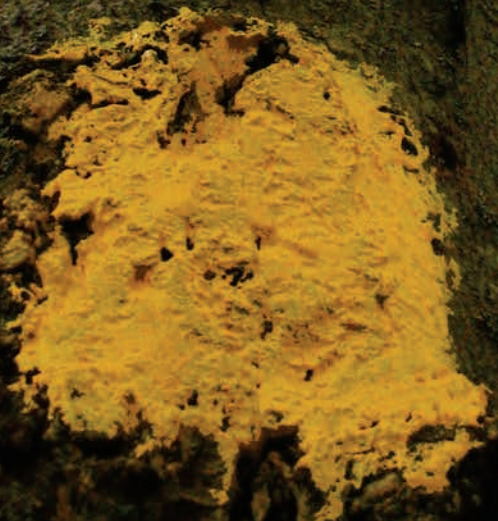


A.T. Corridor

Stewardship Field Book

A Volunteer's Guide to Corridor Monitoring
and Boundary Maintenance

Second Edition



THANKS

To all of the dedicated volunteer Monitor Coordinators, Overseers of Lands, and Corridor Monitors from the 24 Appalachian Trail clubs between southwest Virginia and Maine.

To all current and former ATC Boundary field staff and the Boundary Task Force for their stalwart dedication to helping volunteer Trail maintaining clubs. Their combined efforts have included countless miles of much needed boundary recovery in some of the hardest to access areas along the entire A.T. corridor.

To Karen Lutz, Pam Underhill, Todd Remaley, and Bob Proudman for their longstanding support and belief in the vital importance of both the A.T. Corridor Monitoring and Boundary Maintenance Programs.

Lastly, to everyone - past, present, and future - involved with the land acquisition and protection programs.

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Second Edition

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A.T. Corridor

Stewardship Field Book

*A Volunteer's Guide to Corridor Monitoring
and Boundary Maintenance*

Second Edition



APPALACHIAN TRAIL
CONSERVANCY®

Harpers Ferry, WV

**The primary goal of this revised
*A.T. Corridor Stewardship Field Book***

is to provide Appalachian National Scenic Trail volunteers with basic knowledge for monitoring the A.T. corridor, maintaining its surveyed boundaries, and taking effective and efficient action to address encroachments.

Despite the fact that these tasks often overlap in the field, we have defined these three fields of action separately for the sake of clarity in this book. Corridor stewardship encompasses the three M's:

Monitoring of the corridor,

Maintenance of the boundary, and

Mitigation of encroachment.

Report forms and additional information can be found in the "Toolkit for Trail Clubs" section of the ATC website under "Boundary Resources" at: (<https://appalachiantrail.org/get-involved/volunteer/partner-resources/boundary-program/>)

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Appalachian Trail Protection

NATIONAL TRAILS SYSTEM ACT

In 1968, Congress passed the National Trails System Act, which designated the Appalachian Trail (A.T., Trail) as the first National Scenic Trail. In 1978, amendments to the Act directed the National Park Service (NPS) to begin a program to acquire a permanent, protected corridor of land to buffer the A.T. wherever it did not already pass through federal or state land. With more than 600 miles of the nearly 2,200-mile Trail then located on private property, and the hazardous road-walking situations caused by the 200+ miles of the Trail on public roads and highways, the Act enabled NPS to acquire land interests to secure permanent protection of a continuous route from Georgia to Maine.

COOPERATIVE MANAGEMENT SYSTEM

Since the inception of the Appalachian National Scenic Trail in 1921, the grand undertaking to build, maintain, and manage the Trail has been a cooperative effort involving the local A.T. maintaining clubs, the Appalachian Trail Conservancy (ATC) - formerly the Appalachian Trail Conference, state and federal land management agencies, and others. This cooperative relationship is sanctioned in the *Comprehensive Plan for the Appalachian Trail*. Representatives of each organization work cooperatively to make decisions, plan actions, and manage the resources associated with the A.T. in the best way possible.

FOUNDATIONS OF THE CORRIDOR STEWARDSHIP PROGRAM

In 1984, responsibility for the management of the Trail and the 100,000+ acres of land acquired by NPS to establish a protective corridor was formally delegated to the ATC, and through them, to its member Trail clubs. This remarkable agreement marked the first time NPS had entrusted a private organization with the day-to-day stewardship of such a large and diverse array of national park lands. While the club volunteers have undertaken the majority of the on-the-ground tasks associated with managing the A.T., NPS specifically did not delegate certain responsibilities, including:

- law enforcement
- authority to relocate the overall Trail right-of-way
- compliance with the National Environmental Policy Act (NEPA)
- special-use authorization
- structure utilization and/or removal
- land acquisition on behalf of the USA
- initial surveying of the exterior corridor boundary
- transfers of title or use and occupancy to any corridor lands or interests therein

ROLES AND RESPONSIBILITIES FOR CORRIDOR MANAGEMENT

The Appalachian National Scenic Trail, NPS Office (APPA) retains the ultimate responsibility for ensuring that the corridor lands are being effectively managed and maintained for the long term protection of the Trail and its resources. While the ATC serves as the “guarantor” to NPS that these lands are being properly cared for, the basic responsibility for corridor monitoring rests with the local Trail clubs. By virtue of the Memorandum of Agreement, all local Trail maintaining clubs with NPS-acquired corridor lands, easements, and interests within their respective Trail sections have accepted the basic responsibility of corridor monitoring. Where club capacity exists, corridor maintenance is strongly encouraged. Volunteer corridor

monitors provide an essential role not only as the “eyes and ears” for the Trail, but also as educators who help to inform neighboring landowners and local communities about the A.T. corridor’s purpose and the importance of these protected lands.

WHERE DO WE GO FROM HERE?

From the very onset of the A.T. land protection program, NPS and ATC have acknowledged that proper management of these corridor lands would be a formidable task requiring a great deal of planning, cooperation, and hard work. Effective corridor stewardship is a critically important task that demands and deserves a great deal of attention from all levels of A.T. management. The aggressive NPS land acquisition program that benefited the A.T. , as well as the subsequent surveying and marking of its exterior corridor boundaries, were only the beginning. Fading blazes and overgrown boundaries combined with ongoing threats posed to the Trail corridor by urban sprawl and incompatible land use require a vigorous program of inspection (monitoring), boundary maintenance and repainting, and consistent follow-up to mitigate encroachments and prevent recurrence.

