

# LTLT STEWARDSHIP NOTES

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Welcome to the inaugural issue of *LTLT Stewardship Notes*, a companion publication to the Land Trust for the Little Tennessee's annual newsletter, *The Land Steward*. *LTLT Stewardship Notes* is designed for landowners with conservation easements, LTLT stewardship volunteers, and others interested in on-the-ground land stewardship in the Southern Appalachian mountains. Our intent is to provide useful information and advice for healthy and safe land stewardship.



## THE FORESTS OF THE SOUTHERN APPALACHIANS: PAST, PRESENT, AND FUTURE

By Rob Lamb  
Executive Director  
Forest Stewards, Western Carolina University

Despite the bountiful beauty, majesty, and wildness of the southern Appalachian forests today, most of our forests have only begun to develop after over a century of neglect and abuse. The once dominant American chestnut has been eliminated from the forest overstory by a non-native blight; many soils have been eroded and depleted from land clearing and farming on our steep mountain slopes; and large-scale clear-cutting and high-grading have produced forests that lack much of their original value and diversity. Arguably, even Smoky the Bear has had a negative impact. A growing consensus among natural historians suggests that Native Americans used fire for centuries which in turn enhanced nut crops, wildlife populations, diversity and forest health. Forest managers throughout the region are now attempting to restore fire to the landscape for these reasons.

This past has led to a forest that is diminished in diversity. Many cove forests that were clear-cut 50-100 years ago now exist as pure stands of even-aged yellow poplar trees. An old growth cove forest such as is found in Joyce Kilmer Me-

morial Forest may have upwards of 20 tree species on one acre. Forest health has also diminished for three reasons. First, less diverse forests are less resilient to insect and disease outbreaks.

A prime example of this is the southern pine beetle which has cost millions by wiping loblolly pine plantations across the southeast. In

natural forests in which loblolly pine is an occasional rather than dominant tree, this beetle has little impact.

Second, our even-aged forests have trees that are stagnating in growth. Like a garden that needs to be thinned, trees grow rapidly until competition limits the resources available for growth. Slowed growth is documented in tree rings which show that in the past 10-20 years, growth of many of our overstory trees has slowed dramatically. Slowed growth indicates decreased overall health, making a tree more vulnerable to disease. Third, resilience of a forest is enhanced by having trees of multiple size and age classes, since some forest disturbances, such as hurricanes, disproportionately impact larger trees. A multi-aged forest allows dominant trees to be rapidly

replaced after such a disturbance.

A diverse and healthy forest provides benefits beyond the trees. Many of our threatened bird species, the Canada and golden winged warbler, and the yellow bellied sapsucker, thrive in forests that are multi-aged. In addition, structurally diverse forests allow more light to reach the

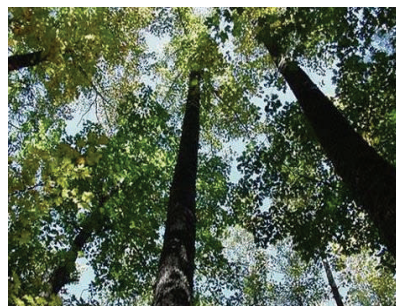
understory which enhances herbaceous communities. These characteristics are frequently cited by biologists as the benefits of "old-growth" forests in com-

parison to the younger forests that dominate the southern Appalachians today

Forest health is not only a concern for today, but even more for tomorrow. Unregulated development, forest fragmentation, air-pollution, acid rain, global warming, and the introduction of invasive-exotic pests will continue to pose serious threats. The question is, in the face of these threats how should we be responsible stewards?

In response to negligence and abuse from forest industry, and even the U.S. Forest Service, environmentalists for years have advocated a wilderness

(Continued on page 2)





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## THE FORESTS OF THE SOUTHERN APPALACHIANS (CONT.)

