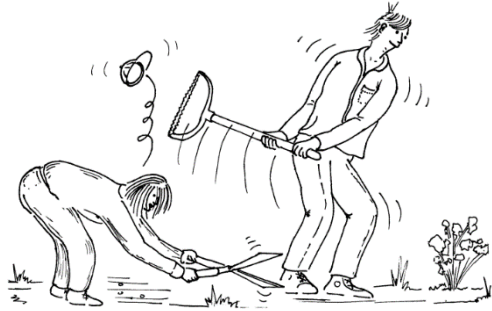


## Check list

- Volunteer Waiver - Make sure you have signed any waivers to perform trail maintenance on this day.
- Check-in/Check-out with the Trail Crew leader(s) – Make sure you notify someone in charge you have arrived or are leaving and get informed of any emergency contact plan.
- Attend Safety & Tool talk
- Personal Protection Equipment – Know and use the correct PPE for the work you are doing.

## Safety

Safety is the top priority for all trail work by volunteers. YOU are responsible for your personal safety. Plan ahead and prepare to be safe in all phases of your trail work: traveling by vehicle and on foot, work tasks, tool use, encounters with others, weather conditions, common woodland hazards, response to an emergency or injury.



## Safety practices and common sense

- Use the proper tools and learn to use them safely
- Carry tools on the downhill side of the trail balanced in your hand, not on your shoulder, with the pointy side down and sharp edges sheathed.
- Do not work too close to others in your group, general 10' distance
- Be aware of what others are doing around you
- Know your limitations and ask for help if you need it
- Warn others of hazards on the trail, and try to remove them as soon as possible.

## Follow normal safe hiking practices

- Avoid maintaining alone and tell others where you are going
- Be aware of health risks due to heat and cold
- Take plenty of water
- Take a first aid kit, and other critical gear
- Avoid poisonous plants and dangerous animals (ie. snakes)

## Safety & Personal Protection Equipment

- Eye Protection – clear or tinted glasses to protect the eyes.

- Gloves – protect hands and reduce blisters while working with tools
- Hard Hat – reduce risk of head injury from falling limbs
- Ear Protection – ear plugs or muffs to protect from noisy equipment
- Long Clothes – protects from sun, scratches, poison ivy, or things that may be thrown against you while doing something like weed-eating.
- Sunscreen – use on bare skin to protect from sun burn
- Insect Repellent – use to protect from ticks, chiggers and mosquitos.

## Tools – common hand tools for working on the trail.



Loppers – used to trim up to 2" limbs or saplings depending on tool. Easy tool to use; open/close, requires two hands to operate. Can get heavy over time, depending on tool size.

Hand pruners – used in one hand, cuts small brush and limbs ½" to 1" depending on tool.



Pruning Saw – used for larger limbs; good for cutting limbs close to the trunk or the ground.

Machete – good for cleaning the small limbs from a tree. Requires limbs to be still to cut (best at a joint). A hooked blade machete works best, and can cut grass and vines. Dangerous tool to use and requires a good knowledge of surrounding. Can slip out of hand if not careful.



Shovel – used for digging, moving dirt, filling holes, digging dips. Can also be used to cut small roots or pry roots up to remove from trail.

McLeod – this tool is a rake and a hoe combined in to one, and can be used as a tamper. Good for packing soil down when applying fill dirt.

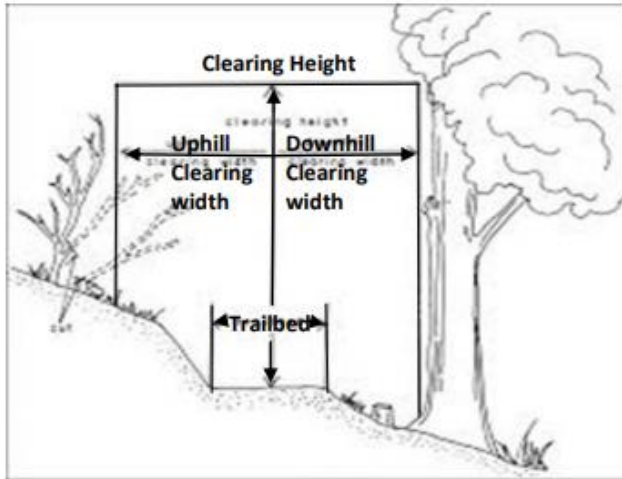
Pulaski – This is an axe and a grubbing hoe in one tool. It is good for dirt work as in bench cutting, removing stumps and can even be used for some limb removal. It is a dangerous tool with sharp blades, be cautious when carrying and using this tool.



