

# 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.

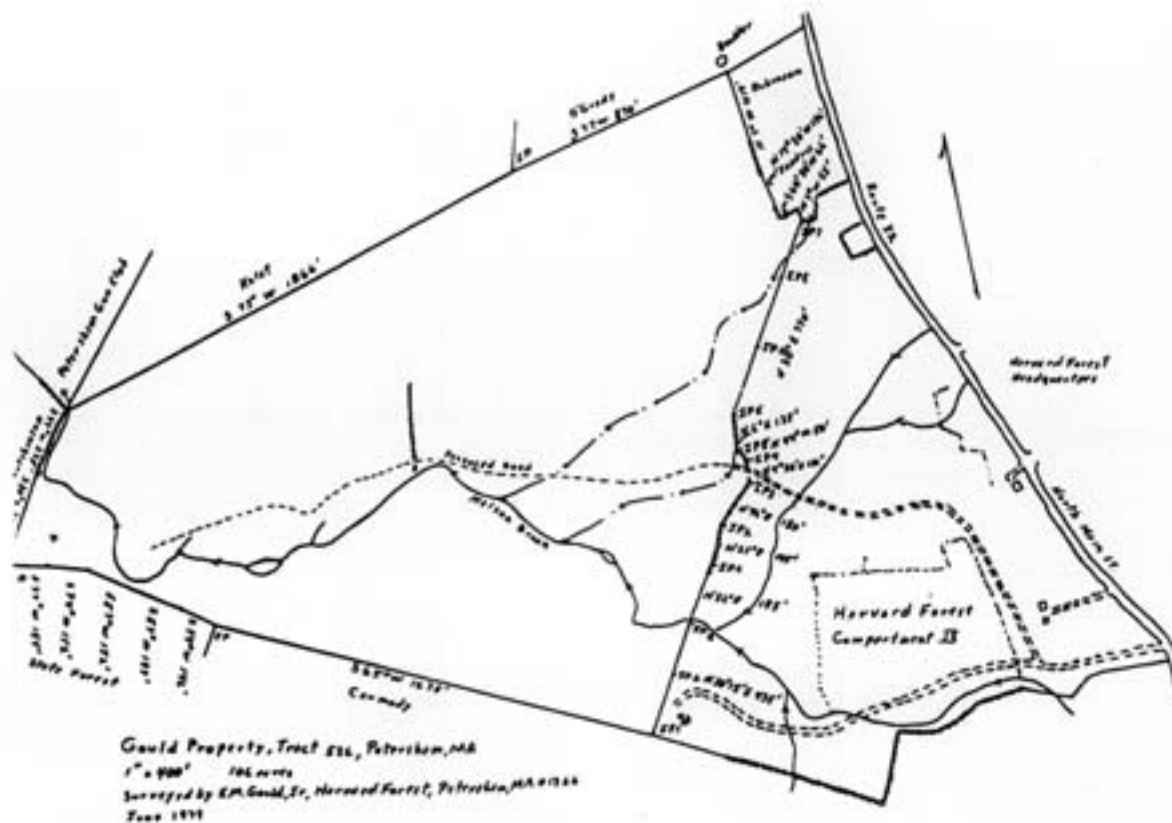
After all that, you can bet I have well-painted bounds with iron pipes set at each corner and

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.

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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*.