(Continued from page 1)

approach, as stated in the 1964 Wilderness Act where the "community of life is untrammelled by man, where man himself is a visitor who does not remain." The philosophy underlying this approach is based on an ecological concept called the "climax community." To oversimplify, forests were thought to develop following a disturbance until ultimately reaching a "climax" state in which ecological balance for all species were met. In the past twenty years ecologists have debunked this way of viewing the forest in favor of "disturbance ecology" which views ecosystems as dynamic and ever-changing in response to biological and climatic events. Despite this new understanding, most of the general public still resides in the philosophy that Mother Nature knows best and will reach some state of perfection if we just could stay out of her way. In reality, disturbance and constant change is Mother Nature's version of perfection, and she can be quite abusive of her children, especially considering the way we have treated her.

While the wilderness approach certainly plays an important role, particularly in large roadless areas where people can go to experience solitude away from signs of modern life, we should also consider active ways that we can be good stewards of our forests. Forest management techniques such as crown-thinning enhance health and growth for dominant canopy trees by reducing competition. Patch harvesting mimics natural disturbance patterns and enhances structural diversity by naturally regenerating young trees amidst the older ones. These techniques provide forests with qualities more commonly found in "old growth" than even-aged forests while also frequently enhancing aesthetics.

Another consideration in the future of our forests is the demand for wood products in the global economy. Because no human or ecological community lives in isolation, how we manage our forests has ripple effects through the interconnected web of life that

spans the earth. As exemplified by the luxury housing developments popping up throughout our region, the demand for wood products is growing. Unfortunately, the good intentions of environmentalists to reduce timber harvesting in their back yard has sometimes amounted to environmental imperialism. For example, when timber harvesting was shut down on national forests in Oregon and Washington in the 1990's, the burden of timber producing shifted to the virgin forests of eastern Russia, Canada, and to here in the southeastern United States. Likewise, decreased supplies of Appalachian hardwoods have led to greater demand for tropical woods, often obtained from illegal logging. Decline of some of our migrant songbirds is the result of forest habitat loss in the



tropics. Supporting a wood products industry that demands good stewardship can benefit our forests and economy and those abroad.

At Forest Stewards, a non-profit based out of Western Carolina University, we believe that

there is a way to actively steward our forests to speed restoration from past abuses while making our woods more resistant and resilient to the new and ever-changing threats they will face. We do this by providing services to landowners

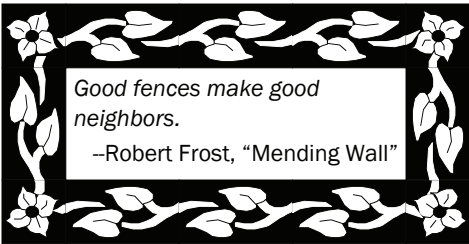
that aspire to have a diverse and healthy forest. We also achieve these goals with a proactive program of education, demonstration, and research in sustainable forest management while providing internship opportunities to students entering the forestry profession. Lastly, we are developing a "from our forest to theirs" program that puts a portion of our money raised towards organizations focused on reducing illegal logging and promoting good forestry in the tropics. Responsible stewardship is not just important for our forests, but also for our planet and for future generations.

For further information on Forest Stewards, visit: <http://foreststewards.net/>



# Determining and Maintaining Boundary Lines

By Dennis Desmond, LTLT Land Stewardship Director



As the person responsible for the annual monitoring of LTLT’s conservation easements, I’ve found that clearly marked property and easement boundary lines make my job a lot easier. Besides minimizing the potential for conservation easement violations, well-maintained boundary lines also offer many other benefits to the landowner. These include:

- avoiding accidental encroachment on adjoining land when conducting timber sales and other land management activities;
- ease in verifying boundaries when transferring or subdividing property;
- aiding in compliance with covenants, deed restrictions, right-of-way easements, and conservation easements that may be in place on the property;
- minimizing unwanted trespass and poaching;
- protecting against encroachment, timber theft, and loss of land due to adverse possession; and
- minimizing landowner liability in the case of invited and uninvited users.