Corridor **Monitoring**





**Corridor monitoring
is the systematic gathering
and reporting of information
about the corridor and
its boundaries through periodic,
on-the-ground inspections.**

MONITORING TASKFORCE, 1983

Despite being a lesser known side of Trail work, it is important for all of those involved with Trail management to recognize that a successfully run corridor monitoring program at the club level provides the primary line of defense in protecting the corridor. Monitoring is the first step in identifying problem areas and planning remedial actions to protect the investment in both the land base and the surveyed boundary line.

With the signing of the “Delegation Agreement” between ATC and NPS in 1984, corridor monitoring became a responsibility of all local Trail clubs having NPS acquired corridor lands within their respective Trail sections. The “Delegation Agreement” was superseded by the “Cooperative Agreement” between ATC and NPS in 2004, most recently signed and updated in 2014.

Local Trail Club Roles

Monitor Coordinator/Overseer of Lands

The monitor coordinator is responsible for designing and implementing the club's corridor monitoring program. These responsibilities include:

- Ensuring to ATC and NPS that the club fulfills its corridor monitoring duties.
- Recruiting and training volunteers to serve as corridor monitors.
- Dividing the club's corridor into reasonably sized monitoring sections.
- Determining the frequency for each section to be monitored.
- Coordinating follow-up on any encroachments or other corridor related problems.
- Preparing and submitting to ATC by January 1 the required annual summary report of corridor monitoring activity for the previous calendar year.

Corridor Monitor

A corridor monitor gathers and reports information about their assigned section of the corridor and its boundaries through periodic, on-the-ground inspections. Their responsibilities include:

- Regularly walking the boundary of their corridor section to ensure a consistent watchful presence in the eyes of both adjacent landowners and the general public.
- Locating monuments, reference trees, and line trees.
- Documenting and reporting to the monitor coordinator the existing boundary conditions, such as faded survey blazes, excessive overgrowth along the boundary, lack of U.S. Boundary signs, missing reference trees, and condition of monuments.
- Documenting and reporting to the monitor coordinator and ATC any signs of inappropriate use, external threats, or other types of corridor misuse along the boundary line as well as within the corridor.

- Providing an accessible point of contact to adjacent landowners who may have questions or concerns about the corridor.
- Working with the local Trail club, ATC, and/or NPS (in more serious trespass situations) to mitigate discovered problems.

The ideal time of year to walk your assigned corridor section may be in late fall, winter, or early spring due to the increased visibility during leaf-off season. Most sections should be monitored at least once a year. However, known problem areas should be monitored more frequently due to the increased likelihood of misuse. Examples of problem areas include easy access points (old roads, utility rights-of-way, etc.) and locations with a history of past encroachment problems. At the discretion of the monitor coordinator, certain corridor sections (e.g., extremely remote or hard to access areas) may be monitored less often. As a general rule, the more potential there is for problems, the more frequently a section should be monitored.

Corridor Basics

Maps

Segment Maps

- Provide a graphic representation of the shape, size, and location of the corridor with respect to the surrounding landscape.
- Depict the corridor overlaid onto a scan of enlarged United States Geological Survey (USGS) quad maps, providing many of the same features including topography, major roads, waterways, and other significant physical features.
- Have individual, three-digit numbers, beginning at 101 in Maine and increasing from north to south (See Appendix).
- Drafted at a scale of 1 inch = 600 feet (with the exception of Maine: 1 inch = 2,000 feet).
- Refer to the "Segment Map Symbol Key" (Appendix).
- Include individual tract boundaries, tract numbers, deed numbers, woods roads, shelters, and some information about adjacent properties.
- Displays tract ownership as "fee" or "less than fee."

