AMC Trail Adopter’s Handbook

Appalachian Mountain Club
Adopt-A-Trail Program

Updated 2019

AMC Trails Program Mission Statement
“The AMC Trails Program is committed to the protection and care of the trails and backcountry campsites of our region and the experiences they provide. Through the high quality work of dedicated volunteers and staff, the trails program promotes stewardship, public service, and ethical recreation.”
PREFACE

Welcome to the Appalachian Mountain Club’s Adopt-A-Trail Program and thank you for volunteering to maintain a section of trail! This Handbook is your training reference and guide to your role, responsibilities, and available resources.

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Contact Information

**AMC RESERVATIONS** (to reserve hut, Highland Center, Cardigan Campground and Pinkham stays):
603-466-2727

AMC Trails Staff
North Country Trails
Volunteer Programs
P. O. Box 298
Gorham, NH 03581
Program Office Phone: 603-466-8128
Program Office Fax: 603-466-2822

**Cardigan Lodge**
Lodge Phone: 603-744-8011
774 Shem Valley Rd
Alexandria, NH 03222

**Pinkham Notch Visitor Center**
Business: 603-466-2721
Reservations: 603-466-2727
Trail and Weather info: 603-466-2725

**Camp Dodge (closed for 2019)**
1561 Rt. 16
Gorham, NH 03581
Camp Dodge Phone: 603-466-3301

**WHITE MOUNTAIN NATIONAL FOREST CONTACT INFORMATION**

Forest Supervisor Office & Pemigewasset Ranger Station
71 White Mountain Drive
Campton, NH 03223
TTY: 603-536-3665

Saco Ranger Station
33 Kancamagus Highway
Conway, NH 03818
Phone: 603-447-5448 x 0
TTY: 603-447-3121

Androscoggin Ranger Station
300 Glen Road
Gorham, NH 03581
Phone: 603-466-2713 x 0
TTY: 603-466-2856

**STATE AGENCIES CONTACT INFORMATION**

New Hampshire State Parks
North Region
P.O. Box 241
Lancaster, NH 03584
Phone: 603-536-6100
Phone: 603-788-3155

Maine Bureau of Parks & Lands
22 State House Station
18 Elkins Lane (AMHI Campus)
Augusta, ME 04333
Phone: 207-287-3821
Fax: 207-287-6170

New Hampshire State Police
1-800-525-5555

Maine State Police
1-800-482-0730
AMC Adopt-A-Trail Program Overview

The Appalachian Mountain Club (AMC), the United States Forest Service (USFS), the State of New Hampshire, Maine Bureau of Parks & Lands, the Appalachian Trail Conservancy (ATC), and other trail clubs and organizations cooperatively maintain thousands of miles of trail in New Hampshire and Maine. The AMC’s Adopt-A-Trail Program provides the opportunity for volunteers to perform basic maintenance on some of these trails. The AMC began the Adopt-A-Trail Program in 1980 with 15 adopters. The program has steadily grown and presently there are over 220 adopters. There are no formal requirements for the program other than a general familiarity with New England trails and climate, and a willingness to take on the responsibility. Basic skills training is required for new adopters, and adopters must recertify every three years. Additional training for adopters of alpine trails, as well as special skills trainings, are offered each year as well.

Responsibilities

Adopters have two responsibilities: (1) regular basic maintenance on a section of trail, and (2) reporting on maintenance work and trail conditions. Consistent trail maintenance helps to conserve the surrounding environment by preventing erosion and defining the trail, while also creating a safe and enjoyable hiking experience.

The basic maintenance tasks of adopters include cleaning drainage structures, trail corridor clearing, and defining the trail with paint blazes, cairns or scree wall where appropriate. Most trail sections require 2 to 3 visits per year to accomplish these maintenance tasks, and it’s best to spread these work trips out throughout the year. While basic maintenance can help to prevent severe trail damage, Adopter reports are also essential in helping to log more serious issues on the trail that will require a crew’s attention. Through additional training and experience, adopters may take on more technical trail work, such as installation of drainage dips and waterbars. This work should be done only after all basic maintenance tasks are completed and the work is discussed with an AMC staff member. Major construction projects are performed by AMC and USFS trail crews.

Basic Maintenance Tasks of Adopters

In order of priority, the maintenance tasks of adopters are:

- **Drainage** - clean waterbars and drainage ditches of dirt and debris each spring and fall.
- **Trail clearing** - clear blowdowns, limbs, and brush annually to form a trail corridor.
- **Trail definition** - prevent the development of widened trails, braided tread and shortcutting of switchbacks.
- **Trail marking** - mark trails with paint blazes and, above tree line, with cairns or scree wall.

All work should be performed in a manner to protect the environment, natural resources, and the recreational experience of hikers.

You will find that elevation, aspect, and trail location play a large part in the type of maintenance work you need to perform. Vegetation encroachment, water runoff, muddiness, and hiker impacts will be the main concerns you are working to address through your maintenance activities. You will learn a great deal about what works best on the section of trail you’ve adopted through observation and experience. In dealing with many problems, an experimental and incremental approach is effective. Try first a conservative approach to things such as drainage cleaning, corridor clearing, scree walls, or blocking bootleg trails. If you find on your next visit that something was not effective, you can take additional actions such as blazing, bigger scree wall, etc. If you need assistance or advice on your particular trail, start by contacting your Region Leader. The Region Leader is familiar with your trail and can walk the trail with you or alert you to particular problems.

After taking a trip out to work on the trail, Adopters must file a work report (even if no work was performed on that visit). Read on for additional details.
Region Leaders

The trails in the Adopter program have been divided into regions, each of which has been assigned a volunteer Region Leader. Region Leaders serve as a contact for adopters regarding trail needs and problems and provide support for adopters. Adopters send a copy of work reports to the Region Leader. Region Leaders provide AMC staff with a comprehensive condition report of their region, based on their own observations and on adopter reports. Region Leaders may provide constructive feedback to adopters if they observe an issue on the trail.

Adopter Work Schedule

Adopters have a great deal of freedom and flexibility in how and when they maintain their trails. Adopters work on their own schedule and at their own pace during the spring, summer, and fall months (some trails are popular winter hikes, and adopters have the option to perform corridor maintenance in the winter, as well).

While every trail location is unique, here are some suggestions for the best tasks to perform at different times of year:

**May/June** - An initial trip should be made in the late spring before the heavy hiking season begins. Your focus should be on correcting immediate problems such as plugged drainage, overgrown sections and blowdowns that remain after the AMC trail crew finishes patrolling. The best time to clean out drainage is in the spring and early summer, as well as in the fall after leaf drop. It’s helpful to keep drainage structures clear during summer rain storms. It is also good to check for drainage problems when the water table is high and the soils are saturated. Checking drainage during, or immediately after, rainfall will help you learn which drainage features work and which ones do not.

**June/July** - This is probably the best time to perform your annual trimming of branches. It is also a good time to check whether any of your blazes are blocked by branches and leaf cover. Clean any blocked drainage.

**July/August** - Brush and weeds grow rapidly in the summer so you should check for new brush that has grown into the trail. This is also a good time for blazing because you are more likely to have periods of dry days. Because the water table is lower, it is easier this time of year to build new drainage structures. August, which is warm and has less average rainfall, is a good time to do work, such as building cairns and scree walls, in alpine areas. Clean any blocked drainage.

**September/October** - Any of the basic maintenance tasks can be performed but this is a good time to look for any braided or bootleg trails that may have developed over the summer and to brush them in. It is also important to clean thoroughly all drainage after the leaves have dropped. This ensures good drainage in the late fall and early winter when the ground is frozen and seeps appear in many places, as well as in the late winter and early spring during snow melts and early rains.