## Determining Boundary Lines

Though marking and maintaining boundary lines may sound daunting, the process is really quite straight-forward. The most efficient way to determine and maintain boundary lines is to start after a recent survey has been completed. If the surveyor has

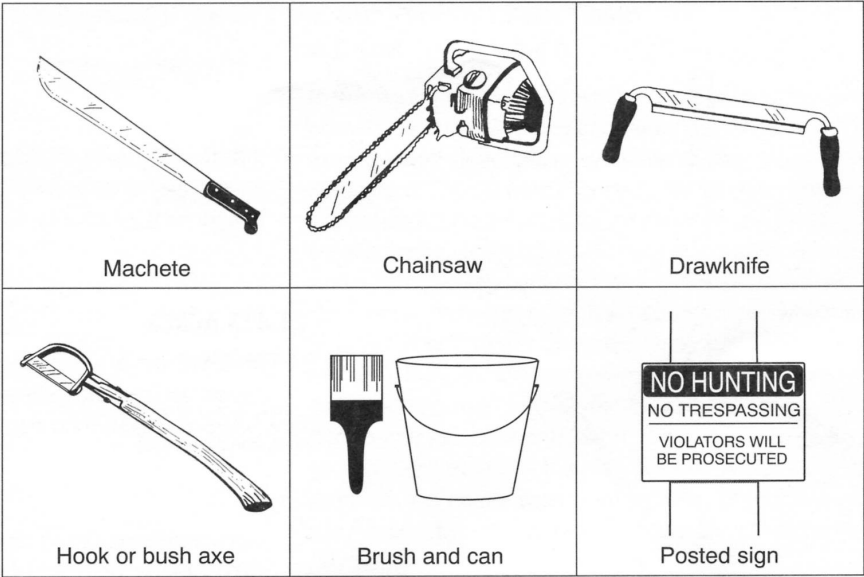
already marked the boundary lines, you have it made. Often, however, the cost of the survey only covers the location of corners—locating and marking boundary lines can be an added expense.

One cautionary note for do-it-yourselfers: while any landowner or natural resources consultant may establish a property line, they should do so with the understanding that they become responsible, and thus, liable for damages due to any erroneous location. If there is any doubt or any dispute about boundaries between neighbors or others with a legal interest in the property, a professional survey is the only choice. (Note: North Carolina state law prohibits the obliteration or movement of property corners even when the landowner believes it is incorrectly placed.). It is recommended that the do-it-yourselfer should only mark trees along the lines with paint or signs, not with hack marks.

In the absence of a recent survey, the location of property corners, and the distance and bearings between corners, can be obtained from a deed

description, and possibly a recorded survey drawing, available at the office of the county Register of Deeds. Deed descriptions and survey drawings should allow for an approximate location of most corners. Then, with the use of a compass, a helper, and a fiberglass tape, boundary corner and line locations can be identified on the property. It is advised that these locations first be temporarily marked with plastic flagging.

Land surveyors often monument major corners with iron pipe or rebar set into the ground. A marked tree, a mound of stones, or a wooden or metal fence post may also be used to monument corners. During a survey, land surveyors routinely “brush” or clear boundary lines. Typically, a swath is cleared with a machete or chainsaw to allow for clear sight lines between survey points or stations. During the “brushing”, trees along the line are often given 1 to 3 slash marks. If the surveyor marked the boundary lines, blazes and hacks may also have been established on trees. A blaze is made by shaving off, at breast height or at eye



Tools for Maintaining Boundary Lines



level, a strip of outer bark, taking care not to cut into the cambium tissue of the tree. A hack is a single horizontal cut made with the bit of a sharp ax, going through the bark at about 45 to 70 degrees from horizontal so the cut surface remains visible. The number, type, and location of these marks on the trees will vary depending on the location of the tree relative to the corners and lines (see next section).