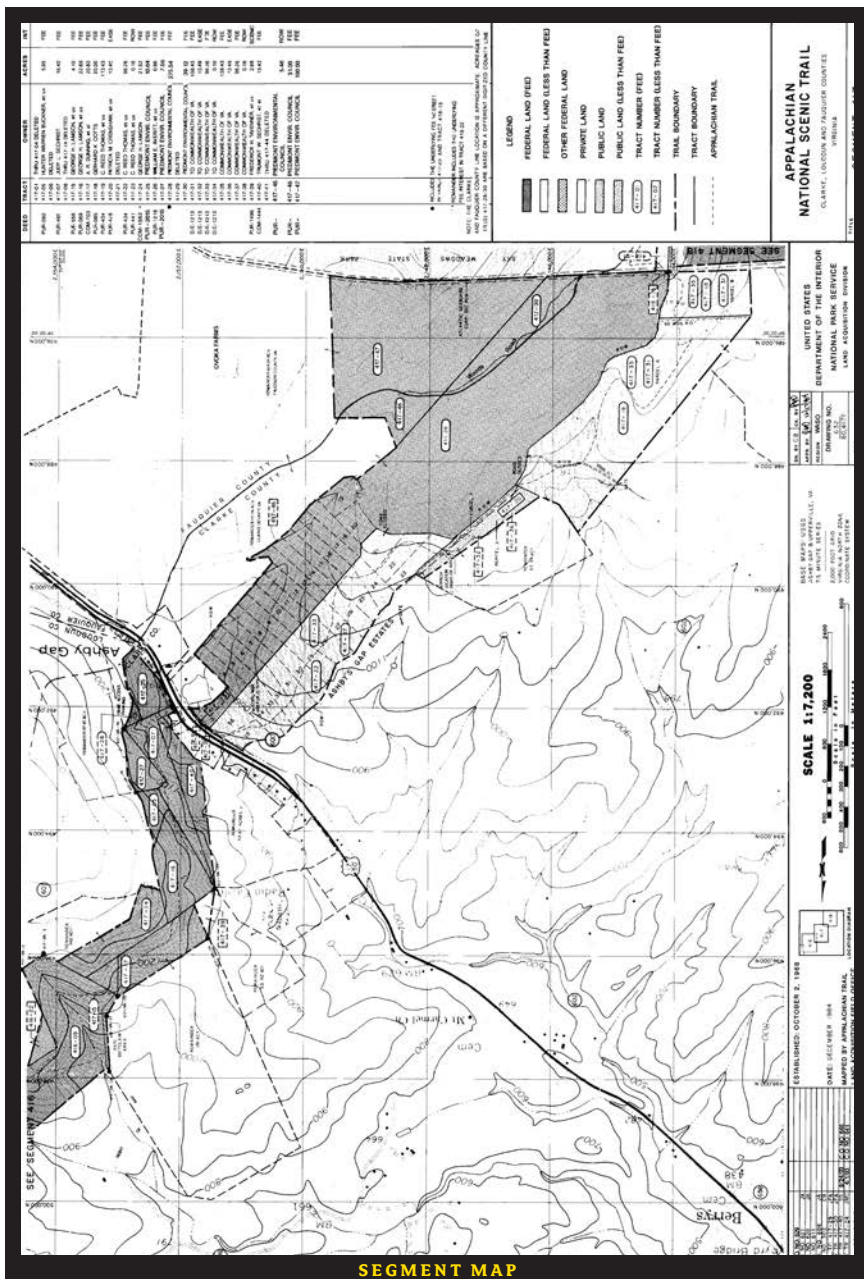
THINGS TO REMEMBER

Segment maps are intended for general reference only. They are NOT to be used in lieu of the more detailed boundary survey map Exterior Corridor Boundary Survey (ECBS).

North will not always be oriented to the top of the map.

Tract ownership information is only current to the time of acquisition (i.e., parcel data could now be 30+ years old both in terms of current ownership and subdivision of remainder parcels).

Some monument numbers are listed, but not all.



Exterior Corridor Boundary Survey (ECBS) Maps

- Precise boundary maps drafted by registered land surveyors.
- Provide a much higher level of detail than segment maps (most drawn at a scale of 1 inch = 300 feet).
- Contain the bearings and distances between monuments, monument numbers, adjacent lot lines, intersecting roads, and nearby structures.

THINGS TO REMEMBER

The bearings on almost all ECBS maps are labeled in a clockwise direction. If walking the boundary in a counter-clockwise direction, the bearings should be reversed.

North will not always be oriented to the top of the map.

The segment maps predate the ECBS maps. Therefore, it is possible that a segment map's depiction of the corridor may differ somewhat from that of the corresponding ECBS map. The shape of the corridor on the segment maps was drawn from deed descriptions, whereas the ECBS maps are based on precise field measurements by registered land surveyors.

Check for any "Notes" provided by the surveyors on your ECBS maps.

Both the segment map and the ECBS maps are required in the field.

An Appalachian Trail map is a useful resource.

TIP: Too many lines on your map? Try using a highlighter on all ECBS lines you will be monitoring.

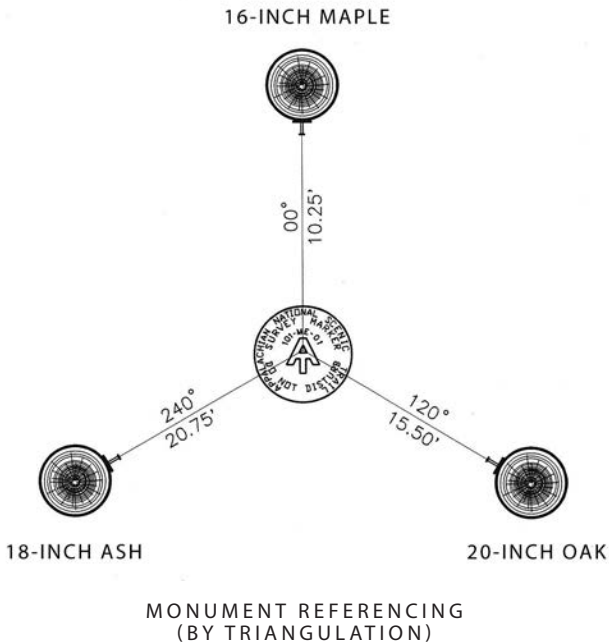
NOTE: If a corridor monitor is having difficulty following, reading, or understanding segment maps, ECBS maps, or reference sheets, he or she should arrange to walk the section with the club's monitor coordinator or ATC corridor stewardship staff.

Monument Reference Sheets

Note: The terms “reference” and “witness” are synonymous as used in corridor stewardship.

Monument reference sheets accompany all ECBS map sets. Individual reference diagrams provide detailed information about:

- Monument locations.
- Type of monument (e.g., “A-1-SB” or “RT-1”).
- The angle and distance FROM the monument TO at least three reference points. (This angle is provided in azimuth bearing with no declination).
- Reference points can be trees, rocks, or permanent nearby objects (telephone poles, guardrails, PK nails, etc.)



Monuments

Monuments are located at every change in direction along the boundary line and on boundary lines of great length (1,000+ feet) at approximately every 500 feet (except in Maine where they are located approximately every 1,000 feet).

Standard Monuments

- Commonly referenced on ECBS maps as A-1-SB.
- Mounted on a 3-inch aluminum pipe with a flared base to prevent theft.
- Magnet located in cap to aid in recovery of buried monuments.
- Top of A.T. symbol should point north.

Rock Tablets

- Commonly referenced on ECBS maps as RT-1.
- Mounted with epoxy to rock faces.
- Magnet located in cap to aid in recovery of buried monuments.
- Top of A.T. symbol should point north.

Other Types of Monuments

- Iron pipes or pins (rebar)
- Concrete monument
- Railroad rail or tie
- "X" chiseled into rock
- Tree
- Planted stone or stone pile
- PK nail
- Fence posts
- Railroad spike



STANDARD MONUMENT



RAILROAD RAIL



ROCK TABLET



MONUMENT IN WALL

Monument Labeling

Each monument is stamped with a unique number to pinpoint its exact location on the boundary. Some monuments include the year the survey was performed.

Monument Numbering

- On boundary lines of great length (i.e., 1,000+ feet), intermediate monuments are placed along the boundary and numbered with a letter after the corner number (except in Maine).

