

# **Trail Maintenance and Construction Tasks, Their Hazards, and Recommended Safety Gear**

***Compiled by the Appalachian Trail Conservancy***

This chart was prepared by ATC using trail work job-hazard analysis by U.S. Forest Service district personnel, A.T.-club volunteers, ATC volunteer-crew leaders, and ATC management staff. The information provided in the chart represents a distillation of information about accidents that have occurred or that are likely to occur during different types of trail work.

The ATC skills-training and Trail-crew safety policy, adopted by the ATC Board of Managers in April 1993, emphasizes the importance of safety equipment and job-hazard analyses in preventing work-related accidents.

This chart is only a guide. Common sense and awareness are the best tools you can use on any task.

Basic safety equipment for all Trail work should include: sturdy boots, work gloves, long pants, and appropriate dress for the weather.

Maintain tools in good working condition, know your abilities and limits, and take breaks before you are tired.

## ***Tailgate Meetings***

Perhaps the most important part of any trail-maintenance or trail-construction project occurs during the first few minutes. This is when the project leader should call everyone together and take a few minutes to talk about *safety* and the proper use of tools. (a.k.a., a “tailgate” meeting).

Safety is a concern for everyone, not just “first-timers.” Some “old-timers” tend to become complacent and forget about safety, too. Even if there are only a few people involved, it’s good to remind ourselves that trail tools—especially swinging tools and cutting tools—can do a great deal of damage to the human body.

### TRAIL MAINTENANCE AND CONSTRUCTION TASKS, HAZARDS, AND RECOMMENDED SAFETY GEAR

This chart is intended as a guide and is not comprehensive. See also specific job hazard analyses for trailwork tasks and procedures. Common sense and awareness are the best tools for any task. Basic safety equipment for all trail work includes a first-aid kit, boots, work gloves, long pants, and appropriate dress for the weather.

The first rule should always be: *Individual Trail maintainers have the obligation to say “NO” and walk away from any situation they determine to be an unacceptable risk.* (Adapted from the Forest Service’s Health and Safety Code Handbook.)

TRAIL TASKS	LIKELY JOB HAZARDS	SAFETY GEAR Boots, work gloves, long pants and helmets are recommended or required for all tasks	ADDITIONAL COMMENTS
<b>Overhead and Uphill Forest Hazards</b>	“Widow Makers” (dead limbs and other overhead or above-shoulder-height hazard trees, branches and blowdowns, if unstable or dead and uphill and overhead of workers)	Hardhats are required in some jurisdictions and strongly recommended for all Trail maintenance workers	Before working, LOOK UP! If dead limbs or leaner trees are evident, AVOID DANGER ZONES
<b>Cutting Brush</b>	Sharp tools, spring poles, loose footing, flying brush, poison ivy, bee stings, snakebites, ticks	Eye protection*, shin guards	<ul style="list-style-type: none"> <li>• Have soap and wash water available.</li> <li>• Know who is allergic to bee stings and poison ivy. If possible, carry sting kits containing epinephrine.</li> </ul>
<b>Power Push Mowing, Power Weed Whacking, and Riding Mowers</b>	Loud noise, thrown debris, severe cuts and lacerations, poison ivy, ticks, footing  Riding mower could flip  Proximity to vehicles when operating near roadways	Eye protection*, hearing protection**, long pants  Safety vest and warning signs (within 15 feet of roadway)	<ul style="list-style-type: none"> <li>• Before beginning, check area for trash or other obstacles, including overhead hazards.</li> <li>• Avoid operating in slippery conditions.</li> <li>• Do not operate near other people.</li> <li>• Cool engine before refueling.</li> <li>• Avoid operating within 15 feet of active roadway if possible. If operating within 15 feet of a roadway, wear high-visibility safety vest, place temporary traffic warning signs to alert motorists.</li> <li>• For riding mowers: Complete “Riding Mower Safety Checklist” before operation. Plan mowing pattern on hills so that mower is most stable.</li> </ul>
<b>Crosscut Saw Operations</b>	Severe, ragged cuts from the saw, back or muscle strains, rolling logs, falling trees or limbs	<b>Required safety gear:</b> Gloves, boots, hardhat, eye protection* (and/or face shield), first-aid kit  Other: wedges, ropes or winches,	Sawyer certification <b>required</b> , two-person crew minimum (one as a spotter)
<b>Chain Saw Operations</b>	Severe, ragged cuts from the chainsaw, kickback, fire, back or muscle strains, falling trees or limbs, rolling logs, loud noise	<b>Required safety gear:</b> Gloves, leather or cut-proof boots, chainsaw chaps to overlap boot rim by 2-inches, saw wedges, hardhat, eye protection* (and/or face shield), long pants, long sleeves, first-aid kit Other: srench, extra chain, ropes or winches	<ul style="list-style-type: none"> <li>• Sawyer certification <b>required</b>, two-person crew minimum (one as a spotter)</li> <li>• Cool saw before fueling</li> <li>• Keep saw tuned and chain sharp and tight</li> </ul>
<b>Tree Felling</b>	Falling trees or limbs, hollow trees, bee stings, barber-chairing	<b>See Chain Saw and Crosscut Saw Operations</b>  Other: ropes or winches, wedges	<b>See Chain Saw and Crosscut Saw Operations</b>
<b>Clearing Balds</b>	Sharp tools, back and arm strain, dehydration, loud noise (if using power equipment), lightning, overexposure to sun, rain, or wind	Sun hat, sunscreen, eye protection*, hearing protection** (if using power equipment), weedeater harness	<ul style="list-style-type: none"> <li>• Drink at least two quarts of water per day (one quart per hour when temperature is above 80)</li> <li>• Keep proper spacing between workers</li> <li>• Leave ridgetrest before lightning storms.</li> </ul>