## General Trail Maintenance

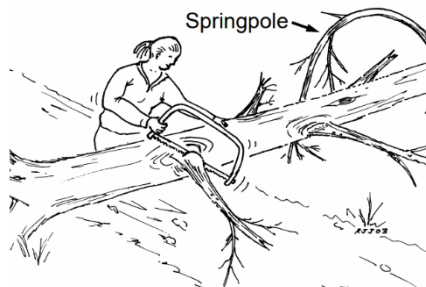
### TRIMMING (Also called BRUSHING, CLEARING or LIMBING)

- Trail Prism – the height & width of the trail corridor.
  - Clearing Height: 7-8 feet above trail tread (+2' for horse use)
  - Clearing Width: 6 feet minimum = 3' on each side of the center of the trail tread.
- Clip/cut limbs flush with main branch or trunk.
- Clip/cut brush or saplings flush or close to the ground.
- Scatter (don't pile) all cut material outside of the trail prism, preferably to the opposite side of any trees or brush.
- Consider brushing more heavily on the uphill side of the trail.



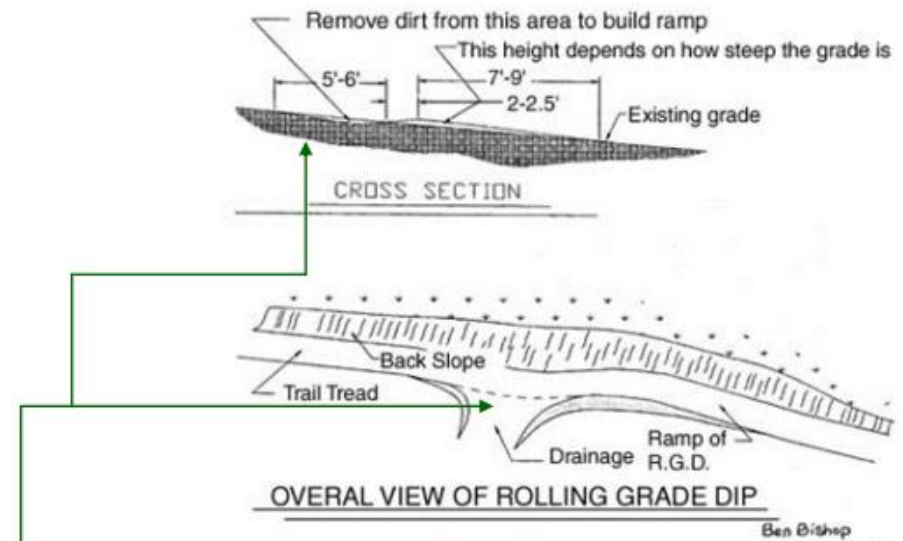
### BLOWDOWN REMOVAL (Also called DEADFALL REMOVAL)

- “Blowdown” are trees or limbs that fall across the trail.
- Check for hazards such as spring poles and overhead limbs.
- Do not work on hung-up trees or trees above shoulder height.
- Cut blowdown as wide as the clearing limits (3' either side of the trail tread).
- Remove cutting from the trail prism.
- Use only hand tools, unless you are trained to use a chainsaw.



### DRAINAGE DIPS. (Also called WATERBARS, WATER BREAKS, GRADE DIPS)

- WATER is the primary natural enemy of natural surface trails. Water running down a trail causes erosion and poor trail conditions. To minimize erosion, water must be diverted off the trail. Any sharp drop offs cause turbulence that will increase erosion. Water must flow slowly like a sheet over the surfaces to further reduce erosion.
- “Rolling Grade Dips” are preferred over log or rock water bars on multiple use trails, but are grade dependent.
- Effective drainage dips extend beyond both sides of the trail tread, and carry water off of and away from the trail.
- Clear out exiting drainage dips regularly. Pay attention to outflow areas where soil can deposit. Outflow areas must extend well beyond the trail tread.
- Deposit extra soil on the downhill ramp to build it up and pack it in.
- Reinforce the ends of the drainage dips to discourage users from going-around them. Use rocks, logs, etc.



Angle drainage dip at 45-60 degrees across trail tread.