**Winter** - It can be useful to travel your trail on skis or snowshoes in the winter and maintain the corridor. You will gain an entirely different perspective of your trail when there is five feet of snow on the ground and the tree branches are weighted down with snow. This is especially important for ski touring trails that must be brushed more extensively.

Safety

Adopters are responsible for their own safety while working on trails. Before venturing out, check the weather forecast and be familiar with the variability and potential severity of New England weather. Weather forecasts are posted daily at 8 AM at Pinkham Notch, Camp Dodge, the huts, shelters and tent sites with caretakers, and Shapleigh Studio.

Carry sufficient water, food, and clothing, first aid, navigational tools, etc. Let someone know your itinerary and estimated time of return. It is also recommended that adopters not work alone, especially when performing tasks such as blowdown removal or moving rocks. Adopters are welcome to involve families, friends, and other groups in trail work. For the sake of safety, productivity, and effectiveness of the leader, groups should be limited to the adopter and five others.
persons. The adopter is responsible for the work performed, provides instructions on tool use and safety, and confirms that the group has adequate preparation.

**First Aid**

It is likely that at some point you will encounter ill or injured hikers. In addition, adopters, because of the nature of their work and use of tools, are subject to injury. Thus, adopters should have some knowledge of first aid and carry a first aid kit. The AMC offers several courses and workshops on wilderness first aid. You can purchase one of the many commercially available first aid kits or assemble your own kit by buying items individually at a pharmacy. It is important to know what is in your first aid kit and how to use the item.

**First Aid Kit Contents**

The following items are the standard for all Trails Department staff, and represent the required minimum contents carried in all AMC program first aid kits at all times. Kits are in the instructor’s possession at all times when leading a program. Many programs may choose to carry a larger quantity of the items listed above, as well other optional items such as hydrocortisone, bulb syringe, hand sanitizer, liquid soap, lip cream, and sunscreen.

<table>
<thead>
<tr>
<th>ABSORBING</th>
<th>STICKY</th>
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</thead>
<tbody>
<tr>
<td>□ 4 triangular bandages</td>
<td>□ 1 roll ½ inch tape and DUCT Tape</td>
</tr>
<tr>
<td>□ 3 rolls 2x4.5 yd. cling gauze</td>
<td>□ 1 roll 1 inch tape</td>
</tr>
<tr>
<td>□ 6 4x4 gauze pads</td>
<td>□ 1 roll 2 inch tape</td>
</tr>
<tr>
<td>□ 6 2x2 gauze pads</td>
<td>□ 1 tube Neosporin</td>
</tr>
<tr>
<td>□ 2 ace bandages</td>
<td>□ 20 Band-Aids</td>
</tr>
<tr>
<td>□ 2 maxi pads</td>
<td>□ 5 large Band-Aids</td>
</tr>
<tr>
<td>□ 2 combine gauze</td>
<td>□ 8 butterfly bandages</td>
</tr>
<tr>
<td>□ 6 safety pins</td>
<td>□ 2 pkg moleskin</td>
</tr>
<tr>
<td>□ 8 tampons</td>
<td>□ 1 pkg second skin</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CLEANSING</th>
<th>DRINKING</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ 6 alcohol pads</td>
<td>□ 1 bottle Potable Aqua</td>
</tr>
<tr>
<td>□ 6 iodine pads</td>
<td>□ 1 pack Aqua Mira</td>
</tr>
<tr>
<td>□ 1 baby tooth brush or iodine scrubby</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>RELIEF</th>
<th>WASTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ 6 Pepto-Bismol tabs</td>
<td>□ 2 gallon Ziplocs</td>
</tr>
<tr>
<td>□ 8 Benadryl caps</td>
<td>□ 4 quart Ziplocs</td>
</tr>
<tr>
<td>□ 10 Ibuprofen (Advil)</td>
<td>□ blue bags</td>
</tr>
<tr>
<td>□ 10 Acetaminophen (Tylenol)</td>
<td></td>
</tr>
<tr>
<td>□ 1 insta glucose (or Cake Frosting)</td>
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</tbody>
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<table>
<thead>
<tr>
<th>MISC.</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>□ 8 pairs of gloves</td>
<td></td>
</tr>
<tr>
<td>□ 1 Sam Splint</td>
<td></td>
</tr>
<tr>
<td>□ Tweezers</td>
<td></td>
</tr>
<tr>
<td>□ Trauma Shears</td>
<td></td>
</tr>
<tr>
<td>□ 1 Pocket Mask</td>
<td></td>
</tr>
<tr>
<td>□ Lighter</td>
<td></td>
</tr>
<tr>
<td>□ First Aid Handbook</td>
<td></td>
</tr>
<tr>
<td>□ Notepad</td>
<td></td>
</tr>
<tr>
<td>□ Pen, Pencil, Marker</td>
<td></td>
</tr>
</tbody>
</table>
**Training**

Skill Sessions are available at no charge for adopters and others who will be sharing trail work responsibilities. New adopters are required to attend one of these trainings before working on the trail, and current adopters must retake the training every 3 years (or be recertified by their Region Leader). It is always helpful to share knowledge and experiences with other maintainers and learn from the experience of others. The Skill Sessions focus on basic trail maintenance techniques such as brushing, blazing, cleaning drainage, and blowdown removal. Additional trainings are offered occasionally on topics such as drainage and trail hardening, log and rock steps, alpine trail work and rehabilitation, first aid in the backcountry, axe use, trail assessment, and new trail design and construction.

**Communication**

You will receive information from AMC trails staff about training, special trails events, and more. In addition, your Region Leader will be in touch with you from time to time. *The Dirt*, the newsletter of the AMC Volunteer Trails Program, will periodically provide news and information.

**Interacting with the Public and Agencies**

While you are working on your trail, you will have frequent contacts with hikers. Take time from your work to chat with them, and always treat the public with professionalism and courtesy. You are a representative of the Appalachian Mountain Club, and you represent a valuable educational resource. Hikers will be curious about what you are doing and you can give them a brief explanation of trail maintenance. Many will thank you for your efforts. Some hikers are not aware that trail maintenance is performed by volunteers. Let them know about the Adopt-A-Trail program and how they can get involved!

Keep in mind that the public is often quick to respond when trail conditions are poor. Some hikers have planned for months and come from great distances to hike the trail you are maintaining. If the trail is overgrown, difficult to follow because blazes have faded, or badly eroded because drainage structures are not cleaned, disappointed hikers will report these conditions to the Forest Service or AMC. Consistent maintenance will help to maintain positive public perception as well as good relationships with land management partners.

It is important to maintain good relationships between the AMC, US Forest Service, New Hampshire and Maine State agencies, Appalachian Trail Commission, National Park Service, other Forest Service cooperators, and private landowners over whose lands the trails pass. Adopters are expected to act in the spirit of partnership and as AMC ambassadors to the hiking public.

Feel free to call or drop in at the trails office in Pinkham Notch to talk with staff. Staff are always glad to meet adopters, and may have some useful information about your trail.

**Reporting Trail Work**

Complete a work report form and promptly send it to the office and your Region Leader after every visit. The AMC must report on the impact of volunteer contributions to all of our land management partners. Work reports also help the AMC to keep track of the status of trails. They alert trails staff to problems where a trail crew should be deployed. Finally, these forms help us keep track of your volunteer hours so that we can recognize your efforts through AMC Stewardship Society awards.

There are three ways to submit a work report:
- By email to amctrailadopter@outdoors.org with a Word or PDF form attached
- By mail to: AMC Trail Volunteer Programs, PO Box 298 Gorham, NH 03581
Regardless of the format of your work report, please send a copy to your Region Leader, making note of any particular problems such as serious erosion, damage to the trail, or missing signs. (Please note: The AMC has a large backlog of serious problems to address with a limited staff, and a variety of factors are considered when prioritizing the trail crew’s projects. Please do not be disappointed if your problem doesn’t receive immediate attention.)

