

211: BASIC TRAIL MAINTENANCE

For The Florida Trail

A “How To” Guide

For New Trail Maintainers



Second Edition
July 2015

Introduction

Volunteers of The Florida Trail Association (FTA) are responsible for building and maintaining the 1300-mile Florida Trail (FT) a.k.a. Florida National Scenic Trail (FNST). For the purpose of trail maintenance, the FT is divided into Sections which average about 25 miles in length. Each Section is overseen by a volunteer Section Leader.

Most trail construction and maintenance work days are scheduled at the chapter level and can be found on individual chapter websites and Meetup sites. Major trail work parties and multi-day activities are listed on the [FTA website](http://www.floridatrail.org) at www.floridatrail.org—click on ‘Volunteer’ and choose ‘Volunteer Opportunities.’

FTA and local Chapters generally provide the hand tools and motorized equipment required for trail maintenance. Volunteers are issued safety equipment and are required to use it during trail maintenance and construction activities. Heavy-duty mowers, loppers, pruning saws, paint brushes, and Pulaskis are our basic trail maintenance tools.

This document is part of the FTA Trail Manual but can also be used alone as a “how to” guide for beginning maintainers. Except where noted, the trail maintenance standards and specifications contained in this document equally apply to all trails maintained by FTA Chapters.

Volunteer Profile/Recording Trail Work

Maintenance along the 1300 miles of the FT is a massive task performed by 18 FTA Chapters spread from Naples to Pensacola. To coordinate and record work performed a centralized online system is in place to track task, location, individual volunteer hours and mileage. Input of this information is initially

recorded and input at the Chapter level. To assign hours worked, and miles driven, to an individual volunteer an FTA [Volunteer Profile](http://www.floridatrail.org/volunteer/volunteer-profile) [www.floridatrail.org/volunteer/volunteer-profile] is required. A profile can be created on the FTA website at www.floridatrail.org—click on ‘Volunteer’ and choose ‘Create a Volunteer Profile.’ A hardcopy may also be available from the FTA trail crew leader. Membership in FTA is encouraged, but there is no requirement that a volunteer working on the FT be an FTA member.

Safety

There are inherent hazards in most activities and trail work is no different. Overhead limbs and debris on the treadway are present. Most workers get into difficulty from things they know but failed to plan for. Not having enough water and not anticipating the weather conditions are the most common mistakes. Snakes and animals need to be considered but they rarely present any real danger. The best advice is to be aware of your surroundings. Let the FTA trail crew leader or First Aid Lead know of any allergies and health issues. What to wear/bring: backpack, long sleeved shirts, long pants, sturdy boots, raingear, insect repellent, personal first aid kit, sunscreen and plenty of water. During hunting seasons, wear an orange safety vest.

All trail maintenance work is preceded by a Tailgate Safety Session. These sessions address overall and location-specific safety issues. All volunteers will sign an FTA *Assumption of Risk* form and appropriate Job Hazard Analysis Forms. For all trail work activities, volunteers are required to wear some form of Personal Protective Equipment (PPE). This is generally a hard hat, eye protection, and gloves. Make sure the hard hat and gloves fit. For power tools, some form of hearing protection is required. For chainsaw and crosscut saw use, there is specific safety equipment. The Quick Reference Card shows what PPE is required for different jobs.



FTA Safety Quick Reference Card (2nd version, current as of 09/12/05)

