

Forest Stewardship Fact Sheet

KNOWING YOUR BOUNDARIES



The first rule in forest stewardship is that you can't manage your forest if you don't know where it is. Many landowners have only a vague idea of where at least some of their boundaries lie. There are two big reasons why finding and clearly marking your boundaries is an essential first step in a forest stewardship program:

1. To avoid cutting your neighbors' trees. Fuzzy lines and corners may not be a problem while land is idle, but can quickly become hot topics once trail building, timber cutting or wildlife enhancement work begins.

2. To avoid having your neighbor cut your trees. Connecticut's timber trespass law (General Statute 52-560) states that:

any person who cuts, destroys or carries away any trees, timber or shrubbery standing or lying on the land of another...without license of the owner...shall pay to the party injured five times the reasonable value of any tree intended for sale or use as a Christmas tree and three times the reasonable value of any other tree, timber or shrubbery; but when the court is satisfied that the defendant was guilty through mistake (emphasis ours)...it shall render judgement for no more than its reasonable value.

History has shown that when boundaries are unmarked and trees are cut without the owner's consent, it's not that difficult to convince a court that one was "guilty through mistake." Thus, if your boundaries are unmarked you're essentially inviting anyone interested to "purchase" your timber for "its reasonable value."

THE DEED DESCRIPTION

The only way to be sure where your boundaries are is to obtain a deed description which accurately includes bearings and distances for each boundary line. Some fortunate landowners have such a description in their deed, or have a registered survey map which includes bearings, distances and corner markers. Many deeds, however, contain only vague descriptions which refer to old corner markers and abutting landowners who are long deceased. In some cases the corners may still be clear, and/or older area residents can be found who can help locate them. If the corners are known and you

and your abutters agree on them, nothing else may be necessary. In other cases, however, a search through town hall deed records will be required. If you do not feel capable of doing such a search yourself, a licensed surveyor or in some cases a private consulting forester can be retained to do it for you.

Once the description is obtained, you and/or your forester can develop a good working property map to guide your forest stewardship activities.

SHOULD I READ ON?

The remainder of this fact sheet describes procedures for finding and marking forest boundaries in the field. If you're planning on trying this yourself you'll want to read it all thoroughly. If not, you may only need to read the section on how to properly mark boundaries, and then to go on to the next fact sheet, leaving the rest to others.

CORNER MARKERS

A variety of traditional corner markers have been used in Connecticut. Some of the more common are multiple "blazes" (oval shaped axe cuts) on trees, iron pipes (i.p.), rock piles, drill holes (D.H.) or other unnatural marks in rocks, concrete posts, or the corner or intersection of two stone walls. Surveyors will often place wooden stakes for reference purposes at various locations during a survey. It is important to note that a surveyor's wooden stake is not necessarily on the corner, and often in fact is not.

COMPASSES

A compass sets direction by dividing a circle into 360 equal slices called azimuths or degrees. Azimuths are counted clockwise such that:

- 0° and/or 360° is due north;
- 90° is due east;
- 180° is due south; and
- 270° is west.

The standard symbol for a degree is °. In most boundary work, the compass is divided into four quadrants (northeast, northwest, southeast, southwest) and "bearings" are described by the number of degrees they depart from north or south into a quadrant (see Figure 1). Thus, an azimuth of 60° is the same as the bearing





N60°E; an azimuth of 120° is the same as the bearing S60°E; an azimuth of 240° is the same as the bearing S60°W, and an azimuth of 300° is the same as the bearing N60°W.

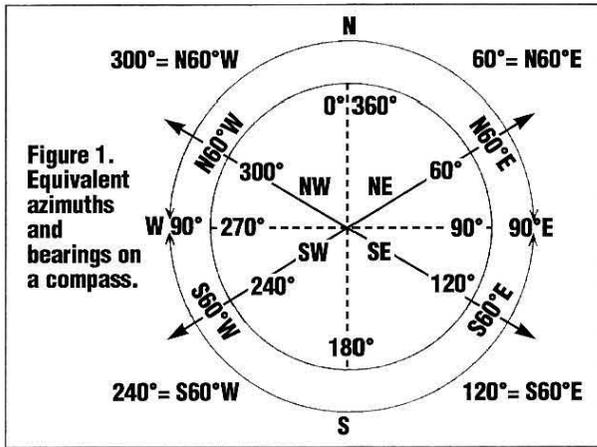


Figure 1. Equivalent azimuths and bearings on a compass.

DECLINATION

It is important to understand that a compass needle points not to true north but to magnetic north. The angle between true north and magnetic north is called *magnetic declination*. In Connecticut, we have what is called westerly declination, meaning a compass needle points west of true north by approximately the following number of degrees, depending on your location:

- Fairfield county- 13°W Middlesex county- 13 1/2°W
- Litchfield county- 13°W New London county- 14°W
- New Haven county- 13°W Tolland county- 14°W
- Hartford county- 13 1/2°W Windham county- 14°W

Before you can use bearings on a deed or map to find things in the field, you must determine whether they are true or magnetic. If the map doesn't say which, the bearings are likely magnetic. The best way to tell for sure is to take a field bearing along a known boundary line and compare it to the map bearing.

