

Managing a Small Woodlot

Ernest Gould

A professional forester urges woodlot owners to know and care for their land

I became a woodlot owner by accident because we were making a property map for the town of Petersham, Massachusetts. As you might expect, there were problems. We had trouble locating a number of tracts, and one owner, who lived in Florida, wanted to sell out. He'd bought the lot cheap 15 years before, "site unseen" as they say. All he knew for sure was that the northeast corner was 19 feet south of a big boulder and that the tax bill called for 48 acres. The deed itself was coyly reticent about everything except that northeast corner and about who the abutting neighbors had been a century or so earlier. In addition, I knew that two friends of mine hadn't been able to pin down the boundaries in their spare time over the previous year.

All in all, it looked like a real gamble as to where the land was, and how much of it there was, so we struck a bargain, and I started hunting. Nothing made much sense on the ground until I traced the deeds back to the old Stratton farm and could follow its breakup through inheritance and sale over the next hundred years. Then I knew where to look for corner and line markers of pipe or "stake and stones" and, because most of my land had once been fields, how to interpret stone walls in the woods, bits and pieces of barbed wire sprouting out of trees, and old cutting boundaries. Working this out became a three-year, spare-time hobby that eventually required pinning down two equally vague neighboring properties.

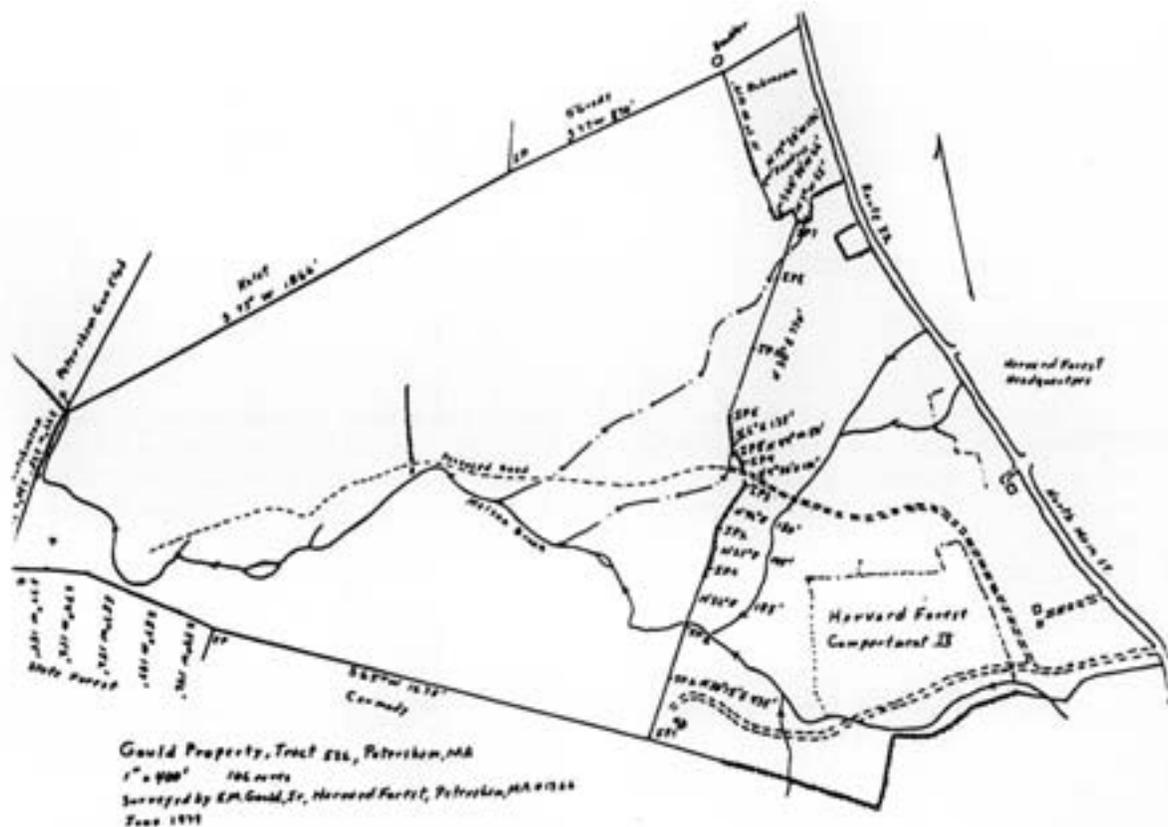
After all that, you can bet I have well-painted bounds with iron pipes set at each corner and