Adopters are expected to send in a minimum of two reports a year: at least one by July 15 and the remainder by October 15. If no reports are received for a full year, and other arrangements haven’t been made with the region leader and AMC staff, the trail section will be made available for adoption.
Work Party Leader: 

Region Name: 

Trail Name: 

Section Name: 

Work Party Information 
(Add additional work party members to notes) 

<table>
<thead>
<tr>
<th>Adopter</th>
<th>Round Trip Travel Hours (to and from)</th>
<th>Round Trip Hiking Hours (to and from work)</th>
<th>Work Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Co-Adopter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Helper</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>□ Foster</td>
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</tr>
<tr>
<td>□ Co-Adopter</td>
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<tr>
<td>□ Helper</td>
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<tr>
<td>□ Foster</td>
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<td></td>
</tr>
<tr>
<td>□ Co-Adopter</td>
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<td>□ Helper</td>
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<td></td>
</tr>
<tr>
<td>□ Foster</td>
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</tbody>
</table>

Total Hours

Total Length of Trail Maintained on this Trip: 

<table>
<thead>
<tr>
<th>Drainage Maintenance</th>
<th>Trail Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drainage Structures Cleaned</td>
<td># Brushing (Corridor Standardizing) ft.</td>
</tr>
<tr>
<td>Side Ditch Cleaned</td>
<td>ft. Blowdowns Removed #</td>
</tr>
<tr>
<td></td>
<td>Closed Non-Designated Trails ft.</td>
</tr>
</tbody>
</table>

No basic maintenance work performed on this visit

Blazes Painted #
Scree Wall Built ft.
New Cairns Built #
Existing Cairns Repaired #

Other Notes: Please list any suggestions, questions, assistance requests, and any new issues or challenging trail problems like damaged trails signs and large blowdowns.

Please send completed work reports to amctrailadopter@outdoors.org and your Region Leader.
Facility Use Policy

To facilitate trail work trips on remote trail sections, as well as work by adopters who travel far from home to reach their adopted trail, the following facilities are available to adopters for overnight stays at no charge while on a work trip. Adopters may receive meals (where available) and a night of lodging per day of trail work. Additional nights for leisure and recreation must be paid for by the adopter at the time of reservation. Adopters may only receive free stays at facilities that are assigned to their section of trail – contact the Volunteer Programs Supervisor with any questions. Lodging benefits cannot be accrued. See below for additional limitations.

Please note that adopter stays at AMC Huts, Shapleigh Studio, and Pinkham Notch Visitor Center require the Trails Department to pay an internal rate per person – group size limitations are explained below. Please consider utilizing facilities during self-service and non-peak times to minimize the cost to the Trails budget.

**Reservations.** Lodging for adopters is on a space-available basis; planning and making your reservations well in advance will help ensure that you get a space when you want it. Please make reservation requests at least 24 hours in advance.

**Cancellations.** At AMC Huts, Pinkham Notch Visitor Center, and Shapleigh Studio, cancellation fees will be applied according to the normal guest cancellation policy, which you will receive in your lodging confirmation email.

<table>
<thead>
<tr>
<th>AMC Huts</th>
<th>Locations:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Dates:</td>
<td><a href="https://www.outdoors.org/lodging-camping/huts/season-dates">https://www.outdoors.org/lodging-camping/huts/season-dates</a></td>
</tr>
<tr>
<td>Group Size Limitations:</td>
<td><a href="https://www.outdoors.org/lodging-camping/landing">https://www.outdoors.org/lodging-camping/landing</a></td>
</tr>
<tr>
<td><strong>Full-Service dates:</strong> 2 including adopter</td>
<td>For Reservations:</td>
</tr>
<tr>
<td><strong>Self-Service dates:</strong> 6 including adopter</td>
<td>603-466-2727</td>
</tr>
</tbody>
</table>

Adopters may stay free at any hut assigned to their trail section. Stays during hut self-service periods are encouraged over full-service stays. There is no limit on the number of trips per year, but the maximum trip length is a two-night stay. During full-service, dinner and breakfast are served by hut staff. During self-service trips, you must bring and prepare your own meals (cookware is provided). Additionally, adopters may receive a 30% discount on over-the-counter items purchased during work trips. This benefit is for adopters only, and the items purchased should be used by the adopter in their trail work. To learn about the amenities at each hut, visit [https://www.outdoors.org/lodging-camping/huts](https://www.outdoors.org/lodging-camping/huts).
### AMC Shelters, Tent Sites, and Backcountry Campsites

<table>
<thead>
<tr>
<th><strong>Open Dates:</strong></th>
<th>Year-Round</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group Size Limitations:</strong></td>
<td>6 including adopter</td>
</tr>
</tbody>
</table>

For Reservations:
From May-October, contact the Group Outreach Coordinator as far in advance as possible so that Campsite Caretakers will be aware of your plans: amccampgroups@outdoors.org

On a work trip, adopters and helpers can stay free, if space is available, at AMC shelters, backcountry campsites, or tent sites. These sites are available year round on a first come, first served basis. For more information on site amenities, visit [https://www.outdoors.org/lodging-camping/campsites/campsites](https://www.outdoors.org/lodging-camping/campsites/campsites).

### Camp Dodge

<table>
<thead>
<tr>
<th><strong>Location:</strong></th>
</tr>
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</table>
| 1 Camp Dodge Road  
Gorham, NH 03581 |
| [https://goo.gl/maps/8TEcz36w7E22](https://goo.gl/maps/8TEcz36w7E22) |

**Open Dates:**
Mid-May through Early October

**Group Size Limitations:**
None

For Reservations:
603-466-3301 (Call 3 days in advance for lodging, 7 days in advance for lodging + meals)

** Throughout 2019, Camp Dodge will be closed for renovations. All adopters who would typically stay at Camp Dodge on a work trip may request lodging at Joe Dodge Lodge at Pinkham Notch Visitor Center instead by calling 603-466-2727. These details are included for future reference. **

Camp Dodge is the center for AMC volunteer trail activities in the White Mountains. All adopters, regardless of trail location, are welcome to stay at Camp Dodge free of charge while in the area for training, volunteer appreciation events, or to work on their trail.

Camp Dodge is typically open from Mother’s Day Weekend through Columbus Day Weekend. On the shoulder season, there may be no running/potable water, and meals may not be available. Be ready with the following information when you call to make a reservation: your name, phone number, date(s) of stay, trail section, group size, number and type of meals needed, and any dietary restrictions.

At Camp Dodge, there is a dining hall, restroom and showers, bunkhouses, tool shed, and a beautiful view of the Presidential Range. Adopters can stay in the bunkhouses if space is available, or you may wish to pitch your own tent in the field. Bring a sleeping bag, pillow, and a towel. Meals are served daily, with breakfast at 7 AM and supper at 6 PM. You can prepare a trail lunch after breakfast.
| **Cardigan Campsites** | **Location:**  
774 Shem Valley Rd.  
Alexandria, NH 03222  
[https://goo.gl/maps/5mnGW2pz9522](https://goo.gl/maps/5mnGW2pz9522) |
|-----------------------|--------------------------------------------------|
| **Open Dates:** | **Group Size Limitations:**  
Year-Round  
Determined by campsite |
| For Reservations: | 603-466-2727 |
| **Adopters will be provided with free camping in the campground near the lodge – reservations are required. There will be no lodging available in Cardigan Lodge itself. For more campsite information, visit [https://www.outdoors.org/lodging-camping/lodging-camping-campsites/cardigan](https://www.outdoors.org/lodging-camping/lodging-camping-campsites/cardigan).** |