ADJUSTING MAP BEARINGS FOR DECLINATION

If your map or deed bearings are true, your declination must be added in the NE and SW quadrants, and subtracted in the SE and NW quadrants to obtain the magnetic bearing you will use in the field.

Example: Assume we are in Tolland county. 1) The true map bearing is N60°E. *Add 14°* and shoot N74°E in the field. 2) The true map bearing is S40°E. *Subtract 14°*, and shoot S26°E in the field.

If your map bearings are magnetic, no adjustment is necessary.

ADJUSTING FIELD BEARINGS FOR DECLINATION

To determine the true bearing from a bearing shot in the field, your declination must be subtracted in the NE and

SW quadrants and added in the NW and SE quadrants.

Example: Assume we are in Tolland county. 1) The field bearing is N60°E. *Subtract 14°*, and record N46°E as the true bearing. 2) The field bearing is S40°E. *Add 14* and record S54°E as the true bearing.

UNITS OF MEASURE

Some old English units of measure can still be found in New England deeds, including:

- rod = 16.5 feet
- chain = 66 feet (composed of 100 links)
- link = 7.92 inches
- mile = 5,280 feet
- acre = 43,560 square feet

Two people and a flexible 100-foot tape can be used to measure distances. The rear person waits at the starting point while the lead person drags the tape out along the line. When the lead person has reached 100 feet, the rear person calls for him/her to stop (in heavy brush or rough terrain, stretching the tape out straight for a true measure can become a challenge!). The rear person then walks forward to the lead position, and the process is repeated. The rear person uses small sticks, pennies or similar items and transfers one to a "counting pocket" for each 100 feet traveled.

FINDING THE BOUNDARIES

Even after you've obtained a good description, finding forest boundaries in New England usually requires a little aptitude for detective work. Some boundary lines follow permanent and obvious markings such as stone walls. Often, however, there is little or no clear evidence of a

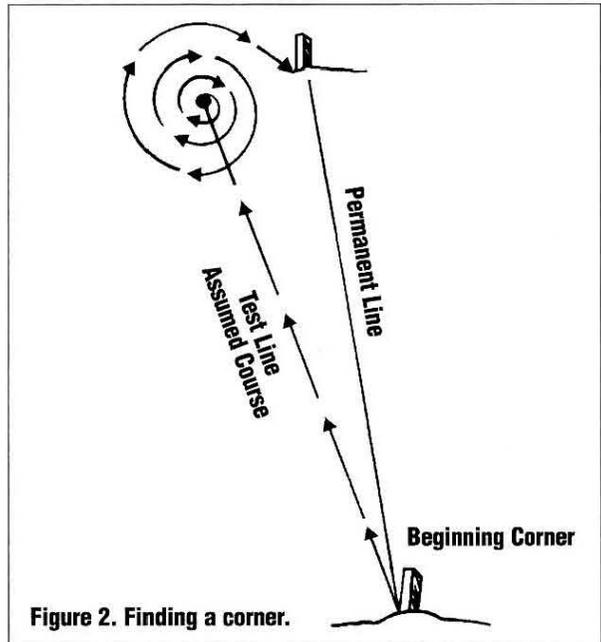


Figure 2. Finding a corner.

boundary line. Common “clues” to look for include a series of flat stones at regular intervals (which were once the bases for chestnut rail fencing), and/or traces of old barbed wire fencing. Don’t automatically assume, however, that a barbed wire fence is right on the line, because that’s not always the case. *And never mark a line permanently until you are sure it is correctly located.*

To find a boundary line, the following technique is sometimes successful. Boundary work is done more easily when leaves are off the trees.

1. Start at a corner that you are sure is accurate.
2. Run a test line by taping along the appropriate bearing for the distance indicated. Temporarily mark the line as you go with plastic flagging or strips of cloth. When you reach the end of the measured distance, you should be in the vicinity of the corner you are seeking. Only in the rarest of instances, however, will you hit the corner “on-the-nose.”
3. At the end of the the test line, search for evidence of the old corner. This can be done by walking in an ever-enlarging series of concentric circles (Figure 2). The evidence may be very meager: a pile of stones, rusted pipe, rotted stake or slight irregularity in the terrain where the corner once was.
4. If you find the corner you are seeking and it actually falls on the test line, the test line becomes your permanent boundary line.
5. If the corner falls to either side of your test line, you must relocate the permanent line from the corner, back to your beginning point.

MARKING THE BOUNDARIES

Once you are satisfied that the boundary line and corners have been located, notify your adjacent property owner(s) and obtain mutual agreement on the boundary location. The boundary should then be marked permanently.