even at intervals on the longer straight lines. Each year I blaze, paint, and brush out a bit of the boundary so that there is no confusion. As Frost said, "Good fences make good neighbors," and a well-marked boundary makes it hard for a logger to "accidentally" cut over the line. Most states award triple stumpage, the value of a tree standing in the woods, for trees "knowingly" cut on the wrong land, so it saves grief to let people know just where your land begins.

Mapping the Bounds

This was the time to make a map of the place. With a pocket compass, a tape, and my nephew, it was easy to get the distance and direction of each boundary line and then plot it up. There is a good description of how to do this in the *Boy Scout Handbook*. I've found that a scale of about 400 feet to the inch is useful; it allows reasonable space to plot details, and most maps aren't too big to go on a standard piece of paper that fits into normal files. I make the original in pencil and, when I'm satisfied, finish it with black ink. I then have a master that's easily reproduced with a Xerox, and having cheap copies makes it possible for me to use the map freely for records of all kinds. In fact, such a map is the main place where I note all sorts of information that makes owning my woodlot fun.

Once I knew exactly where it was and had an outline map of it, I wanted to know more about my land. In the course of chasing boundaries I had



The bounds mapped and the permanent features paced.

already found an overgrown road and a brook. Also, I had found that red maple swales bordered two substantial segments of the stream and that these had apparently been clear-cut for fuel about 25 year before.

The trees are now four to eight inches in diameter, are closely spaced, and run heavily to stump-sprout groups. In fact, a thinning for stove wood could now be made, and the residual would grow faster.

The rest of the area had some nice red oak here and there, growing in mixture with other hardwoods or above an understory of hemlock. A few of the oaks were already 18 to 24 inches in diameter and readily salable. But I really needed to know more precisely what was there and where it was before deciding what was best to do.

Pacing the Permanent Features

When I had finished working on the boundary and the time came to look inside to see what this piece of real estate contained, I learned to pace. Pacing is almost a lost art that anyone can learn because it simply takes practice but, like riding a bicycle, once you've acquired the skill it stays with you forever. Again, the *Boy Scout Handbook* was a handy reference and about the only one I knew that was readily available. So, with map in hand, a compass, and my natural stride, I started to fill in the permanent features of my woodlot's topography.

I began with my overgrown logging road and discovered that it was well worn and needed little work to clear up to a stone wall and then a bit



With a little clearing and a load or two of gravel for the wet spots, a revived logging road makes the easiest trail into a woodlot. Photograph courtesy of the New England Forestry Foundation.

beyond, to one of the streamside swales of red maples. This part was probably a farm lane that old man Stratton had laid out to get to what one of the deeds calls the "long mowing." In the early days wet swales were cleared and used to cut hay from the natural grasses that took over once the sprouts were killed off. The road continued on but gradually became more overgrown and diffuse, so that it looked like a skid road used occasionally for logging. Judging from the old pines lying across it, which probably had blown down in the hurricane of 1938, this part of the road had been abandoned for over 40 years. Finally, even this trace disappeared some distance short of the back boundary. Primitive as it was, the old road was still the easiest trail into the lot; it seemed well enough laid out that it was stable and not

eroded and, with a little clearing and a load or two of gravel in wet spots, would be easy to revive.

With this landmark in, it was logical next to map in the brook that paralleled much of the road. Doing the main stream and pacing the tributaries, I located all the permanent and intermittent streams that flowed over the lowest land containing all the wet spots that markedly influenced growth or gave trouble with roads. I also sketched in the drainage pattern on which the higher land was hung. With the valleys done, it was easy for me to locate the ridges and knolls and to note which were steep and which gentle.



Oaks tend to occupy the dry ridge tops. Shown here in flower is *Quercus rubra*, the red oak. Photograph by Albert W. Bussewitz.