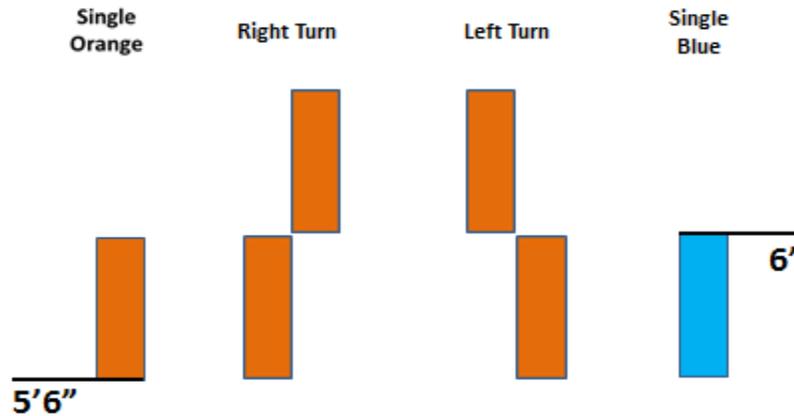
Blazing

Painted blazes are reassurance markers and the objective is to provide a blaze often enough to guide the trail user and keep the trail distinguishable. Maintainers should avoid over-blazing, but consideration should be given to the typical trail user for each specific piece of trail.

Blazing methods and specifications can be taught but techniques and skills are learned by working with experienced trail maintainers/blazers. New volunteers can assist in blazing but should never be assigned as blazers until properly trained. FTA trail maintainers are responsible for ensuring that the FT is adequately marked, is easy to follow, and all signage is accurate and in good condition. No trail maintenance task is more important than blazing and the lack of proper blazing consistently causes more complaints and "lost" hikers than any other consideration. It doesn't matter how beautiful your trail is or how well you have cleared it, if hikers can't follow it.

Maintainers are tasked with keeping blazes in good condition and painting new blazes as required. Blazes consist of neatly painted rectangles and should meet the general standards as outlined below to maintain consistency. The blaze paint used on the FT is approved by (and provided by) FTA.

Florida Trail Blazing (Size 2"x6")



General Standards for blazing

- Blazes are 2" X 6" painted vertical rectangles.
- Place blazes at adult eye-level on live trees—5.5 feet to 6 feet above ground level.
- Where blazes of different colors are used on the same treadway (two trails running jointly), the two blazes should be placed one above the other.
- A double blaze means “Heads Up!” and generally indicates an upcoming abrupt turn. Double offset blazes are used to indicate an upcoming turn. The top blaze is offset in the direction of the turn. Gradual turns do not need double blazes, just place the blazes a little closer together.
- Double blazes should be placed BEFORE a turn, not AT or AFTER a turn.
- A single blaze should be visible immediately after a turn.
- A blaze should be visible across an intersection with another trail, a stream, an easement, or a road.
- No other form of paint marking (painted arrows, etc.) is approved. If users require more information than can be conveyed by a single or double blaze, then a sign should be used.
- When no trees are available, install wooden posts. Pressure treated 4x4s are the preferred blaze posts.
- Once an area re-vegetates (after a fire, timber harvest, etc.), blaze posts should be removed and reused elsewhere.
- The FT is blazed with FTA orange paint.
- Spur or side trails (to campsites, trailheads, water sources, etc.) are blazed with FTA blue paint.
- When intersecting trails occur, and other colors are needed, consult the Section Leader.

Techniques for Blazing

- From one blaze (or within the next few paces) you should be able to see the next blaze.
- Find where 5.5 feet is on your body (chin, nose, hairline, etc.) and use that point as the bottom of the blaze.

- A hand or other object can be used to gauge and ensure consistent blaze size (2" x 6").
- When standing at one blaze, sight down the trail and pick the most prominent tree up ahead at the end of your sight-line. Walk to it and blaze it. If no suitable tree exists, install a post.
- Blazing should be done when leaves are on the trees.
- Select blaze trees which are 6" or more in diameter and prominent when foliage is out.
- Blaze trees on the outside of turns.
- Avoid blazing stumps or dead trees. They may not be there next year!
- Never blaze trail structures (shelters, picnic tables, land manager kiosks, etc.).
- Paint neatly; avoid using too much paint (it will run down the tree).
- Remove vegetation or protruding branches to clear the blaze area. Remove branches on small trees that are obstructing blaze visibility.
- Avoid scraping tree bark too deep (down to the cambium layer).
- Scrape a 3" X 7" rectangle on thick-barked trees.
- Rub moss and lichen off a 3" X 7" rectangle on thin-barked trees.
- Re-blaze every two to three years to keep blazes visible and to replace missing or enlarged blazes. Carefully remove excess blazing and trim down blazes which have "grown."
- Blaze in only one direction at a time. A prominent tree in one direction may look very different from the opposite direction.
- Try to space blazes at fairly constant intervals.
- All road walks should be blazed. Space blazes closer together as you join or leave a road. After that, a reassurance blaze every few hundred feet should be enough (every other electrical pole).
- When blazing roads, try to blaze the side of the road which is safest for pedestrians, i.e., the side with the widest shoulder, least traffic, or fewest obstructions.
- Try to avoid painting blazes on both sides of the same tree.