| **Joe Dodge Lodge @ Pinkham Notch** | **Location:**  
361 NH Rt. 16  
Gorham, NH 03581  
[https://goo.gl/maps/1XbWFFCZTYH2](https://goo.gl/maps/1XbWFFCZTYH2) |
|-----------------------|--------------------------------------------------|
| **Open Dates:** | **Group Size Limitations:**  
Year-Round  
2 including adopter |
| For Reservations: | 603-466-2727 |
| **Pinkham Notch Visitor Center’s Joe Dodge Lodge is not available for stays while Camp Dodge is open – please utilize Camp Dodge instead. For information on Joe Dodge Lodge amenities, visit [https://www.outdoors.org/lodging-camping/lodges/pinkham/](https://www.outdoors.org/lodging-camping/lodges/pinkham/).**  
**Because of the Camp Dodge closure in 2019, the max group size at Joe Dodge Lodge will be six people, including the adopter, and stays may be requested at any time throughout the year.** |

| **Shapleigh Studio @ AMC Highland Center** | **Location:**  
US Route 302 in Crawford Notch  
Bretton Woods, NH 03575  
[https://goo.gl/maps/7oCjADwXsup](https://goo.gl/maps/7oCjADwXsup) |
|-----------------------|--------------------------------------------------|
| **Open Dates:** | **Group Size Limitations:**  
Year-Round  
2 including adopter |
| For Reservations: | 603-466-2727 |
| **Bunks are available at the Shapleigh Studio, with dinner and breakfast served in the Highland Center dining room. Lodging in the Highland Center is not available.** |

<table>
<thead>
<tr>
<th><strong>Maine Woods (Medawisla, Gorman Chairback, and Little Lyford)</strong></th>
<th><strong>Location:</strong></th>
</tr>
</thead>
</table>
| For Open Dates and Location, visit [https://www.outdoors.org/lodging-camping/medawisla-lodges/](https://www.outdoors.org/lodging-camping/medawisla-lodges/)  
**Group Size Limitations:**  
Contact Reservations for more information |
| For Reservations: | 603-466-2727 |
| **Bunks and meals are available during the open seasons. Lodges are drive-in during the summer, and accessible by ski trails in the winter (Medawisla is accessible by road in the winter).** |
Lafayette Place Campground

| Location: | 2 Franconia Notch State Park  
|          | Franconia, NH 03580  
|          | [https://goo.gl/maps/ZsihHrLgfe42](https://goo.gl/maps/ZsihHrLgfe42)  

| Open Dates: | Mid-May – Columbus Day Weekend  
| Group Size Limitations: | None  
| For Reservations: | 603-823-9513  

Located in Franconia Notch State Park, tent platforms for backpacking tents are available to adopters on a first-come, first-served basis. There is no parking at the site (please park in the trailhead parking area) and there are no picnic tables or fire rings available at this site. For more information visit [https://www.nhstateparks.org/visit/state-parks/franconia-notch-state-park](https://www.nhstateparks.org/visit/state-parks/franconia-notch-state-park).

### Backcountry Camping

Where permitted, adopters may camp at non-designated sites in the backcountry during their work trips. All regulations of the land manager must be followed. Practice Leave No Trace ([https://lnt.org/](https://lnt.org/)) principles. If you have questions about backcountry camping, please contact the land manager or the Volunteer Programs Supervisor.

| White Mountain National Forest | Dispersed camping is permitted – restrictions apply:
When camping in the backcountry - camping and fires are prohibited:
- Within 200 feet of trails and water bodies.
- Within 1/4 mile of backcountry facilities (shelters, huts).
- In the alpine zone - where trees are 8 feet or less.
- Please consult the Forest's Backcountry Camping Rules.
- Be certain to view the Recreation Conditions Report for the most current trail and camping information.  
| For more information: | [https://www.fs.usda.gov/activity/whitemountain/recreation/camping-cabins/?recid=74405&actid=34](https://www.fs.usda.gov/activity/whitemountain/recreation/camping-cabins/?recid=74405&actid=34)  
| For detailed restrictions, read the Backcountry Camping Rules: | [https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5363715.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5363715.pdf)  

| Grafton Notch State Park and Mahoosuc Public Lands | Camping is not permitted at Grafton Notch State Park. Low-impact camping is permitted only on the Public Lands.  
| For more information: | [https://www1.maine.gov/cgi-bin/online/doc/parksearch/details.pl?park_id=1](https://www1.maine.gov/cgi-bin/online/doc/parksearch/details.pl?park_id=1)  

| NH Dept. of Natural and Cultural Resources (NH State Parks and Forests) | Backcountry camping is not permitted  
| For more information: | [https://www.nhstateparks.org/visit/state-parks](https://www.nhstateparks.org/visit/state-parks)  

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NH Dept. of Natural and Cultural Resources (NH State Parks and Forests)
Basic Trail Maintenance

Basic trail maintenance is fundamental to the longevity of a trail system. The work that you perform as a Trail Adopter helps to define the trail, limit hiker impacts to the surrounding environment, prevent erosion, and improve the hiker experience. Without your work, trails would likely become overgrown or blocked by blowdowns. Drainage structures would fill with leaves and sediment, sending water onto, rather than away from, the trail. Hikers may become disoriented without wayfinding assistance from blazes, cairns, or scree wall. Poorly defined trails tend to become braided or widened, which amplifies the impact of hikers on the surrounding landscape and can increase erosion. Focusing hiker impacts is particularly important in sensitive environments, like wetlands or the alpine. While the scope of your basic maintenance work may not address all issues you encounter on the trail (sometimes you’ll find a blowdown too large or hazardous, erosion that requires major trail reconstruction, or bog bridges that need replacement) your work does help to prevent small issues from becoming major problems. Additionally, your work reports help to inform the project work of AMC’s trail crews.

Trails in New England pose particular challenges to Trail Adopters. The region’s historic trails were developed to be direct, not sustainable, and the ever-growing popularity of the trails contributes to trail degradation. Trails that take a steep route up a mountainside are prone to erosion, as foot traffic and water loosen and carry soils downhill. Conversely, trails located in at the lowest point in the landscape, or that follow a path where water cannot move off of the trail, are often muddy, and hikers my establish multiple alternative routes. Structures such as drainage dips, waterbars, and rock or log steps help to mitigate erosion. Corridor clearing, blaze painting, cairns and scree walls define the intended hiking path, minimizing hiker confusion and impact. Your maintenance work helps the trail last and be enjoyed by countless visitors.

In order of priority, here are the tasks Adopters perform each year. It’s recommended that adopters take time to simply visit the trail, assess conditions, and take a personal inventory of structures and their condition as a baseline for monitoring any changes in the trail condition.

Drainage

You will encounter structures that are meant to move water across and off of the trail, such as drainage dips and waterbars, as well as structures meant to carry water along side the trail (side ditches). All are prone to filling with leaves, branches, and sediment, which in turn causes water to flow onto the trail and lead to soggy tread or erosion. Clearing this debris and keeping these drainage structures open is the most important thing Trail Adopters can do each year.

The flow of water may cause a waterbar to become undercut or incised. Taking the time to not only clean, but re-shape, a drainage dip will go a long way towards preserving the usefulness of the structure and the condition of the trail. You may find waterbars that were built with rock, a log, or simply an earthen berm. The same cleaning and reshaping principles apply to all. To establish a good shape for the drainage dip, try to blend the uphill edge of the dip into the tread 4 feet from the bar, and gradually form a broad dip on the uphill side of the log, rock, or berm, using extra soil to bury or partially bury the rocks or log on the downhill side. If the uphill side is too steep, traffic and water will collapse it and the soil will clog the waterbar or dip. Water should move off of the trail via the dip in a sheet, rather than a deep channel.

