woodlots." These terms are often inaccurate because some of these individuals own more than

PENNSTATE



College of Agricultural Sciences • Agricultural Research and Cooperative Extension

1,000 acres and many own more than 50 acres. About 15 percent of Pennsylvania's private woodland owners are farmers. The others are service workers, executives, professionals, and trade or business men and women. About 20 percent are retired.

Some woodland owners purchased their woodland specifically for investment purposes and some obtained the property for recreational interests. Very few own woodland primarily for growing and producing timber products. Most own woodland simply because it's part of their farm or primary or secondary residence.

Many of Pennsylvania's woodland owners may never have thought about managing their woodland or about exercising control over the benefits it provides.

## WOODLAND MANAGEMENT OPPORTUNITIES

Pennsylvania woodland owners have many management opportunities. In many cases, their woodland already has economic value in the form of trees that have been growing for the past 60 or more years. For some owners, the value of the potential wood products may already be substantial.

Cutting trees is the principal means by which you can control the composition and the quantity of woodland vegetation. A timber or fuelwood harvest can, and should, lead to a more productive and useful forest. If carried out as part of a plan based on the your management objectives, a properly planned and executed harvest can improve future woodland benefits. Much of the cost of woodland management, whether it be for timber, wildlife, recreation, or scenic value can in most cases be covered by the sale of wood products.

A number of public agencies and private firms offer woodland owners free or low-cost information and will assist you in your management activities. *Pennsylvania Woodlands* Number 1: "Sources of Information and Guidance for Woodland Owners" describes the woodland management services offered by various agencies, organizations, and individuals.

Although most woodland owners indicate that they own their land for purposes other than timber production, many do harvest and sell timber. Unfortunately, much of the timber harvesting on private lands is done in a manner that doesn't maximize the return of benefits to the landowner.

Most timber harvests are carried out in the absence of a management plan. The primary

reason for initiating the harvest is, in most cases, a short-term need of money. Woodland owners often don't realize what effect an unplanned harvest will have on the long-term productivity or value of their property. It's estimated that professional foresters are involved in less than 15 percent of all timber sales on private lands.

The selling of timber without planning or professional guidance generally results in the use of the "diameter-limit" cutting system. In this system, all trees with a stem diameter of a certain minimum size, usually 12 or 14 inches, are cut. This system is essentially "high-grading"—the removal of only the best trees in the stand. High-grading results in the accumulation of poor-quality trees and substantially decreases the long-term productivity of the woodland.

Furthermore, poorly planned logging operations may result in erosion and sedimentation problems that degrade the quality of woodlands and streams. Professional guidance in harvesting operations can help eliminate or minimize these problems.

The pressure and the opportunity to harvest timber on private woodlands will continue to increase. Our forests are reaching maturity and the demand for high-quality hardwoods is increasing. The use of wood as a source of energy for home heating is also resulting in the increased harvest of trees in rural, urban, and suburban areas. As the cost of holding land continues to rise, more and more landowners will look to their woodlands as a source of income.

As one of Pennsylvania's private woodland owners, you control a very valuable resource. It's important that you're aware of the potential value of your woodland and what it can produce.

## MANAGEMENT PLANNING

The general steps involved in management planning are listed below. Other publications in the *Pennsylvania Woodlands* series provide additional information on each of these steps:

- **Determine both short-term and long-term objectives.** What do you want from your woodland?
- **Assess the physical and biological characteristics of your woodland.** Is it capable of producing everything you desire? What are your options?
- **Develop a written management plan** that includes a timetable for the management activities needed to achieve your objectives.

- **Carry out the management activities** listed in your plan; enjoy and profit from the benefits provided.

Keep in mind that there's more than one way to manage a woodland. The range of possibilities depends on the woodland's biological and physical characteristics. The right approach is one that satisfies your objectives.

A checklist of woodland ownership benefits is provided to help you identify your management objectives. Go through this list and check the benefits that are important to you. If your list of important benefits is long, rank the items in order of importance. Some woodlands cannot produce all benefits. Management for some benefits will conflict with others. You may have to make compromises and manage for some benefits and not others.