Mapping Tree Cover

With the topography roughly filled in, I had also defined the main growing sites with moisture regimes different enough to be reflected in the growth of the trees. The wet swales were dominated by red maple, while, at the other extreme, the dry ridge tops were given over to oak. The slopes between had mixtures of hardwood with a pine here and there, while some of the gentlest slopes with diffuse, intermittent streams had a lot of hemlock under the hardwoods. Now I could start to make some sense out of the forest cover and get a feel for where things would grow. The woodlot began to take on natural form and organization.



The distinctive bark of the yellow birch, *Betula alleghaniensis*, is an aid to its identification in winter. Photograph by Barth Hamberg.



Immature cones of the American larch or tamarack, *Larix laricina*, a species that thrives in valley-bottom bogs. Photograph by Albert W. Bussewitz.

Of course, I knew the local trees because of my training, but many owners must start from scratch and learn to identify the different species. This is relatively easy: with a good field guide and a bit of practice one can quickly identify the main leaf shapes in the summer and the buds and twigs in the winter. In addition, many trees have a distinctive bark form, color, or texture that is easily learned. In any case, learning the trees is the first step toward understanding what you see in the forest because the trees "integrate" the natural growth capacity of each site, telling you something about the local microclimate and about conditions below ground.

Although red maple, for instance, grows

everywhere as scattered individuals, it will totally dominate sites too wet for other trees. Yellow birch is more plentiful on moist sites and doesn't start in big openings exposed to the hot sun. While white birch can't stand the wet, it can dominate sunny cut- and burned-over sites just as well as the pioneer, short-lived gray birch and

trembling aspen. White pine in central New England also grows almost everywhere, but forms pure stands in abandoned fields and pastures. Being the first step back toward forest in such places, it is succeeded by hardwoods on all but the driest sites, such as sand and gravel plains. At the other extreme, the wettest sites are the bogs



The short-lived gray birch, *Betula populifolia*, shown here, and the quaking aspen, *Populus tremuloides*, as well as the white birch, *B. papyrifera*, occupy sunny cut- and burned-over sites. Photograph from the Archives of the Arnold Arboretum.

that in central New England support sphagnum moss on the ground and black spruce, tamarack, and the odd red maple overhead, with here and there a white pine on a sandy knoll. This complex of species seems able to withstand the short growing season in these valley-bottom bogs, but it grows very slowly and is probably most valuable for managing watershed and wildlife, especially birds.

Managing the Woodlot

One of the popular myths about private landowners like me is that we butcher our woods and mistreat them more often than any other group of landowners. I doubt we do, however, because so many owners I've met are like me in wanting to take care of their woodlots. Also, year after year official estimates show them producing their fair share of the cut, fair in the sense that they own about half the land and cut about half the wood. In addition, their growth and harvest make about as high a percentage return on their inventory of standing timber as do industry's, and much better than government's. This may simply mean that the woodlots continue to produce in spite of neglect, or perhaps that "management by accident" is more effective than professionals believe. In any case, trees grow without much attention for a great many private owners.

But is this the best way to enjoy and profit from a woodlot, and to be a good neighbor? In most cases, no! Following a few simple rules will bring you greater ownership satisfaction from the land and, at the same time, will benefit your descendants and the public at large. In the past it was not uncommon to hold a woodlot, let nature take its course, and, every couple of generations when prices were high, "lumber it off." And that still happens. But today owners have come to have a high regard for a wide array of values, including outdoor recreation, observing wildlife, hunting, relief from the work-a-day life, gains from rising land values, aesthetics, a source of fuelwood, and

a host of other satisfactions that are generally not traded over the counter.

Yesterday, when land was cheap and interest and taxes low, most folks didn't worry about getting the most out of their woodlands. Today, everything is dear and high carrying costs make owners more cautious and thoughtful, so there is a renewed interest in land management, especially in steps aimed at a balanced mix of those tangible and intangible returns.

But time and money are scarce. How should one ration them in managing a woodlot? Normal prudence suggests investing them first in the venture that gives the greatest return in cash or satisfaction, second in the next-best earner, and so on. The greatest satisfaction from owning a woodland comes from the initial purchase, because that entitles you and yours to any and all present and future benefits. The next-best return is from investments to safeguard the forest —



A road and trail net is essential for access to all parts of a woodlot. Photograph by Hope Wise.

good boundaries, access for fire control, taxes paid, and the like. For most, the third-best payer is a road and trail net by which to get around and enjoy one's woods. Finally come investments in management that will improve forest production of goods and services of all kinds. Often, much of the road-net and management cost can be internally financed from the proceeds of a sale when you have suitable timber.