When clearing drainage dips, pull all mineral soil and rock that has been deposited in the dip up and over the structure and us it to build up the downhill side of the structure. The mound of dirt backfills the waterbar and rebuilds the dip. Leaves, roots, and organic debris should be discarded. Do not cast useful soil off of the trail. Waterbars that do not have sufficient backfill on the downhill side are likely to become undermined, and dips that have worn down too much may allow water to flow over them down the trail. Cut out loose roots and remove rocks as these will collect debris.
Some of the most effective tools for cleaning drainage are the hazel hoe, adze hoe, Rogue hoe, or McLeod. A shovel is helpful when large amounts of dirt must be moved. A pick mattock or a cutter mattock is often used for clearing dirt, cutting roots, and prying rocks. The pick mattock is heavy and the blade is narrow, but it is a widely used tool for clearing drainage due to its versatility. Some adopters have found that ordinary garden hoes, which are easy to obtain and light in weight, are satisfactory for cleaning drainage. The handles can be cut off at about four feet, making them easier to carry and use.

The outflow at the end of the waterbar or dip should be straight, wide (at least 18 inches), deep, and root-free with side slopes graded. If the outflow is not adequate, it will clog and cause the waterbar to fill up with dirt and debris. It should drop off sufficiently so that water is carried off of the trail and does not back up or re-enter the trail further down, but the outflow should not drop precipitously off the downhill side of the trail or channel the water. If it does, the outflow will erode back up toward the trail and eventually into it. Brush out the area along and at the end of the ditch to facilitate cleaning. Outflows often require considerable digging and removal of roots, vegetation, and rock. Curved ditches slow the water down and allow silt to deposit. If the outflow is too shallow, water may overflow onto the trail, but steep sides may collapse and clog the ditch. A good, wide ditch will require less maintenance over time and ensure adequate drainage.

Streams with shallow channels crossing the trail or near the trail should also be checked and cleared of debris. Logs, brush, rocks, and leaves may clog the channel and divert the water so that it runs down the trail.
Side ditches are useful in areas of wet, saturated soils. They are particularly helpful in directing water alongside a trail in places where a waterbar cannot be placed across the trail. Ditches can be dug along one or both sides of the trail to provide drainage for ground seepage and to create a high, dry trail tread. Drainage ditches should be carried down the trail to the next waterbar, which will direct the water away from the trail. Ditches silt in and become vegetated and, like waterbars, need to be checked each year. The same principles apply to ditches as to waterbars and water dips. Avoid leaving large, unsightly mounds of dredge mud and debris along the side of the ditch. Organic mud and leaves should be discarded as they hold water and make the trail muddier.
Clearing the encroaching vegetation from the space around a trail helps to keep hikers on the trail. In certain environments, even a heavily used trail can become overgrown in a few years. A properly cleared trail is one upon which a large hiker with a full pack can walk erect without touching trees, limbs, or brush. The line of sight is open and unobstructed and the footing is clear. The correct height and width (trail corridor) for a trail depends on the type of trail. A four foot width and 8’ height is sufficient for most wooded trails. Trails used as ski trails should be brushed wider and taller. A narrower width is preferable for trails above treeline or in federally designated Wilderness areas. In Wilderness areas, the corridor should only be wide enough to pass through; roughly shoulder width.

<table>
<thead>
<tr>
<th>Trails:</th>
<th>Basic</th>
<th>Wilderness</th>
<th>Alpine</th>
<th>Ski</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brushing Width</td>
<td>4’ wide x 8’ tall</td>
<td>3’ wide x 6’ tall</td>
<td>2’ wide</td>
<td>8’ wide x 12’ tall</td>
</tr>
<tr>
<td>Tread Width</td>
<td>24” wide</td>
<td>18” wide</td>
<td>24” wide</td>
<td>NA</td>
</tr>
</tbody>
</table>

Lateral branches extending into the trail become heavy when wet or laden with snow. Hikers brushing against these branches quickly become wet. Adopters, if possible, should walk their trails in rain or just after a rainstorm, or during the winter with snowpack on the trail, to gain a good appreciation of how much brushing is needed.
Limbs on trees should be cut flush with the trunk, just at the edge of the ring of woody material at the base of the branch. "Hat-hanger" stubs are unsightly, hazardous, and take longer for the tree to heal. Branches growing toward the trail should be cut back to a limb growing away from the trail. Some branches on the opposite side of the tree should be removed to avoid creating a tunnel-like appearance of the trail. A canopy left over the trail at a height of eight feet or more will suppress underlying growth.

Low shrubs and young trees that tend to encroach upon the sides of the trail should be cut flush with the ground for aesthetic and safety reasons. Avoid leaving pointed stumps, which are potentially dangerous if stepped on or fallen upon. Annual growth, such as ferns and grass, can be left unless it is particularly thick and aggravating. Avoid clearing branches if doing so exposes fragile plants and mosses to trampling. Remove all dead trip roots from the trail. Do not cut live roots in the ground or brush on the downhill side of a side-hill trail because these help hold the soil. Do not cut trees and undergrowth heavily on the inside of a corner where hikers may shortcut the turn. Don't cut edges heavily in boggy areas or hikers will widen the trail.

After trimming, it is very important to remove all branches and debris from the trail. Pick up all branches, trees, and debris and scatter them off the trail with the cut end facing away from the trail. Piles should be avoided because they are unsightly and can create a fire hazard. Downed trees should be dragged butt first until the top is completely off the trail. This helps conceal the tree. Large limbs and small trees can be thrown clear of the trail, provided they do not hang in the branches of shrubs and trees next to the trail or stick up butt first. Be sure not to throw brush into drainage ditches or their outflows.

The trail crew will patrol all AMC trails in the White Mountains in the spring, removing all blowdowns before June 15. While on patrol, trail crews will quickly clean the waterbars in the White Mountain National Forest. Some trees will fall during the course of the season and can be removed by adopters if it's safe to do so. Blowdowns across the trail and trees leaning over the trail ("leaners") should be removed. A large blowdown lying across the trail should be cut on each side of the trail and the center section removed. Smaller blowdowns can be cut in pieces and dragged away from the trail. Leaners have to be cut down and dropped into the trail before cutting up for removal. Sometimes a large tree falls parallel to the trail with branches projecting into the trail. If the tree is not in the trail, the projecting side branches can be cut off. Be sure to cut these flush with the trunk. Most blowdowns, including relatively large ones, can be cut with a bowsaw or a folding saw. Larger trees may require an axe or chainsaw, which can only be used with proper certification and safety gear provided by the adopter themselves (do not use chainsaws in Wilderness areas). If you have a tree that is too large for you to handle, include a note in your work report and inform the your Region Leader so that arrangements can be made for a crew to remove it.

Take safety precautions when removing blowdowns and work with someone. Study the situation carefully before beginning, noting especially the direction in which trees or branches will move and fall. Determine whether there are any spring poles underneath the blowdown. When weight is removed from spring poles, by cutting the overlying log, they can suddenly spring back and inflict serious injury. Identify an alternate unobstructed escape route in case the tree does not go in the direction you planned. Be careful of limbs or tops snapping off above you, especially if the tree is falling. This occurs more frequently with old, dead trees known as "widow makers." A hardhat is required when felling any kind of tree. Avoid cutting widow makers or anything else unless you are confident you can do so safely.

**Pruning in the krummholz zone.** Special care should be taken when clearing trails near or above treeline where the climate is severe and growth rates are very slow. Trees two to three feet tall can be over 100 years old. The trees forming krummholz grow in interdependent communities in which roots and branches are intertwined in protection against wind and cold. Removal of one tree in a patch of krummholz can jeopardize the other trees in the patch. Rather than loppers, use hand pruners for the fine task of pruning krummholz.