Example: 251-MA-5A

- When new purchases are added to the corridor, an “X” is added after the corner number or a letter is added after the segment number.

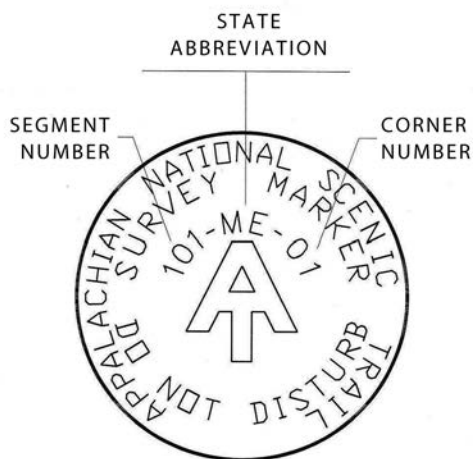
Example: 271-NY-31X is on a new survey line.
The original monument 271-NY-31 is now part
of an internal boundary line.

Example: 163A-NH-14 is on a new survey line.

The original monument 163-NH-14 is now part of an internal
boundary line.

THINGS TO REMEMBER

There is no correlation between the monument number and the individual tract number, except that they are on the same segment map.



MONUMENT LABELING



X-LABELED MONUMENT

Locating Missing or Buried Monuments

- **Rule #1:** Using the distances found on the monument reference diagram, measure from the two closest witness trees to the monument. Cross the tapes at the specified distances and dig into the ground in that exact location. Monuments that have not been located in quite some time can easily be located well below ground level or buried under years of accumulated leaf litter. *NOTE: Short of using a metal detector, this method is the best way to locate a missing monument.*
- **Rule #2:** If a monument was set in a location at high risk for disturbance (at the edge of a road, in a field that is being farmed under a special use permit, along a stream bank, or close to a side trail), it's possible that it no longer exists. Document and report it to the monitor coordinator.
- **Rule #3:** Always apply Rule #1 wherever possible before reporting a monument as missing to the monitor coordinator and ATC.
- When trying to locate a monument, be sure to note whether it is a standard monument, a rock tablet, or other type of monument.
- If a corridor section has gone without monitoring for a significant amount of time, monuments are often much more difficult to find.
- When looking for a monument, orient the monument reference diagram in comparison to the reference points (especially helpful, for example, when more than one reference point is a 14-inch oak).

WHAT TO DOCUMENT AND REPORT

Existing condition (i.e., *good, damaged, not found, missing*, and what was done to locate a monument that remains unfound).

A monument's condition is changed from *not found* to *missing* only after an exhaustive search has been made. This includes triangulating from all available reference points, digging out the area, and when available, using a metal detector. If the monument is known to have been removed, i.e. by landslide or snowplow, it can be recorded as *missing*.



CROSSED TAPES



PLOWED MONUMENT



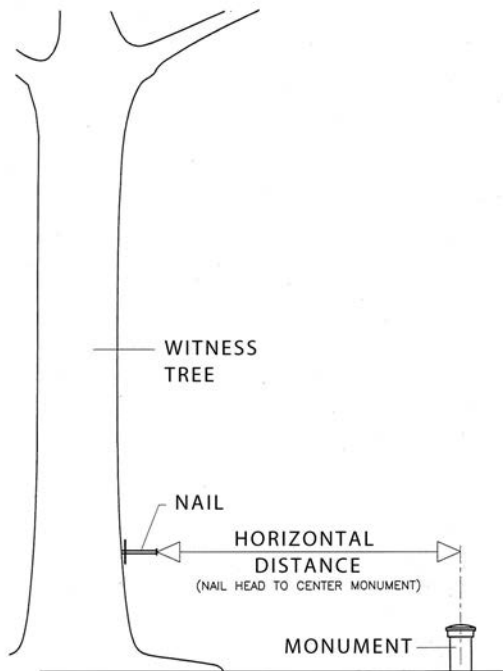
CHEWED CAP



MOWER HIT MONUMENT

Reference Tree Blazing

- In general, reference trees at corner monuments (where the boundary changes direction) are triple blazed.
- Reference trees at intermediate monuments are single blazed.
- Ideally, reference trees for both corner and intermediate monuments will be ax-blazed low to the ground (below knee level) compared to boundary line blazes, which should be at eye level.
- Reference blazes should face towards the monument.
- Distance measurements on the reference diagrams are from the nail head to the center of the monument.



REFERENCE TREE DIAGRAM

THINGS TO REMEMBER

The monuments are not always located exactly in the middle of the reference points.

Reference points may not always be located within the corridor.

If monitoring with an older ECBS map, it is likely that the nail and/or washer are no longer visible.

WHAT TO DOCUMENT AND REPORT

Paint conditions (good, fading, unrecognizable).

The number of references that still exist (3, 2, 1, 0).



CORNER MONUMENT



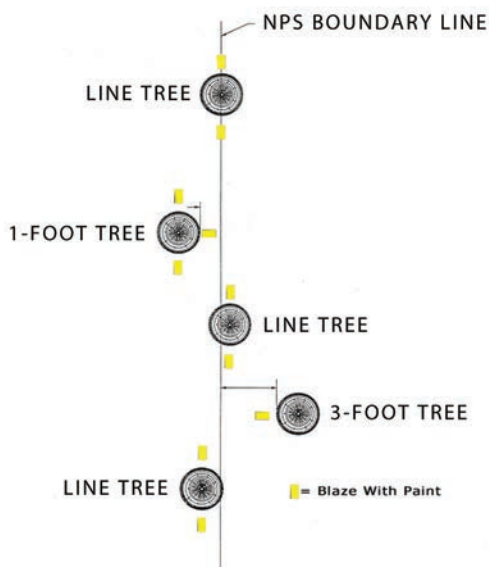
INTERMEDIATE LINE PAINTED

Boundary Line Blazing (or Line Blazing)

- This term refers to boundary trees that have been marked with paint only, or ax-blazed and painted by a registered land surveyor.
- Boundary trees can be line trees (also know as on-line trees), 1-foot trees, or 3-foot trees.
- Boundary line blazes should be approximately 3 inches wide and 6 inches high.
- In general, boundary blazes should be approximately 5 feet above the ground.