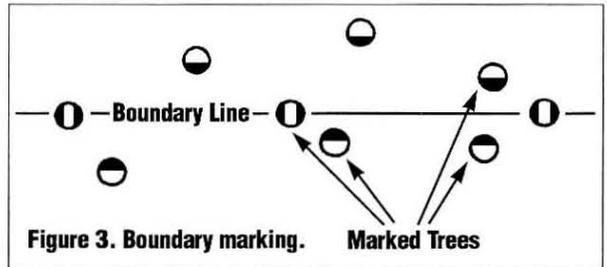
Red paint marks on trees are the most common way to mark forest boundaries today. Forestry supply houses and some hardware or farm supply stores sell long lasting paint made specially for boundary work. Each mark should be four to six inches on a side and about six feet above the ground. Only mark trees that are healthy, vigorous, and not less than four inches in diameter.

Few trees will be exactly on the boundary line. For those that are, place two marks on opposite sides of the tree so that the line actually passes through the marks (Figure 3). When there are not enough trees on the line itself, mark trees within five feet of the line so that the marks face the line (Figure 3). Be sure you are still in sight of the previous mark when you make the next one, so that once you’re finished, you can stand at any point on the line and see at least two boundary marks.

In those instances when enough trees cannot be found on or near the line, or they are all too small to mark, you can

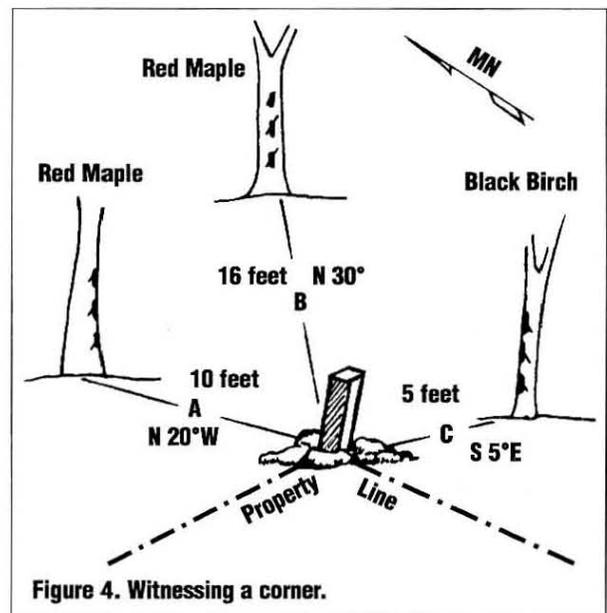
build small mounds of stones or if necessary use fencing.

When you reach a corner, special attention should be given to marking it. To make the corner more evident, two or three “witness” trees can be selected and painted with three marks each at four-inch intervals, one above the other. All the marks should face the corner directly (see Figure 4).



BE SAFE, NOT SORRY

In trying to locate boundaries, some landowners will encounter obstacles that they simply are not equipped to overcome. Complicated deed searches, errors in past surveys or existing markers which were improperly placed can result in hours of fruitless and frustrating labor. A forester can often help, but remember that only a licensed surveyor has the formal training necessary to accurately locate difficult boundaries. In some cases, a survey will be the only answer.



Stephen H. Broderick, Extension Forester

ACKNOWLEDGEMENT

Some of this material was modified with permission from: Wood, H. P. and R.W. Kulis. *Woodland Boundaries*. Univ. of Massachusetts Coop. Extension Bulletin L-206.



**COOPERATIVE EXTENSION SYSTEM
LOCATIONS**

Bethel Cooperative Extension Center
67 Stony Hill Road
Bethel, CT 06801-3056
Tel: 203-797-4176

Brooklyn Cooperative Extension Center
139 Wolf Den Road
Brooklyn, CT 06234-1729
Tel: 860-774-9600

Haddam Cooperative Extension Center
1066 Saybrook Road, Box 70
Haddam, CT 06438-0070
Tel: 860-345-4511

New Britain Cooperative Extension Office
22 Glen Street - YWCA
New Britain, CT 06051-2595
Tel: 860-225-4681, Ext. 285

North Haven Cooperative Extension Center
305 Skiff Street
North Haven, CT 06473-4451
Tel: 203-789-7865

Norwich Cooperative Extension Center
562 New London Turnpike
Norwich, CT 06360-6599
Tel: 860-887-1608

Torrington Cooperative Extension Center
1304 Winsted Road
Torrington, CT 06790-2940
Tel: 860-626-6240

Vernon Cooperative Extension Center
24 Hyde Avenue
Vernon, CT 06066-4599
Tel: 860-875-3331

West Hartford Cooperative Extension Center
West Hartford Campus
University of Connecticut
1800 Asylum Avenue
West Hartford, CT 06117-2600
Tel: 860-570-9011/9012

State Administrative Office
Cooperative Extension System
College of Agriculture and Natural Resources
University of Connecticut
1376 Storrs Road, Storrs, CT 06269-4036
Tel: 860-486-6271

**THE DEPARTMENT OF ENVIRONMENTAL
PROTECTION (DEP) DIVISION OF FORESTRY**

Larry Rousseau
DEP Western District HQ
230 Plymouth Road
Harwinton, CT 06791
Tel: 860-485-0226

Rob Rocks
DEP Eastern District HQ
209 Hebron Avenue
Marlborough, CT 06447
Tel: 860-295-9523

Dick Raymond
Goodwin Conservation Center
23 Potter Road
North Windham, CT 06256
Tel: 860-455-0699