People who never really cared much for management are suddenly doing something very positive as they look to their land as a means of keeping the wood basket full. In fact, a common question these days is, "Where can I buy a woodlot, and how many acres must I have to grow enough firewood for the house?"

Cutting the Timber

If you want to accomplish all this and get some roads and trails onto your property, it usually will be necessary to make some kind of cutting. The time to do this is when you need the wood or when the market is brisk. Your problem may be how to find out about the state of the market. One thing you can do is to call the service forester in your county and ask him or her about it. Part of a forester's job is to advise private landowners, and because foresters are paid by the state you get such services free. Because there is no charge, don't expect too much attention as the competition for his or her services is understandably stiff. Or, you can buy the time of a consulting forester, but be sure to ask about fees before you start. If it turns out that you are going to make a sale of timber, then it is very important to get a trained person to look after your interests.

The next most important thing is to have a written contract with the logger so that both of



you will know what to expect. Most people don't know what should be covered by a contract, but you can call the extension forester at your state university, and he or she will send you some samples. Or you can get advice from your consulting forester. The rules (see "If You Decide to Cut" page 10) give an idea of some of the considerations that should be given attention in logging. They may give you a small start toward a more satisfying relationship with your woodlot.

A forest economist, Ernest Gould is assistant director of the Harvard Forest in Petersham, Massachusetts.

IF YOU DECIDE TO CUT

•**KNOW THE LAW.** Most states have laws that govern the cutting of trees. Massachusetts has a Forest Cutting Practices Act, for example, which requires a landowner to file a notice of intent to cut, and a cutting plan before most timber sales. Everyone in the business of logging must get a commercial harvester's license from the state. There is also a Slash Disposal Act, which is administered by the state fire wardens. In addition, local conservation commissions in Massachusetts administer the Wetlands Protection Act, which, with the Forest Cutting Practices Act, covers logging in wetlands.

Finally, three special tax laws help landowners with local property taxes in Massachusetts:

Chapter 61 reduces annual taxes on woodlands by 95 percent and imposes a severance tax on products cut under an approved timber-management plan.

Chapter 61A gives relief to farmland and associated woodlots on *bona fide* active farms.

Chapter 61B grants some tax reduction for open land devoted to recreation.

It is also possible to get reduced property, income, and inheritance taxes by granting a conservation easement on forest or other open land to the town or some other acceptable conservation organization. There are also some federal income-tax advantages for forest returns.

•**READ UP.** One of the best references I have found is the *Manual for Owners and Managers of Small Forest Lands*, prepared by Garry van Wart for the Trustees of Reservations (224 Adams Street, Milton, MA 02186; telephone [617] 698-2066). This 113-page volume is available for \$2.50 plus \$1.35 for postage and handling. It gives more than 200 useful documents, classified according to eight subjects of special interest to landowners, in its list of references.

Rockwell R. Stephens has written an entertaining and informative book on the joys and woes of handling a woodlot.

Entitled *One Man's Forest: Managing Your Woodlot for Pleasure & Profit*, it was published in 1974 by the Stephen Greene Press (Brattleboro, VT 05301) and is still in print in paperback for \$6.95.

The New York Society of American Foresters has published a set of guidelines for the safe and efficient harvesting of woodlots. Entitled *The Timber Harvest Guidelines*, they are available free of charge from the Society (c/o Richard Schwab, 200 New Maintenance Building, College of Environmental Science and Forestry, State University of New York, Syracuse 13210).

•**SEEK ADVICE.** There are a number of places where landowners can get sound advice on managing a woodlot. In Massachusetts, each county has a service forester, whose services are free of charge. To get in touch with yours, consult the "Directory" beginning on page 11 of this issue of *Arnoldia*. The service forester, who can get federal cost-sharing assistance for you to undertake certain projects in your woodlot, is also the person to call if you want to locate a consultant or invest in tree management.