WHAT TO DOCUMENT AND REPORT

Paint conditions (good, fading, unrecognizable).



LINE TREE—Trees located *on* the boundary line require a single blaze with paint on each side of the tree facing the direction of the line.

1-FOOT TREE—Trees within 1 foot of the boundary line are painted the same as 'line trees' with an additional blaze facing toward the boundary line.

3-FOOT TREE—Trees within 3 feet of the boundary line require a single blaze with paint facing the boundary line.

BLAZING AND PAINTING

U.S. Boundary Signs

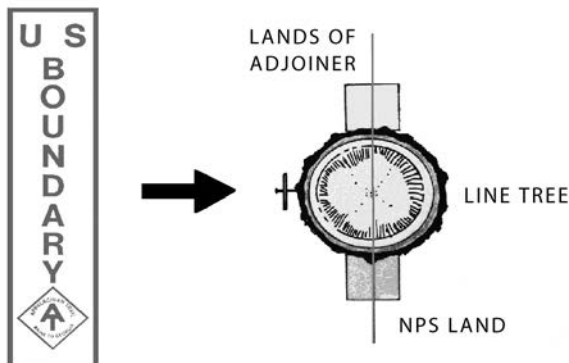
- During the initial boundary survey work, U.S. Boundary signs were placed along the boundary approximately every 300 feet, at every monument, and where woods roads or unofficial trails cross the boundary.
- Boundary signs are affixed to trees on the NPS side of the line facing the adjacent landowner.

“U.S. Boundary” implies to neighbors that the sign is on the boundary line. The signs are what an adjoining neighbor is going to notice as opposed to the monuments and witness trees, which are less noticeable.

WHAT TO DOCUMENT AND REPORT

Condition (good, damaged, missing).

Frequency (good or insufficient).



BOUNDARY SIGN PLACEMENT

Surveying 101

Bearing Angles

Quadrant Bearings

- All ECBS maps are labeled with quadrant bearings to indicate the direction of the boundary.
- Bearings are read in terms of their degrees of deviation from north or south toward the east or west.
- The 360° of a circle are divided into four quadrants of 90° each, delineated by the primary compass direction.
- North and south are both labeled 0°, rather than 0° and 180°.

Examples: N 45-26-58 E
 S 13-09-26 W

THINGS TO REMEMBER

When navigating bearings in the field, corridor monitors will deal only in degrees, ignoring minutes and seconds.

Azimuth Bearings

- An azimuth bearing is an angle read simply in terms of degree between 0° and 360° and is measured in a clockwise direction from north.
- The only use of azimuth bearings will be on monument reference diagrams.

Chord Bearings

- A chord bearing is a bearing and distance from the beginning point of a curve to the point of tangent.
- Curve data includes angle, radius, and arc length.
- The most frequent occurrence on ECBS maps is along a shared boundary with adjacent road edge.
- They also occur along shared boundaries with streams and railroad tracks.

Note: It is unlikely that there will be any line blazing along a chord bearing.

Distances

- All ECBS maps are drafted by the surveyors in “engineers scale,” meaning distances are measured in tenths as opposed to inches.

Example: 350.5 feet = 350 feet 6 inches



PROFESSIONAL LAND SURVEYOR (PLS) AT WORK

Corridor Monitor's Guide to "North"

"True north" is the map direction toward the geographical North Pole. "Magnetic north" is the compass direction toward the Magnetic North Pole.

State Plane Coordinate System

The state plane coordinate system was used for the majority of the ECBS survey mapping. This system is based on a grid which is laid out over the entire state. The grid line in the center of the state is oriented to true north. This means as someone moves away from the centerline, grid north will vary slightly from true north due to the earth's curvature.

Magnetic Declination

- Magnetic declination is the difference in the angle between true north and magnetic north.
- All ECBS maps are based on either true north or the appropriate state plane coordinate system. Therefore, magnetic declination is essential to navigating along the boundary line with a hand-held compass.
- Magnetic declination changes over time and needs to be compensated for by using the latest declination adjustment. The declination listed on the original ECBS map only applies at the time of the survey. Go to the online National Geophysical Data Center declination calculator to calculate the latest declination adjustment.

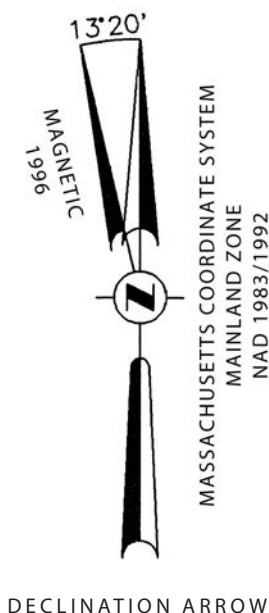
THINGS TO REMEMBER

When additional corridor lands are acquired and mapped, the magnetic declination for the newer era survey will always be the same as that of the previous ECBS map. As a basic guide, refer to the U.S. Magnetic Declination Map.

Monitors should consider purchasing a compass that provides for setting magnetic declination on the compass base-plate, allowing quick map-to-field- and field-to-map-readings. Also be sure the compass is scaled in four 0–90° quadrants; not 0–360°.

Places to Find the ECBS Map Declination Adjustment

- “General Notes” section provided by the surveyor.
- The ECBS map legend.
- Incorporated into the map’s north arrow (below).
- Use the National Geophysical Data Center website calculator to determine the current declination adjustment needed for a specific monitoring area by entering the local zip code (www.ngdc.noaa.gov/geomag/declination.shtml).



A Walk on the Wild Side

Walk the Boundary Line

- After locating the starting monument, use compass and map bearings to navigate along the boundary from monument to monument.
- Document and report boundary line blaze conditions (good, fading, unrecognizable).
- Ensure signs are posted at each monument and about every 300 feet between monuments. Replace signs as needed.

At Each Monument

- Locate the monument and document its existing condition (good, damaged, not found, missing).
- Locate the reference points. Document and report paint conditions and the number of references which still exist (for example, 3, 2, 1, 0)
- If the monument is damaged, it is good to take a digital photograph in order to facilitate the necessary ATC/NPS follow-up.
- **Never remove a damaged or loose monument!**
Once a monument is removed from its original location, it can only be reset by a registered land surveyor.