### Maintaining Boundary Lines

Maintaining boundary lines involves:

- Maintaining corner monuments by cutting away brush and dead limbs around the monument, and painting the monument itself. Also, repaint pointers (also called “witness” trees) to the monuments.
- Cutting away limbs or brush that hide existing tree blazes from view.
- (Re)painting blazes. Here’s how:
  - \* Paint centerline (located on the property line) trees with a 2” x 6” vertical mark at the two points that
  - the tree intersects the boundary line.
  - \* Paint interior (landowner’s side) trees within 10’ (preferably closer) of the property line with a single 3” to 4” wide band facing the property line. (Only paint the half of the tree facing the line.)
  - \* Paint interior trees indicating a directional change with a double 3” to 4” wide band painted on the side of the tree to which the property line changes direction.
  - \* Paint corner trees located within 5’ of the corner with a triple 3” to 4” wide band on the side of the tree directly facing the corner stake or post.

If there is no existing blaze or hack mark, trees should be prepared for painting. A drawknife or machete is used to scrape a smooth 5” to 6” band in the outer bark at roughly eye level. Working in two-person crews, the scraper can quickly prepare each tree for the painter following directly behind.

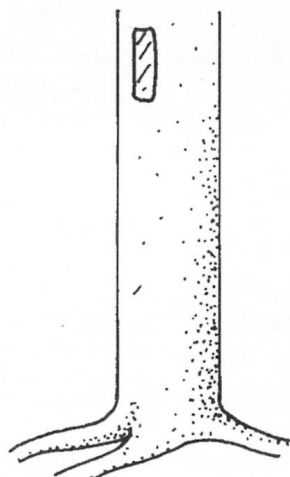
Always use an exterior oil-based paint for maximum durability. Caution is advised, as chemicals used in the production of oil-based paint can threaten human health and the health of the natural environment if handled or disposed of improperly. Specially prepared boundary paint, which has a field-tested durability of 10 years or more and have an added solvent that allow cold-weather application, are available in highly visible colors (white, yellow, orange, red, and blue). One mile of boundary line typically requires one gallon of paint.

### References

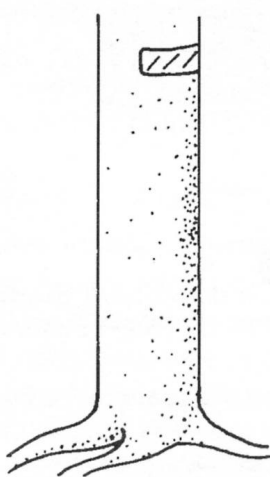
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Kays, J.S. and R.L. Tjaden. 1999. How to Determine Your Property Boundaries. Fact Sheet 619, Maryland Cooperative Extension. [www.agnr.umd.edu/MCE/Publications/PDFs/FS619.pdf](http://www.agnr.umd.edu/MCE/Publications/PDFs/FS619.pdf)

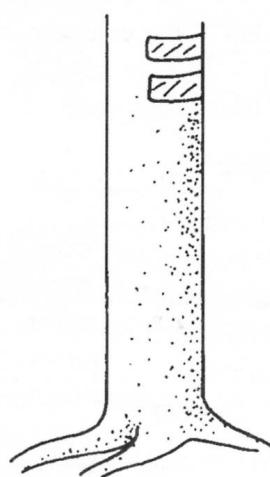
Vermont Family Forests. No date. Painting Your Property Boundaries. [www.familyforests.org/ecoforestry/](http://www.familyforests.org/ecoforestry/)



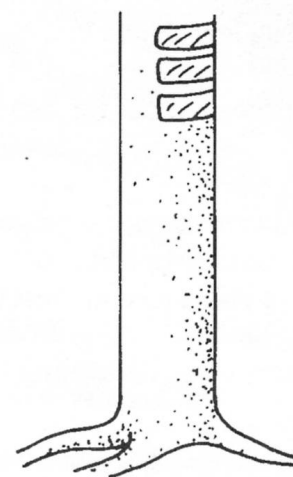
**Centerline trees** are painted with a 2” x 6” vertical mark at the point that the tree intersects the property line.