Tools

- Draw knife for thick-barked trees (carbide is sharper and stays sharp longer)
- Paint scraper/rough kitchen scrub pad for thin-barked trees
- 1.5-inch paintbrush
- Rag or paper towels
- Aluminum foil, plastic wrap, or plastic zip bag to hold wet brushes until cleaned
- Container for holding small amounts of paint
- Brush cleaner and hand cleaner for afterwards
- A small bucket, caddy, or gallon milk jug to carry tools

Note: Additional information on blazing and signage can be found in Chapter 202: Trail Signage and Blazing.

Vegetation Control

Clearing vegetation is the most time-consuming task for a trail maintainer. Maintainers will usually spend most of their time using mowers to cut high grass and weeds, and loppers to trim branches, palmettos, and woody vegetation that have grown into the trail corridor.

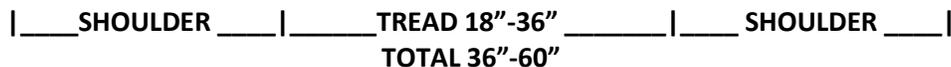
Clearing Limits Standards for the trail corridor are shown below. Maintainers are to be aggressive in applying the clearing limits. At times small trees and brush will have to be removed or cut to ground level to achieve and maintain the clearing limits. Wherever possible the trail shoulder clearance should be maintained with mowers and brushcutters. On a 2-3 year cycle, maintainers are encouraged to cut beyond the clearing limits in dense growth.

Overgrowth of problem vegetation (briars, poison ivy, stinging nettles, and high weeds) is directly related to tread degradation and erosion problems, since hikers will avoid these areas and create an easier path. This results in “braided” tread. Control of vegetation is essential in order to avoid the labor-intensive work of repairing an eroded trail and restoring multiple social trails.

Heavy-duty mowers and brushcutters are the primary tools for cutting high grass, vines and weeds on all non-wilderness sections of the Florida Trail. Maintainers will want to clear aggressively, especially if limited to a single trail clearing visit per season. Plants will be harder to control if left to thrive over one or more growth cycles.

Clearing Limits Standards (Class 3 non-wilderness)

- **Tread width** should be maintained at 18” to 36”. Remove tripping hazards in tread by grubbing.
- **Total horizontal clearance** width should be 36” to 60”. Shrubs and trees should be removed or cut flush with the ground to provide sufficient ground clearance for mowers.
- **Vertical clearance** should be maintained at 8 feet.