*Pennsylvania Woodlands* Number 3: "Resource Evaluation" is the next publication in this series. In it we discuss procedures for evaluating the present condition of a woodland and its potential for producing desired benefits.

# WOODLAND BENEFITS

## Wood Products

### Personal Use:

Fuelwood \_\_\_\_\_  
 Fenceposts \_\_\_\_\_  
 Lumber \_\_\_\_\_  
 Other \_\_\_\_\_

### Income:

Fuelwood \_\_\_\_\_  
 Fenceposts \_\_\_\_\_  
 Pulpwood \_\_\_\_\_  
 Sawtimber \_\_\_\_\_  
 Veneer \_\_\_\_\_

## Recreation

Walking, hiking \_\_\_\_\_  
 Hunting \_\_\_\_\_  
 Bird watching \_\_\_\_\_  
 Camping \_\_\_\_\_  
 Picnicking \_\_\_\_\_  
 Cross-country skiing \_\_\_\_\_  
 Snowshoeing \_\_\_\_\_  
 Horseback riding \_\_\_\_\_  
 Solitude \_\_\_\_\_  
 Snowmobiling \_\_\_\_\_  
 Trail biking \_\_\_\_\_  
 Fishing \_\_\_\_\_  
 Scenic value, aesthetics \_\_\_\_\_  
 Identifying wildflowers \_\_\_\_\_  
 Other \_\_\_\_\_

## Wildlife

### Game:

Cottontail rabbits \_\_\_\_\_  
 Snowshoe hare \_\_\_\_\_  
 Squirrel \_\_\_\_\_  
 Grouse \_\_\_\_\_  
 Woodcock \_\_\_\_\_  
 Pheasant \_\_\_\_\_  
 Turkey \_\_\_\_\_  
 Raccoon \_\_\_\_\_  
 Fox \_\_\_\_\_  
 Opossum \_\_\_\_\_  
 Bear \_\_\_\_\_  
 Deer \_\_\_\_\_  
 Beaver \_\_\_\_\_  
 Muskrat \_\_\_\_\_  
 Waterfowl \_\_\_\_\_  
 Other \_\_\_\_\_

### Nongame:

Songbirds \_\_\_\_\_  
 Raptors \_\_\_\_\_  
 Reptiles \_\_\_\_\_  
 Amphibians \_\_\_\_\_  
 Small mammals \_\_\_\_\_  
 Other \_\_\_\_\_

## Water

Fishing stream \_\_\_\_\_  
 Fishing pond \_\_\_\_\_  
 Swimming \_\_\_\_\_  
 Boating \_\_\_\_\_  
 Watershed protection \_\_\_\_\_  
 Other \_\_\_\_\_

Prepared by James R. Grace, former assistant professor of Forest Resources Extension

Visit Penn State's College of Agricultural Sciences on the Web: <http://www.cas.psu.edu>

Penn State College of Agricultural Sciences research, extension, and resident education programs are funded in part by Pennsylvania counties, the Commonwealth of Pennsylvania, and the U.S. Department of Agriculture.

This publication is available from the Publications Distribution Center, The Pennsylvania State University, 112 Agricultural Administration Building, University Park, PA 16802. For information telephone (814) 865-6713.

Issued in furtherance of Cooperative Extension Work, Acts of Congress May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture and the Pennsylvania Legislature. T. R. Alter, Director of Cooperative Extension, The Pennsylvania State University.

This publication is available in alternative media on request.

The Pennsylvania State University is committed to the policy that all persons shall have equal access to programs, facilities, admission, and employment without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. It is the policy of the University to maintain an academic and work environment free of discrimination, including harassment. The Pennsylvania State University prohibits discrimination and harassment against any person because of age, ancestry, color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, or veteran status. Discrimination or harassment against faculty, staff, or students will not be tolerated at The Pennsylvania State University. Direct all inquiries regarding the nondiscrimination policy to the Affirmative Action Director, The Pennsylvania State University, 201 Willard Building, University Park, PA 16802-2801, Tel 814-865-4700/V, 814-863-1150/TTY.