\*safety glasses or safety goggles

\*\*ear plugs or ear muffs rated to 85 decibels

<b>Log Work (peeling, rolling, setting)</b>	Sharp tools, slippery logs, rolling logs, back or muscle strains	Shinguards, boots	<ul style="list-style-type: none"> <li>• Keep back straight, lift with legs or mechanical advantage</li> <li>• Work in unison</li> <li>• Keep tools sharp.</li> </ul>
<b>Sidehill Trail Construction, Waterbars</b>	Back or muscle strain, carpal tunnel syndrome, sharp tools, slippery or unstable footing, steep slopes, working too close to or walking by other workers	Shinguards, hardhat, eye protection* recommended.	<ul style="list-style-type: none"> <li>• Keep wrists rigid when swinging tools</li> <li>• Place one foot in front of the other and keep back straight when swinging or pulling digging tools</li> <li>• Keep proper spacing between workers</li> </ul>
<b>Rock Work</b>	Rock shrapnel or dust, crushed extremities, slippery or unstable footing, back or muscle strain, rattlesnakes	Steel-toed boots recommended, eye protection*, hardhat, shinguards	<ul style="list-style-type: none"> <li>• Keep back straight, lift with legs or mechanical advantage, work in unison</li> </ul>
<b>Rigging (winch work)</b>	Frayed cable, improper attachment of load or anchors, standing in the "bight," use of inadequate climbing hardware, overhead loads, hard-to-see cable, overloading system and parts	Gloves, boots, hardhat	<ul style="list-style-type: none"> <li>• Station lookouts</li> <li>• Inspect equipment frequently</li> <li>• Protect trees from damage</li> <li>• Avoid improper use of winch (do not be seduced by the power of the winch)</li> </ul>
<b>Crush and Fill (site-made gravel)</b>	Rock shrapnel, splinters or broken tool handles, carpal tunnel syndrome, working too close to others	Eye protection*, shinguards, hardhat, long pants and sleeves	<ul style="list-style-type: none"> <li>• Keep wrists rigid when swinging sledgehammer</li> <li>• Keep proper spacing between workers</li> </ul>
<b>Sharpening and Maintenance</b>	Cuts and burns from tools, flying metal filings; motorized tools may start accidentally	Gloves, eye protection*, file handle and knuckle guard	<ul style="list-style-type: none"> <li>• Remove spark plug wire on motorized equipment.</li> <li>• Handle blades carefully.</li> </ul>
<b>Carpentry</b>	Sharp tools, splinters, flying nail chips or sawdust, smashed fingers or thumbs	Eye protection*	Measure twice, cut once.

\*safety glasses or safety goggles  
 \*\*ear plugs or ear muffs rated to 85 decibels