Prune limbs, rather than completely cutting trees and ground vegetation. Be careful when cutting branches near the ground, as they can snake their way for long distances and you may kill a large branch. Try to find the whole branch before cutting so you know exactly what you are removing. Remember that krummholz grows in areas protected from the relentless winds, therefore be careful about how wide you open up the trail corridor when pruning branches. The rule of thumb is that the branches should not touch a hiker, so a **two-foot corridor is ample.** You will find this is different.
when you hike back down the trail, some branches that did not hit you on the way up, will stick out far enough to touch you on the way down, so prune in both directions.

You should make the pruning cut just outside the branch bark collar. This is the ring of callous material at the base of the branch that will heal the wound. Flush cutting removes this ring, so be careful and take your time; it takes patience to maneuver your hand-held pruners into the right position to make the cut. If the branch is over a half inch in diameter, use your saw to make the cut. If you take off about two years growth you will not have to trim the same tree every year.

By being observant of old cuts, you can see how trees heal themselves. Look at trees where branches have been removed and you will see the callous cells growing over the wound. After the next growing season, go back and look at the tree to see how your cut is healing. If the branch collar is growing symmetrically all around the wound, the cut was in the right place and at the right angle. Avoid leaving points or stubs when you prune. Besides being dangerous to hikers, the stub creates an opening for disease-carrying organisms to enter the tree. A tree with a bunch of stubs does not have a natural appearance.

**Trail Definition**

Bootleg trails, multiple braided trails, and overly wide trails are some of the most serious problems affecting trails. Bootleg trails often develop when hikers cut switchbacks. In wet areas, hikers may hike to the side of a muddy trail, widening it. They also develop when the trail is poorly brushed and blazed or when blowdowns are not removed. When hikers are unsure of the direction, they may take multiple routes. Obstructions, such as a tree growing in the trail or rocks in the tread, can cause two or more parallel trails to develop. These situations are not only unsightly, but increase the impact of hiking on the environment.

In dealing with these problems, first try to determine why they are happening. Blazes may be faint or misplaced. A blowdown or brush projecting into the trail can force people to take a different direction. After correcting these problems, block off the bootleg trail with brush. Large gnarled logs and dead softwoods are particularly effective, as hikers will usually take the path of least resistance. Allow new growth in the trail you’ve blocked off, and minimize trimming so that the entrance is less visible. Where a trail diverges in two, for example around a tree in the trail, brush in the less usable of the two routes. Above treeline, small dead trees, if you can find them, can be used to block braided trails. These should be weighted down with rocks to keep them from blowing away. In alpine areas, if you make the intended trail easy to walk on by removing pebbles and other rubble, hikers will be more likely to stay on it. The material removed can be used to cover the bootleg path.

Hikers will sometimes avoid using rock or log steps, no matter how clear and well placed they are. If vegetation along the steps is killed due to overuse, the soil will erode, undermining the steps. In these cases, scree consisting of large rocks should be placed alongside the steps to focus hiker travel on the steps. Hikers may step over the walls in which case they should be built higher. Make sure that all scree is large enough and secure enough not to be knocked loose if kicked or stepped on. In addition, brush and rotted or gnarled logs can be placed alongside the steps making it undesirable to step off the trail.

**Scree Walls**

An effort should be made to minimize scree walls in alpine areas, but a trail two feet in width with scree walls is preferable to one 25 feet across without them. Gather loose rocks and rubble from piles of scree or bare rock piles only. Do not dig rocks up out of the trail or in vegetated areas adjacent to the trail. Walk on stones when venturing off the trail to look for suitable rocks. Many tiny alpine plants depend on rocks for shelter, therefore, do not pull up rocks that have growth around them. Make a six-inch high wall on each side of the trail. After defining the tread with the scree walls, place rocks outside the scree walls to make those areas appear unattractive for hiking. Scree walls can concentrate water flow on the trail, so that it may be necessary to install soil waterbars after building scree walls. Well-placed cairns are also helpful in defining the trail in alpine zones. Studies indicate revegetation will occur, although slowly, in impacted areas in the alpine zone if hikers can be kept off them.
Bootleg Campsites
You may encounter bootleg campsites along the trail. Some trails pass through Forest Protection Areas (FPAs), or are located in Wilderness areas. Off-trail camping is not permitted within 200 feet of these trails, within one quarter mile of facilities and roads, and must be below treeline. For complete Forest Service backcountry camping restrictions, visit https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5363715.pdf. These regulations are designed to disperse off-trail camping over a large area rather than having it concentrated along the trail or around facilities. Sites well off the trail are less likely to be seen and used again and thus should recover quickly. Minimize the impacts of bootleg campsites by breaking up and dispersing fire-rings and ashes, making sure they are cold first. Pick up any litter. Brush in the site with large logs and dead trees hauled in from the woods. These, though, are often subsequently cleared away or used for firewood. "Planting" rocks in the site is an effective approach, although it is time consuming. Find large rocks and boulders and partially bury them in holes. Then place rock rubble and brush over the site. With time, the site may revegetate. Monitor the condition of the site for worsening impact.

Trails in Wet Areas
Almost all low sections of trails will pass through wet areas. Higher up, many trails pass through mountain bogs. These areas are often muddy, slippery, or have puddles of water on the tread. Hikers who want to avoid getting their boots muddy may walk to the side of the trail tread. This results in destruction of vegetation along the treadway and progressive widening of the trail. Basic training does not cover techniques used to elevate tread out of boggy areas, but you may be able to help by investigating the drainage of the area. In many cases, maintaining proper drainage uphill is a solution. Or you may find a low area which can be opened up so the water flows off the trail. Another option is to dig drainage ditches along both sides of the tread, throwing any soil onto the tread (even if it is wet and muddy) to build up the tread.
**Trail Marking**

**Blazing**

A properly blazed trail is important in making hiking a safe and pleasurable experience. And, by helping keep hikers on the trail, blazing reduces impact on the environment. Blazing is the last priority for Trail Adopters, after drainage cleaning and corridor brushing. Blazing is intended to reassure hikers that they are on a trail, it is not intended to “hold their hand” while in the woods; so a properly maintained trail corridor will do a lot more good for hikers than an overly blazed trail.

**When to Blaze your Trail**
- Only blaze after informing your Region Leader (either by email or phone call) that you intend to blaze your trail (this is so the Region Leader can actively keep track of blazing in each region)
- Only blaze after brushing the corridor to proper standards (by doing this, it is easier to see where exactly a blaze is or is not needed)
- Blaze during the summer when foliage is at peak density and when it is warm and dry
- Do not blaze during or immediately after a rain event, or if rain is predicted within 24 hours as paint may not properly set when wet

**Should you Blaze your Trail**
- Do not blaze on Alpine zone trails or on Wilderness trails
  - Use rock cairns on Alpine trails
- Do not blaze on rocks without explicit AMC Trails Department permission
- Only blaze regular hiking trails and ski trails (see below for details on blazing ski trails)
Standards & Practices of Blazing

- When deciding on blaze spacing intervals, consider the following:
  - In general, there should be no more than one blaze within sight at a time
  - At water crossings without a structure, blaze as close to the water as possible
  - At turns in a trail, or areas with large drainages that can be mistaken as the trail corridor, additional blazing may be appropriate

- When choosing a tree to blaze on, consider the following factors:
  - Live trees are always preferred to dead trees
  - Avoid trees with shedding bark like birches
  - Use trees with contrasting colored bark so paint is visible
  - Ensure tree has wide enough diameter to meet blaze size standards

- When placing a blaze on a tree, consider the following:
  - Blazes should be placed approximately 6’ off of the ground on the tree
  - When possible, avoid blazing on opposite side of a single tree (if tree falls over, 2 blazes will then be lost)

- Tips when you are on the trail blazing:
  - Strongly recommended that 2 or more people blaze together (helps with sighting the blaze location, and makes the trip go faster)
  - Recommended to blaze entirely in one direction, then turn back and blaze in opposite direction
  - Do not automatically repaint old blazes*; this is because the old blazes could be:
    - wrong color or size
    - too many in number and some old ones should be left to fade away
    - poorly located on the trail, or not on a tree
    - the trail may now be in a wilderness zone
  *Seek Region Leader advice if uncertain on refreshing old blazes