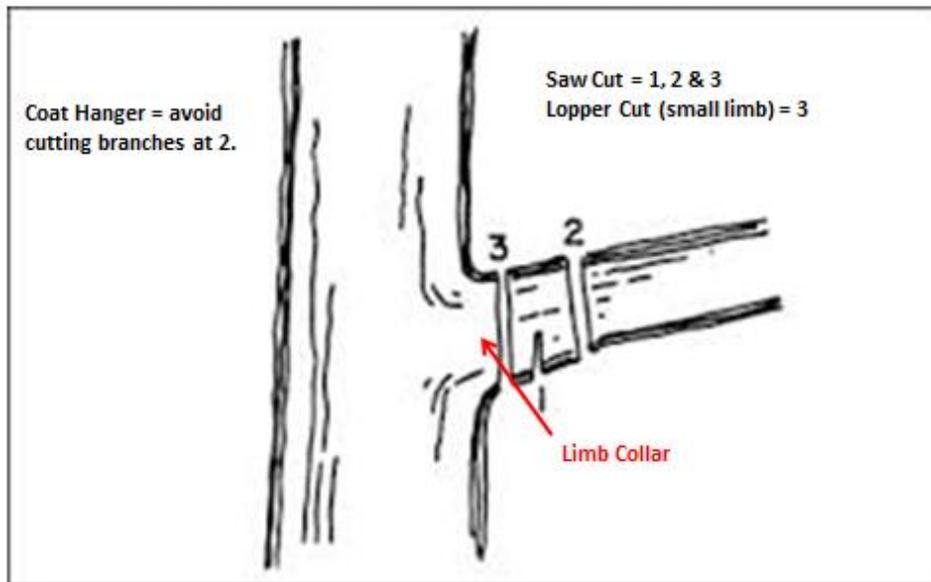


Note: Additional details on Clearing Limits are in Chapter 201: Trail Standards of Design, Clearing and Maintenance.

Clearing Methods and Techniques (0% to 3% grade or slope)

- Areas in front of blazes should be kept open to allow maximum visibility of blazes.
- Areas at road crossings with little or no shoulder should be cleared to provide hikers and motorists with unobstructed views.
- Low shrubs and young trees (on the trail shoulder) should be cut flush with the ground to prevent tripping and to reduce sprouting from the stump and roots. Limit grubbing or removal of trailside plants (on the trail shoulder); these plants and root systems help stabilize the soil.
- Cut branches and limbs at the collar to prevent “coat hanger” effect and tree injury.

Limb and Branch Pruning



- Branches growing towards the trail should be cut back to the next limb growing away from the trail (to encourage growth away from the trail).
- It is better to remove all lateral branches than to remove the tree top since removal of the terminal bud will encourage lateral growth across the trail.
- Grubbing with a mattock or Pulaski may be necessary to clear the trail tread; remove roots and vegetation necessary to eliminate tripping hazards.
- Disburse plant cuttings 10-20 feet away from the trail with the cut ends not visible.

Note: Hillsides and areas with a grade or slope exceeding 3% may require erosion control techniques.

Note: High usage areas may require a higher level of clearing. These should be scouted often and findings reported to the Section Leader.

Equipment

- Loppers
- Brush mowers
- Hand weeders (swing blades)
- Bow, pruning, and folding saws
- Pulaskis and mattocks (for grubbing out vegetation in the trail tread)
- Power weeders and brushcutters

Removal of Fallen Trees and Obstacles

Trail maintainers are expected to remove any obstacle that can be tackled safely. Obstacles (fallen trees, etc.) causing hikers to leave the tread are a high priority for removal, while easy step-overs (or walk-

unders) may be left in place. Maintainers should carry a folding pruning saw on routine maintenance trips to handle small blowdowns. The trail should be scouted after major weather events. These events often drop trees and limbs in the trail corridor.

Maintainers are not to attempt removing trees that are still standing, blowdowns under tension (trees that are wedged in other trees), very large obstacles, widow-makers, and other obstacles that might pose a safety risk. These should be reported as soon as possible to the Section Leader. Chainsaws may only be used by certified sawyers. FTA offers chainsaw classes each year. Training opportunities are available to active trail maintainers.

Guidelines

- Safety is the primary consideration. Do not attempt to remove large or "hung-up" trees alone. Do not exceed the capability of your equipment, your skills or your current physical abilities.
- Clear logs to 4-5 feet on both sides of the trail center line (8-10 feet).
- Trees not removed should lie flat on the ground and not impede the passage of a mower.
- All obstructions should be removed as soon as possible to prevent danger to users and discourage users from creating their own trails.
- If removal of an obstacle exceeds the capability of the trail crew, notify the trail crew leader and the Section Leader.

Acknowledgements:

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2015 contributors/revisers: Tom Daniel, Robin Luger and Linda Patton.

**Florida Trail Clearing Limits
Class 3 (non-wilderness) Parameters**