Report Forms to Complete

- A.T. Corridor Stewardship Report Form
- Damaged/Missing Monument Report Form (if appropriate)
- Encroachment Report Form (if appropriate)

Report forms can be found under “Boundary Resources” in the “Toolkit for Trail Clubs” section of the ATC website at: (<http://www.appalachiantrail.org/home/volunteer/toolkit-for-trail-clubs/boundary-resources>).

THINGS TO REMEMBER

An A.T. Corridor Stewardship Report Form **MUST** be filled out for every monitoring activity a corridor monitor performs.

Reporting on monitoring or maintenance activities is as important as the actual work itself. Prompt and thorough reporting creates a permanent stewardship history for each parcel of the corridor and enables management and law enforcement responses when necessary.

While walking the corridor, wear bright colored clothing to make yourself visible to hunters and others. A bright orange vest looks official and suspicious neighbors will know you are not trying to hide. Always try to introduce yourself to neighbors and explain what you are doing.



TAKING NOTES

Boundary Maintenance





Since 1980, professional land surveyors working under two dozen separate contracts (totaling more than \$9 million) completed the initial Exterior Corridor Boundary Survey (ECBS) of the A.T. If not maintained and painted periodically, the original boundary markings are susceptible to the elements, overgrown vegetation, encroachments by Trail neighbors, and other threats. A well-maintained boundary discourages encroachments and misuse of A.T. corridor lands, ultimately protecting the Trail estate. It also facilitates efficient and consistent monitoring.

ATC is committed to aiding NPS in maintaining the agency's significant investment in the ECBS. The goal of NPS and ATC is to maintain the ECBS on a rotating schedule approximately every five years. Trail clubs that monitor the corridor are encouraged to take on the responsibility of maintaining the boundaries. Depending on annual priorities, the ATC Corridor Stewardship Crew will schedule visits with clubs to reestablish important sections of their boundaries. Contact your regional ATC office for more information.

New England Regional Office: (802) 281-5890
ME, NH, VT, MA, CT

Mid-Atlantic Regional Office: (717) 258-5771
NY, NJ, PA, MD, WV, Northern VA

Virginia Regional Office: (540) 904-4393
Central and Southwest VA

Boundary Maintenance Guidelines

- Using the compass as described in “Surveying 101,” first clear the monuments, reference-tree blazes, and the boundary. Unless the section is remote, avoid clearing on adjoining neighbors’ lands.
- If necessary, surveyor’s tape can be used to flag the boundary in preparation for clearing and painting. Once the boundary has been cleared and repainted, remove all tape.
- Clear enough vegetation to create a line of sight along the boundary line between paint blazes, but not so much that you create a trail. Vegetation may be cleared within 3 feet of either side of the line and up to 8 feet high.
- Only refresh preexisting, ax-blazed, paint marks from the original survey by painting an approximate, rectangular, 3-by-6-inch yellow blaze over the older blaze. Some surveyors did not ax-blaze; in those cases, paint over the entire old blaze. NPS’ survey specifications call for blazes and boundary signs to be five feet above the ground. Signs can be higher.
- Only ATC-supplied yellow tree-marking paint (BarkMark™ Yellow from NCP Coatings, Inc.) should be used. Contact your ATC regional office to obtain this paint.
- Shake the paint well, and apply with an inexpensive 1-inch brush. Keep your brush fresh for the day by placing in a plastic bag. Follow the requirements of the Material Safety Data Sheet (MSDS) on the original NCP paint can. Use a funnel to transfer the paint from the can to smaller containers. Wide-mouthed containers are suitable on level terrain; use a squeeze-top plastic bottle when traversing rugged terrain to prevent spillage. Avoid spills and drips around streams, wetlands and highly sensitive areas.
- Where the boundary runs along a neighbor’s yard, use care to make neat blazes.
- Do NOT, under any circumstances, create new blazes. U.S. Boundary signs can be posted along the line where blazes are necessary but absent.

If you need assistance with reestablishing the boundary due to dead trees, a stretch where there were no line trees when the survey was done, or where there is extreme overgrowth along the boundary, consult with your club’s Corridor Monitor Coordinator to obtain assistance.



FADED BLAZE BEFORE



BLAZE AFTER



FADED LINE BEFORE



LINE AFTER

THINGS TO REMEMBER

Before heading out to the field, make sure that the corridor boundaries shown on the segment maps match up with the ECBS maps. In some areas it may be necessary to check earlier editions of ECBS maps, due to subsequent land acquisitions and surveys, or errors in the original boundary survey work. Contact your ATC regional office if in doubt.

Check your bearings—don't just repaint every tree that previously had yellow paint.

Surveyors make mistakes too; if the blaze is more than three feet from the line, it should not be repainted. Report these instances to the club's monitor coordinator.

Adjoining neighbors often paint their property lines in yellow as well. If you're repainting the trees that have old yellow paint without checking your bearing, you could paint the wrong property line.

An old exterior boundary may now be an interior line, due to a later land acquisition to the corridor.

Reinstalling Boundary Signs

Come equipped with U.S. Boundary signs (available from your ATC regional office) and 12-to-16d galvanized nails, or aluminum nails.

- Boundary signs imply to neighbors that the sign is on the line. Surveyors often put boundary signs on trees 15 to 20 feet inside the corridor. When replacing an old sign, you do not need to put it on the same tree—ATC recommends using 1-foot line trees if available.
- To accommodate tree growth, be sure to leave galvanized nails extending out 1 to 1.5 inches.
- In addition to installing boundary signs at all monuments, ensure that signs are posted every 300 feet along the boundary line and at all access points such as trails or woods roads that intersect the boundary. Boundary signs can also be posted to mark the boundary line where paint blazes are absent.



DAMAGED SIGN



DAMAGED SIGN



BOUNDARY SUPPLIES

Encroachment **Mitigation**





When monitoring does uncover encroachments, the Trail club volunteers, ATC, and partner agencies work cooperatively to address the problems. Encroachments can range from dumping of trash, to off-road-vehicle use and damage, to timber theft, and even to the illegal building of structures on A.T. lands. The strategies used to address a problem will depend on its nature and severity.