- Tips for painting blazes:
  - Scrape the tree’s bark lightly first (do not debark the tree, but your painting surface should be smooth)
  - Carry a template as a guide
  - It is not recommended to use a stencil as they often lead to paint runs or drips
  - Paint a 2-inch wide by 6-inch tall rectangular blaze; no other shaped blazes are permitted
  - After painting blaze, use a rag to touch up any drips or runs so that only a rectangle remains

- Contents of a Paint Kit (these are items provided by the AMC, though you are free to add additional equipment as needed)
  - Paint kits will be made available at all Adopter Tool Caches during the summer months (if additional paint is needed, please inform your Region Leader)
  - Paint brush
  - Bark scraper and/or sandpaper
  - Approximately 1 pint of paint in sealed container (please only get paint from AMC tool cache – do not use your own paint)
Recommended additional items (that may or may not be provided in each kit*)
- Rag
- Ziplock bags
- Paint thinner
- Small container to pour paint into when actually painting
- Template

*If you need any of the recommended items, the AMC can provide them upon request – please inform your Region Leader

• Color of blaze
  - Do not automatically assume that your trail is blazed in the correct color as the trail may have been newly designated as wilderness, rerouted to connect with the Appalachian Trail, or a previous adopter may have made a mistake
  - Please use only paint provided by the AMC as there are specific styles and colors that meet the standards required of blazing
  - White – any trail that is the Appalachian Trail not in wilderness or alpine areas
  - Blue – any trail that connects with the AT not in wilderness or alpine areas
  - Yellow – any trail that is not, nor connects with, the AT and not in wilderness or alpine areas

*Ski Trail Specific Instructions
Ski trails are blazed differently than hiking trails. If you adopt a ski trail, please follow these instructions below:

- Ski trail blazes are plastic diamonds provided by the AMC Trails Department only; they are not painted blazes
- Place blazes in the winter, after sufficient snow fall has accumulated; this way you will be higher off of the ground and have a better idea of where exactly to place the blaze
- Hammer in the blaze using two nails; do not hammer the nail all the way in as that will not allow for room for the nails as the tree grows
- All other standards and practices regarding hiking trail blazing apply to ski trail blazing

*Cairns
Cairns are rock structures used to mark trails in treeless areas. They are an important safety feature above treeline where the trail may not be visible in fog or storms. They are effective year round because of their visibility, even under snow and ice conditions of winter. Finally, they protect the environment in alpine areas by keeping hikers on the trail.

On trails that are straight, cairns should be spaced about 100-200 feet apart. The distance should be less, about 50 feet, in areas subject to heavy fog. Trails that are curved or have bends present a special problem. If there is a bend in the trail between cairns, hikers will take a straight line between cairns, cutting off the bend. Thus, cairns should be placed at turns or bends in the trail to keep hikers on the trail. Cairns should be placed in conspicuous locations such as a knoll or ledge. Cairns placed in optimal locations against the skyline are visible for a mile or more. Cairns should be about five feet high. They should be squat for stability, almost as wide at the base as they are high.
Cairn building is time consuming and, like much rockwork, as much an art as a science. Taking the time to make a well-built cairn will save time in the end by reducing the necessity of repairing or rebuilding the cairn. Large, flat rocks should be used in cairn construction. Locating and carrying suitable rocks can take as long as building the cairn. When collecting rocks, avoid disturbing and stepping on alpine growth. Use the largest stones possible for the base. Each layer should slope slightly to the center of the cairn, so that gravity will stabilize the cairn. Fill the center of the cairn with rubble - bigger stones are better as small ones will condense together allowing the cairn to collapse in on itself. Build successive layers, making sure that each joint is bridged by a stone. Each stone should also have at least three points of contact with underlying stones for stability. Wedging small stones into cracks for support is not a good practice. Shifting produced by wind and frost action will eventually cause these small pieces to move and the cairn to collapse. In winter, wind blowing against snow is sufficient to topple an unstable cairn. A test of a cairn's stability is to stand on it. After the cairn is built, you can try putting small stones in gaps for aesthetic reasons. Search for a white rock to place on top of the cairn for visibility.
Tools

Most adopters buy at least some of the most frequently used tools. Hardware stores are good sources for basic tools. For more specialized tools, there is a list of suppliers of tools, equipment, and supplies for trail maintenance in The Complete Guide to Trail Building and Maintenance. Check at the trails office for catalogs from forestry suppliers. By owning your own tools, you will appreciate their comfort, condition, and availability. Experience has shown that when buying tools, it pays to purchase high quality tools that will do the job and last, even if they are more expensive. Consider putting a bright color on a portion of your tool to make it easier to find on the trail or in the brush if you misplace it.

If you are working alone, it will be difficult to carry enough tools to do everything on one work trip. Thus, on each work trip, plan to do a specific task. When blazing, take only the paint kit and perhaps clippers. When brushing, take clippers and a bow saw. For drainage work, the hazel hoe will handle most chores. If you have people to help you, it is possible to bring a greater variety of tools. If your trail is some distance from the road or above treeline, there are lightweight tools such as folding saws and shovels, garden hoes, and lightweight mattocks that allow you to bring more tools to the work site.

The essential tools for basic maintenance are a pair of clippers, a bow saw, a tool for cleaning drainage (hazel hoes are ideal), and a blazing kit. A brief description of the commonly used tools and their uses is provided below. Keep in mind that improper use of a tool can result in serious injury. The skills sessions provide instruction on the safe and proper use of tools.

Clippers, pruning shears, or lopping shears
These are one of the primary tools of adopters. They come in a variety of types and the ones used depend on the work to be done and the preferences of the adopter. The handles may be made of wood, steel, or aluminum. The cutting heads are either the sliding blade-and-hook type or the anvil type. Some have simple pivot actions while others have compound or gear-driven actions that provide increased cutting power. Most clippers provide a one to two inch diameter cut. Pole clippers have a six to eight foot handle. These are useful for cutting high limbs along ski touring trails. Small hand clippers or pruners are useful for light pruning and can be carried in a pocket. They are especially useful for pruning krummholz above timberline.

Bow saws and pruning saws
These are also among the most frequently used tools and again come in a variety of shapes and sizes. Most have chrome-plated steel or aluminum frames and blades ranging from 21 to 36 inches. Some are collapsible or folding and can easily be carried in a pack. The smaller saws are useful for cutting saplings and limbs that are too large for the clippers. The larger saws are used for cutting blowdowns. By making an undercut in addition to the top cut, a sharp bow saw can quickly cut leaners 12 inches in diameter. Pole saws are available for cutting high limbs. Non-folding saws can be lashed to the back of a pack. Adopters use different types of sheaths, such as a segment of garden hose, cardboard, cloth, or aluminum, to cover the blade.

Pick mattock
The pick mattock is one of the most important tools used for basic maintenance in the White Mountains because of the large numbers of rocks encountered. It is a heavy, sturdy tool that can be used to dig through rocky soil and roots. A pick mattock, which has a head with an adze, is favored by most maintainers because it can be used for cleaning waterbars and drainage and for prying out rocks when they are encountered.

Hazel hoes and grub hoes
These tools are used for cleaning waterbars, cleaning drainage ditches, and side hill grubbing. A hazel hoe has a six to eight inch wide adze blade and a curved handle. Grub hoes have a narrower blade and are essentially mattocks without a pick or cutter blade. Garden hoes with the handle shortened represent a lightweight alternative.
McLeod and Rogue Hoe
These tools combine a rake on one side, and a hoe on the other, and can also be used to tamp. They offer the advantage of longer handles and multi-functionality when cleaning drainages, shaping dips, or working on tread.