In addition, there is an extension forester at most state land-grant universities (see the "Directory"). He (or she) is paid to use the resources of academia to help solve technical forestry problems and has a number of very helpful, free publications about forestry. You also can get free advice from the Cooperative Extension Service office, which usually is located in the county seat. The Soil Conservation Service's district office for your locality is also a source of technical help with water-, soil-, and land-management problems. Private conservation organizations such as the Audubon Society, the Massachusetts Land League, and the Conservation Law Foundation are good sources of information for woodlot owners in Massachusetts. Similar organizations exist in virtually every state.

— E.G.

WHERE TO GO FOR ADVICE

A DIRECTORY OF INFORMATION SOURCES ON FORESTRY MANAGEMENT

In the United States and Canada, federal, state or provincial, and private agencies, as well as state universities, provide a wide variety of sound information on the management of small woodlands. In some cases the information is available at no charge, in others there is a fee. A brief directory to some of the key information sources follows. Addresses and, whenever possible, telephone numbers are indicated.

NATIONAL

Federal Government (United States)

Forest Service
Department of Agriculture
Post Office Box 2417
Washington, DC 20013
(202) 447-3957

Federal Government (Canada)

Forestry Service
Environment Canada
Ottawa, Ontario K1A 1G5
(819) 994-1879
Petawawa National Forestry Institute
Chalk River, Ontario K0J 1J0
(613) 995-7010

REGIONAL

Federal Government (United States)

Northeastern Area Director
U.S. Forest Service
State and Private Forestry
370 Reed Road
Broomall, PA 19008
(215) 461-3125

NEW ENGLAND

The New England Forestry Foundation (85 Newbury Street, Boston, MA 02116) retains consulting woodland managers who will (for a fee) draw up a management plan according to a woodland owner's wishes. Write the Foundation's Head Forester, or call (617) 437-1441.

Massachusetts

(Area Codes 617 and 413)

State Government

In Massachusetts, the Bureau of Forest Development has divided the state into five regions, each with its Regional Supervisor. In addition to the Bureau's Main Office in Boston, there is an office in Lancaster.

Boston Office (19th Floor, 100 Cambridge Street, Boston 02202)

State Forester (617) 727-3163
Chief Forester (617) 727-3184

Lancaster Office (Post Office Box 173, Lancaster 01523)

Forester (617) 368-1780

Forestry Regions

Region I, Southeastern Massachusetts (Myles Standish State Forest, Box 66, South Carver 02366)

Supervisor (617) 866-2580

Region II, Northeastern Massachusetts (Carlisle Regional Headquarters, 817 Lowell Road, Carlisle 01741)

Supervisor (617) 369-3351

Region III, Worcester County (Box 155, Clinton 01510)

Supervisor (617) 368-0126

Region IV, Connecticut Valley (Box 484, Amherst 01004)

Supervisor (413) 549-1461

Hamden County (Hampton Ponds State Park, Route 202, Box 537A, Westfield 01085)

Forester (413) 532-3985

Region V, Berkshire County (Post Office Box 1433, 740 South Street, Pittsfield 01202)

Supervisor (413) 442-8928

State Bookstore

The State Bookstore sells a booklet containing all of the regulations of the Division of Forests and Parks. To order the booklet, request Document 304 CMR 1.00-5.00 and enclose a check for \$4.05 (\$3.00 plus \$1.05 for postage) made out to "Commonwealth of Massachusetts." The bookstore's address is:

State Bookstore
Room 116
State House
Boston, MA 02133

Its telephone number is (617) 727-2834.

Extension Service

Extension Forester
Department of Forestry and Wildlife Management

Holdsworth Hall
University of Massachusetts
Amherst 01003
(413) 545-2665

State University

Chairman, Department of Forestry and Wildlife Management
Holdsworth Hall
University of Massachusetts
(413) 545-2665

Land Use Regulation Commission [for woodlands within unorganized towns and plantations]
Department of Conservation
Station 22
State House
289-2631 [Toll-free in Maine: 1-800-452-8711]

Private

Small Woodland Owners Association of Maine, Inc.
RFD 1, Box 420A
Pittsfield 04967

Several paper companies (for example, Boise Cascade in Rumford, Georgia Pacific in Woodland, International Paper in Augusta, Robbins Lumber in Searsport, St Regis in Bucksport, Scott Paper Company in Fairfield, and S D Warren in Westbrook) offer woodland-management advice to private landowners. In most cases there is no charge for this service, though some companies ask for first-refusal rights on the timber.