**Interior line trees** receive a single 3”- to 4”-wide band facing the property line. (Only paint the half of the tree facing the line.)



Trees indicating a **directional change** receive a double 3”- to 4”-wide band painted on the side of the tree to which the property line changes direction.



**Corner trees** located within 5’ of the corner receive a triple 2”-wide band on the side of the tree directly facing the corner stake or post.

## Boundary Sign Posting Protocol

By Dennis Desmond, LTLT Land Stewardship Manager

To help ensure the integrity of its fee simple and conservation easement properties, LTLT prefers that the property lines be walkable (cleared of obstructions), well marked with paint and blazes, and posted with signs. The following describes LTLT's protocols for boundary sign posting.

LTLT currently uses aluminum signs (from Voss Signs, LLC) with the following specifications: gauge: .012; size: 3.75" x 3.75". For fee simple properties, the background color is yellow, with a black print. For conservation easement properties, the background color is orange, with a black print.

1. Signs should be posted along the boundary at least every 200 feet, more frequently if the boundary line is not obvious, well-maintained, or well-marked with paint or blazes. Signs should be posted at property entrance points,

such as roads and trails, at stream crossings (within 10' and above high water), at ridge tops, and at each major corner. Boundary lines with public lands (e.g., national forest, national park, state game) are usually well maintained and marked, and are at less risk of physical encroachment, so therefore may not need LTLT signage. For human safety reasons, extremely steep slopes do not need to be posted.

2. Signs are generally placed about 5-6 feet high on a tree facing outward from the property on, or slightly within (< 3'), the boundary line. The tree should be alive and healthy (with a good crown). Wooden or metal fence posts may also be used.

3. Signs shall be attached with 2 aluminum nails. (Aluminum nails will not rust, and will not damage a saw if they are accidentally cut. LTLT currently uses 2 1/4" aluminum nails made by Nichols,

ordered from Forestry Suppliers). The nails shall be left protruding at least 1" on trees to allow for tree growth. The nails shall be bent slightly to ensure that the signs are held tight against the tree. Signs shall be attached to metal posts with aluminum bolts and nuts, 2 per sign.



*LTLT Conservation Easement  
Boundary Sign*

### TIPS FOR WORKING OUTDOORS: #1

#### SKUNKED?

##### Hold the Tomato Sauce

Here's a good recipe for eliminating skunk odor. The recipe was devised by chemist Paul Krebaum.

##### Krebaum's Skunk Odor

##### Removal Solution

1 quart 3 % hydrogen peroxide  
1/4 cup baking soda  
1-2 teaspoons liquid dish-washing soap

Using a two-quart bowl and spoon, dissolve the baking soda in the peroxide. Add the soap, mix, and pour into a spray bottle. Liberally apply the mixture to your pet's fur, avoiding the eyes, nose, and mouth, and rub it in well. Wait fifteen minutes and then completely rinse the animal with water. One treatment is usually satisfactory. This rinse will also safely deodorize your car as well as afflicted people.

Discard the leftover solution immediately after use. Do not seal the mixture in a container or attempt to store it.





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(visit [www.ltl.org](http://www.ltl.org) for more information)

**Stewartia Hike**

**Friday, June 26th**

Take advantage of this special opportunity to learn about the rare Mountain Camelias and to see them in bloom.



**1st Annual  
Local Food Dinner**

**Saturday, July 25th**

**Franklin, 6:00 - 9:00 p.m.**

Join us for a casually elegant evening including a gourmet meal prepared by local chefs from locally produced food.

- Local Wine Tasting
- Music by Tom Quigley
- Gifts from Local Artisans... and more.