Although law enforcement is not a duty of the Trail clubs or of ATC, these A.T. management partners can do much to resolve or mitigate encroachments without resorting to law enforcement and to facilitate and complement law enforcement action when it is required. Most basically, an unreported and undocumented problem is an unresolved problem.

In addition, the ability of the club, ATC, or NPS law enforcement to effectively mitigate encroachments is greatly limited if the club is not actively maintaining and monitoring the boundary. A well-marked and maintained boundary, along with consistent documentation of problems over time, is essential to deterring and resolving problems.

During the land acquisition program, the National Park Service acquired approximately 180 easements. Additionally, in some cases, it allowed deed reservations for private landowners. Those landowners may have retained rights to harvest firewood, practice forestry, or practice agriculture on scenic easements. Monitors must be sensitive to the underlying land ownership and deed information so that legitimate landowner activities on scenic easements and deed reservations are not misinterpreted as encroachments. Some scenic easements may also require “prior notification” to the landowner before inspection by monitors. These “less-than-fee” interests usually show up on segment maps. If in doubt, contact your ATC regional office.

Types of Encroachment Problems

Minor problems

- Dumping of yard waste inside the corridor by adjacent landowners.
- A vehicle parked on the corridor.
- Adjacent landowner extending use into corridor for personal gain.

Suggested follow-up: Volunteers may want to contact Trail neighbors to introduce themselves in their role as corridor monitors and Trail stewards and explain where the boundary line lies. Friendly contact often resolves minor issues.

Moderate problems

- Unauthorized ATV, horse, or mountain bike trail into the corridor.
- Tree stand for hunting built inside the corridor.
- Junked cars or equipment storage inside the corridor.

Required follow-up: Follow horse and ATV trails to gather information on their origin and potential users, brush in trails. If the encroachment is on the A.T. itself, narrow the footpath down to single-person width by dragging brush or cutting blow-downs very narrowly. Hang additional signage (No Hunting, No Motorized Vehicles). Document the encroachment and photograph any mitigation efforts (before and after pictures). Report all this information to the monitor coordinator, who should submit reports to ATC and NPS.

Moderate issues may warrant law-enforcement action by NPS or the local land-managing agency, however, even law enforcement will not be effective without a sustained presence in the field. Volunteers have proven invaluable by gathering information and discouraging further violations through conversations with Trail neighbors, as well as by their presence and actions in the field. Moderate problems are often the most difficult to resolve and may take years of effort by all of the management partners to bring under control.



YARD ENCROACHMENT



ILLEGAL STRUCTURES



ATV USE

Severe problems

- Timber theft.
- Large-scale or hazardous material dumping.
- New road access across corridor.
- Repeating and escalating encroachments.

Required follow-up: Severe problems warrant immediate reports directly to the ATC regional program staff and NPS (304-535-6278), as well as the club's monitor coordinator. These problems usually require law-enforcement investigation and intervention directly from NPS; any delays make investigation and intervention less efficient and less likely to succeed.

Reporting

An unreported problem is an unresolved problem. Reporting ensures that others above and beyond the monitor and monitor coordinator are aware of issues and have the necessary information to respond. Without documentation, managers and law-enforcement personnel are in the dark and cannot make good decisions. Regular reporting also serves to create a picture of the status of an area over time and can be used to judge the effectiveness of maintenance and mitigation work in addressing existing problems. For any type of problem from minor to severe, monitors should fill out an Encroachment Report Form available on the “Boundary Resources” page of the ATC website.

THINGS TO REMEMBER

Thorough documentation is vital for tracking problem areas and mitigating encroachment efforts, whether at the local Trail club level, by ATC, or by NPS.

A separate report form should be filled out for each encroachment found.



ROAD INTO CORRIDOR



CUT FIREWOOD



REPEAT ENCROACHMENT



HAZARDOUS MATERIALS (HAZ-MAT) DUMPING

Appendix

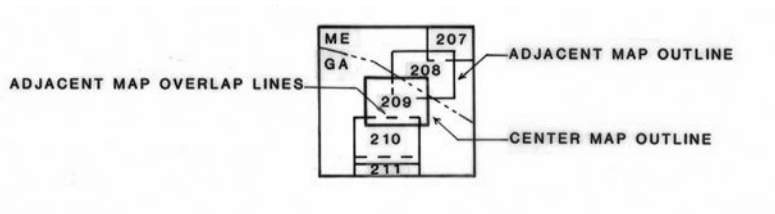
Segment Map Numbers

Maine	101–117
New Hampshire	161–164, 188–199
Vermont	201–233
Massachusetts	235–252
Connecticut	253–256, 260–265, 286–289
New York	266–285
New Jersey	301–318
Pennsylvania	323–362, 367–380, 382–386
Maryland	399–408
West Virginia/Virginia	409–484, 487–527, 530–531, 600

Line Symbolology

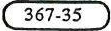



	Corridor Lines
	State Boundary
	County Boundary
	Tract Property Lines
	National/State Forest, Game Lands, etc. Boundaries
	Tract Remainder Lines
	Township, Precinct, Towns, etc., Boundaries
	Trails (A.T., Blue-blazed, etc.)
	Trail Neighbors' Property Lines, Lot and Range Lines

Location Diagram



Tract Labels

(number inside symbol below indicates the individual tract number)




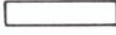

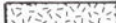
	All Rights Purchased (Fee); Symbol located inside tract
	Fee, symbol located outside tract *
	All Rights Not Purchased (Less than Fee); inside tract
	Less than fee, Outside Tract *

* Used when symbol will not fit within tract. Usually combined with leadlines which aid in tract location/identification. Leadlines used only with outside tract symbols.