The Other New England States

Connecticut
(Area Code 203)

State Government

State Forester
State Office Building
165 Capitol Avenue
Hartford 06106
566-5348

Extension Service

Extension Forester
107 Nutting Hall
University of Maine
Orono 04469
581-2892

State University

Director, School of Forest Resources
206 Nutting Hall
University of Maine
581-2844

Private

Connecticut Forest and Park Association, Inc.
1010 Main Street
Post Office Box 8537
East Hartford 06108-8537
289-3637

New Hampshire

(Area Code 603)

State Government

Director, Division of Forests and Lands
Department of Resources and Economic Development
Post Office Box 856
105 Loudon Road
Concord 03301
271-2214

Chairman, Department of Forest Resources
215 James Hall
University of New Hampshire
Durham 03824
862-1020

Extension Service

Extension Forester
Box U-87
University of Connecticut
Storrs 06268
Extension Forester
Extension Center
Brooklyn 06234

Maine

(Area Code 207)

State Government

Maine Forest Service
Station 22
State House
Augusta 04333
289-2791

Private

Society for the Preservation of New Hampshire Forests
54 Portsmouth Street
Concord 03301
224-9945

Extension Service

Extension Forester
110 Pettee Hall
University of New Hampshire
862-1029
County Forest Management Supervisor
111 Pettee Hall
University of New Hampshire
862-1029

Rhode Island
(Area Code 401)

State Government

Chief, Division of Forest Environment
Route 101
RFD 2, Box 851
North Scituate 02857
647-3367

Extension Service

Director of Cooperative Extension Service
University of Rhode Island
Kingston 02881
792-2474
Regional Offices (9:00 A.M. to 2:00 P.M., weekdays):
Southern Rhode Island 539-2004
Providence area 272-1132
Jamestown area 423-1322

State University

Chairman, Department of Natural Resource Science
201B Woodward Hall
University of Rhode Island
792-2370

Vermont
(Area Code 802)

State Government

Director of Forests
Agency of Environmental Conservation
State Office Building
Montpelier 05602
828-3375

Extension Service

Extension Forester
Room 345
The Aiken Center
University of Vermont
Burlington 05405-0088
656-3258

State University

Department of Forestry
School of Natural Resources
Room 313
The Aiken Center
University of Vermont
656-2620

OUTSIDE NEW ENGLAND

New York

(Area Codes 315, 518, and 607)

State Government

Director, Division of Lands and Forests
Department of Environmental Conservation
Room 404
50 Wolf Road
Albany 12233-0001
(518) 457-2475

Bureaus of the Division of Lands and Forests (all at 50 Wolf Road, Albany 12233-0001).

Forest Management Bureau
Room 406
(518) 457-7370

Real Property Services Bureau
Room 116
(518) 457-7670

Forest Protection and Fire Management Bureau
Room 408
(518) 457-5740

Private

Secretary, New York Forest Owners Association, Inc.
Skyhigh Road, RD 2
Tully 13159
(315) 696-8002

Extension Service

Forest Resources and Land Use
State Cooperative Extension
Department of Natural Resources
122A Fernow Hall
Cornell University
Ithaca 14853-0188
(607) 256-7703

State University

School of Forestry
107 Marshall Hall
State University of New York

College of Environmental Science and Forestry at
Syracuse University
Syracuse 13210

ELSEWHERE

Contact the department of natural resources or environment in your state or provincial capital for the addresses and telephone numbers of your state's or province's foresters. In the United States, most extension

foresters are stationed at and affiliated with state land-grant universities.

An excellent guide to state, provincial, and federal agencies and private organizations in both countries is the National Wildlife Federation's *Conservation Directory*, which is issued in a new edition at the start of each year. The 1985 edition is available from the Federation (1412 16th Street NW, Washington, DC 20036) for \$15.00 plus \$1.55 for shipping. When ordering, request Order Number 79552. Many libraries subscribe to the *Directory*.