Shovels
Shovels, which come in different forms, are useful for removing loose soil from drainage and installing new drainage dips and side ditches. Shovels should not be used for prying out rocks as they may break. A pick mattock or crowbar should be used to remove the rock. Some maintainers slightly sharpen the shovel blade to facilitate cutting through small roots. Small folding shovels or foxhole shovels are light and can be carried in a pack.

Axe
The axe is used in trail work for cutting logs for trail reconstruction. It is also used for removing blowdowns. A three and a half pound, single bit axe head is most commonly used in trail work. Old or nicked axes, referred to as root axes, are used for cutting out roots. Axes are safer and more efficient when kept sharp. Axes should always be sheathed when not in use. **Please inquire about special training requirements before using an axe on your adopted trail.**

Swizzle stick
The swizzle stick or weeder consists of a straight or serrated blade attached by one or both ends to a long handle. This tool is used for clearing brush and low growth along trails. Because swizzles are swung like a golf club, it is important that the user maintain a safe distance from other people. It is recommended that the nuts that are supplied with the swizzle be replaced with aircraft style nylon insert lock nuts before going out into the field. You should also carry replacement nuts and bolts and the tools needed to install them. Never lay an uncovered swizzle on the ground; lean it against a tree.

A variety of other tools are used for specialized purposes in trail work. These include bark spud or peeler, chainsaw, crosscut saw, digging bar, fire rake, pick, and Pulaski (which has a single bit axe blade and a grub hoe blade). Other tools used in trail clearing are the safety or brush axe, brush hook, machete, and hatchet. These are used in cutting brush, saplings, and limbs but have the disadvantage that it is difficult to cut flush with the ground or tree. These are probably best used when clearing heavily overgrown areas or putting in a new trail, but are discouraged for routine maintenance.
The use of tools in trail maintenance carries some risks and hazards. Listed below are some of the risks and recommended safety gear that adopters should consider including in their rucksack. Safety equipment can be obtained from the forestry suppliers. Basic safety equipment for all trail work includes sturdy boots, work gloves, and appropriate dress for the weather. Maintain tools in good working condition; know your abilities and limits; and take breaks before you are too tired. Besides protecting yourself, it is important to be aware of anyone near you when you are using tools. It is also recommended to carry a first aid kit when working and to complete wilderness first aid training every two years.

Risks associated with trail maintenance and recommended safety equipment

<table>
<thead>
<tr>
<th>Task</th>
<th>Risks</th>
<th>Safety Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brushing</td>
<td>Bees, eye pokes, rotten trees, loose footing,</td>
<td>Eye protection, gloves</td>
</tr>
<tr>
<td></td>
<td>blisters, sharp branches, sharp tools</td>
<td></td>
</tr>
<tr>
<td>Axe use</td>
<td>Sharp tools, dull tools, loose footing, blisters, tree cutting risks*</td>
<td>Gloves, hardhat, shin guards, boots</td>
</tr>
<tr>
<td>Chainsaw use**</td>
<td>Kickback, severe ragged cuts, tree-cutting risks, deafness***</td>
<td>Kevlar chaps, eye and hearing protection, boots, gloves</td>
</tr>
<tr>
<td>Log work****</td>
<td>Sharp tools, slippery logs, rolling logs, back strain, loose footing</td>
<td>Gloves, shin guards</td>
</tr>
<tr>
<td>Rock work</td>
<td>Crushed fingers and toes, back strain, loose footing, striking head with pry bar, abrasions, rocks rolling downhill</td>
<td>Gloves, shin guards, hardhat</td>
</tr>
<tr>
<td>Tree cutting</td>
<td>Falling branches and timber (&quot;widow makers&quot;), spring poles, bees, chainsaw or axe use risks</td>
<td>Gloves, boots, hardhat, ropes or winches, wedges, axe or chainsaw gear</td>
</tr>
<tr>
<td>Alpine work</td>
<td>Back and arm strain, dehydration, lightning, overexposure to sun, rain, or wind</td>
<td>Sunscreen, sunglasses, sun hat, adequate clothing and water, leave area during storms</td>
</tr>
</tbody>
</table>

*Dull axes may glance off your target and inflict serious cuts. Training or certification may be required before using an axe on certain lands. **Chainsaw users must be properly trained and take a chainsaw safety certification course. These courses are available through the National Park Service, AMC, Forest Service, and State agencies. Chainsaw users should not work alone. Adopters must use their own chainsaws and safety gear. ***Sustained use of chainsaws without hearing protection causes deafness. ****Logs are surprisingly heavy, and working with them can be as risky as working with rocks.

**Tool Cache Information**

The AMC has a large quantity of tools available for use on your work trips. These are located in the tool caches and may be borrowed by adopters. Tools should be signed out and returned promptly after each trip because they are used by other adopters and trail crews. When tools are not returned, another adopter is denied the opportunity to use them and the AMC must expend scarce funds to replace them. The locations of the tool caches are listed below. You do not have to make reservations for tools. If your group needs all of a particular tool(s) in a cache, please get the tools at Camp Dodge.

The combination for all tool cache locks is 1876
Tool Cache Locations

(Marked by a star)

**Franconia Notch Tool Cache.** Rt. 93, turn into Lafayette Place Campground, pass the parking areas, see the maintenance building on the right; it's in a job box behind one of the buildings.

**Crawford Notch Depot Tool Cache.** Rt. 302 in Crawford Notch, cache is in back and outside of the restroom building.
AMC Cold River Camp Tool Cache. Rt. 113 in Chatham, turn at the sign into the Camp, very first building on your left, on the end and outside.

Grafton Notch, Puzzle Mtn Trailhead. On the west side of Rt. 26 in the trailhead parking lot for the Grafton Loop Trail, headed up to Puzzle Mountain. The cache is to the left of the Grafton Loop trail as you first get on the trail itself.

Maine Woods, Hedgehog Gate. This cache is located to the east (left side) of the gate building on the path to the outhouse.

Maine Woods, 3rd Mountain Trailhead. This cache is located at the trailhead for 3rd Mountain, which is southwest of Gorman-Chairback lodge on Chairback Mountain Rd.

Speck Pond Tent Site, No. Mahoosuc. Talk to shelter caretaker. They can be found either underneath the caretaker's tent platform or underneath Speck Pond Shelter.
**Cardigan Lodge.** The tool cache is in the tool box located behind the shed, which stands east across the field from the main lodge. Ask inside for additional information.

**Camp Dodge Volunteer Center.** Available from Mother’s Day Weekend in May, through Columbus Day Weekend in October: Rt. 16, four miles north of the Pinkham Notch Visitor Center (between Gorham & Jackson), turn at the sign onto a dirt road, when road splits, go straight (not right); tool shed is next to the parking area. The tool shed is usually unlocked. See the Camp Dodge Coordinator if it is locked. Call Camp Dodge (603 466-3301) as it gets closer to the date for the exact May opening date.

Camp Dodge is closed in 2019 – tools may be picked up at Pinkham Notch Visitor Center.

**Pinkham Notch Visitor Center.** This tool cache box is available year round – and there is no need to call the Trails Volunteer Supervisor ahead of time to arrange pick up. The cache box is located next to the Woodchuck building. If you need further assistance locating the cache, please ask at the Pinkham Notch Visitor Center for the location of the Woodchuck building.
The books listed below provide additional information on topics related to hiking trails including maintenance, history, and etiquette. Most of these books and many others are available from the Appalachian Mountain Club and can be purchased at the Pinkham Notch Visitor Center. In addition, there are many useful fact sheets on topics such as trails, wildlife, shelters, weather, water, and many others prepared by the Forest Service and AMC and available at Pinkham Notch or the Forest Service District offices.