Example of leadlines:











Ownership Patterns

	Federal A.T. Land (Fee)
	Federal A.T. Land (Less than Fee)
	Other Federal Lands
	Private Land
	Public Land (Fee)
	Public Land (Less than Fee)





Survey Monument Symbols

□ 210-VT-45	Exterior Corridor Boundary Survey Monument and Identification Code. Consists of segment map number, state, and monument number
△ 21	Appalachian Trail Centerline Survey Monument and Monument Number. Monument numbers refer to traverse stations established by centerline surveys.
SET	Monument set by the surveyors
FND	Monument found at site when surveyors arrived
IPF	Iron pin/pipe found

Information Symbols

	Spring
	Campsite
	Hut/Cabin
	Shelter/Lean-to
	Gate
	Bridge
	View/Overlook
	Used alone or with outline of parking area when known

Miscellaneous

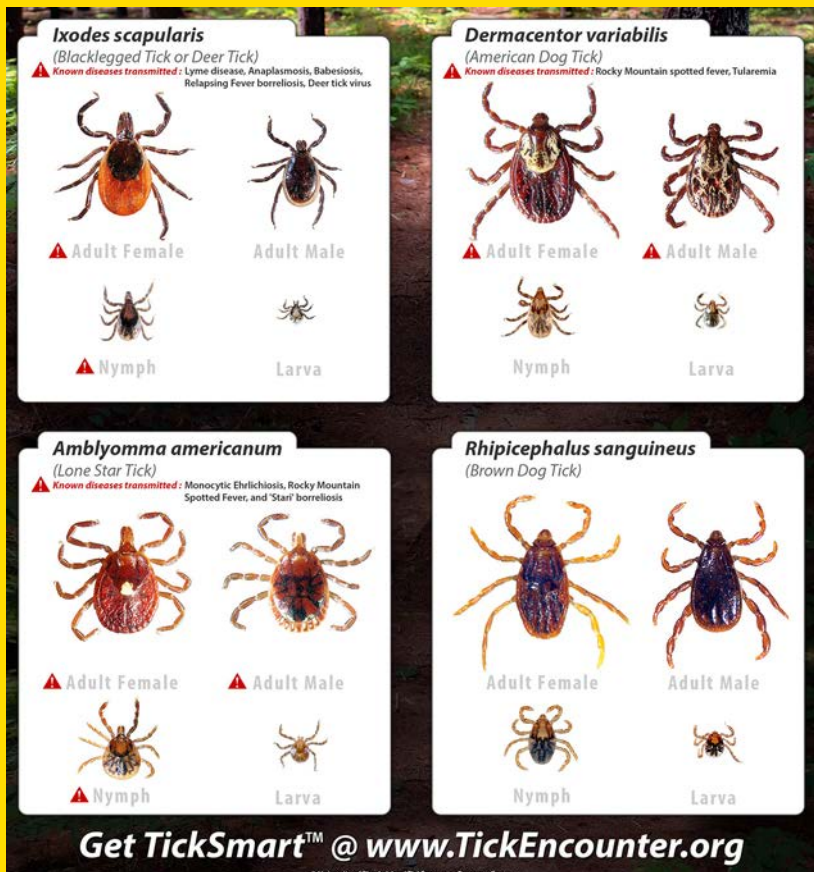
	More or Less
Ac.	Acres
	Centerline
Tr.	Tract
	Property Line
UNK.	Unkown
et ux	and Wife
et al	and Others
et vir	and Husband
	Property Hooks
N/F	Now or Formerly, Past or Present Ownership
Rem.	Remainder of Purchased Tract
Ex./Exist.	Existing
D.B.	Deed Book
T.M.P.	Tax Map Parcel Number
P.O.B.	Point of Beginning
P.O.C.	Point on Curve
P.K. Nail	A thick shanked nail with an indentation in center of head used for surveying positions. Original manufacturer: Parker-Kalon Co. (PK)

Tick Awareness

Ticks have the potential to carry disease which can be transmitted to humans. Prevention from tick bites is our first line of defense.

- Tuck pant legs into socks, boots or gaiters and wear tick repellent clothing.
- Frequently check for ticks while in the field and before entering your vehicle.
- Duct tape can help to remove ticks from your clothing, especially small, larva sized ticks.
- Upon returning home, check your entire body for ticks. Place clothing in the dryer on high heat for at least 15 minutes to kill ticks.
- Remove embedded ticks using fine-tipped tweezers. Grasp tick close to skin and pull straight out; disinfect afterwards. Don't squeeze the body of the tick.
- Always see a physician for possible diagnosis, testing, and treatment, or if you experience symptoms.

Some common symptoms of tick-borne diseases include: rash, fever, body/muscle ache, fatigue, joint pain, headaches, stiff neck, and paralysis.



Safety

A.T. Corridor Stewardship often requires hiking over rugged and remote mountain terrain. Anyone working in the backcountry should be prepared for the possibility of severe weather conditions, injuries, or illness. The hazards associated with Trail and corridor stewardship, as well as appropriate personal protective equipment, are detailed in the Job Hazard Analysis available on the ATC website.

Volunteers who are injured while working on A.T. lands are entitled to certain protections under the federal Volunteers in Parks and Volunteers in Forests acts. Contact your ATC regional office for information or find the volunteer injury packet on the the volunteer mangement page of the ATC website.

- NPS and ATC recommend that monitors not conduct corridor stewardship work alone.
- Leave your itinerary with someone including where you will be, when you plan to return, and who to contact if you don't return when expected.
- Have a communication plan. Understand that even if you carry a fully charged cell phone you may not have coverage. Program emergency contacts into your cell or satellite phone.
- Proper personal protective equipment is essential for your safety along the boundary. Choose long-sleeved shirts, long pants, boots, gloves, helmet, and eye protection appropriate for each job.
- Be aware of hazards such as ticks, poison ivy, loose footing, rotten or hazard trees, ledges, holes, swamps, spring poles, bees, and snakes.
- For off-Trail travel, be prepared for any likely weather conditions. Carry first-aid supplies, rain gear, bivouac gear, bug repellent, emergency whistle, and a head-lamp, as well as extra water, food, and clothing.

Contacts for Corridor Monitors and Maintainers

NPS-Appalachian Trail Park Office (APPA) 304-535-6278

Appalachian Trail Conservancy Headquarters 304-535-6331

NPS-APPA and ATC offices are open most weekdays during regular business hours, closed federal holidays.

To report serious incidents and major encroachments (this line is answered around the clock; the dispatcher will contact the NPS-APPA Chief Ranger)

Shenandoah Dispatch 800-732-0911



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