



# Course 100. Intro to Trail Maintenance

## STUDENT SKILL OUTCOMES:

- A basic understanding of hillside hydrology and how trails work.
- Understanding of the importance of “Safety Awareness” in trail work and what is required of them to be safe volunteers, especially PPE.
- A taste of basic principles for trail brushing and hand sawing.
- A taste of what it takes to identify and clean drain dips and waterbars effectively.
- An introduction to “Trail Eyes”.

## KEY TERMS:

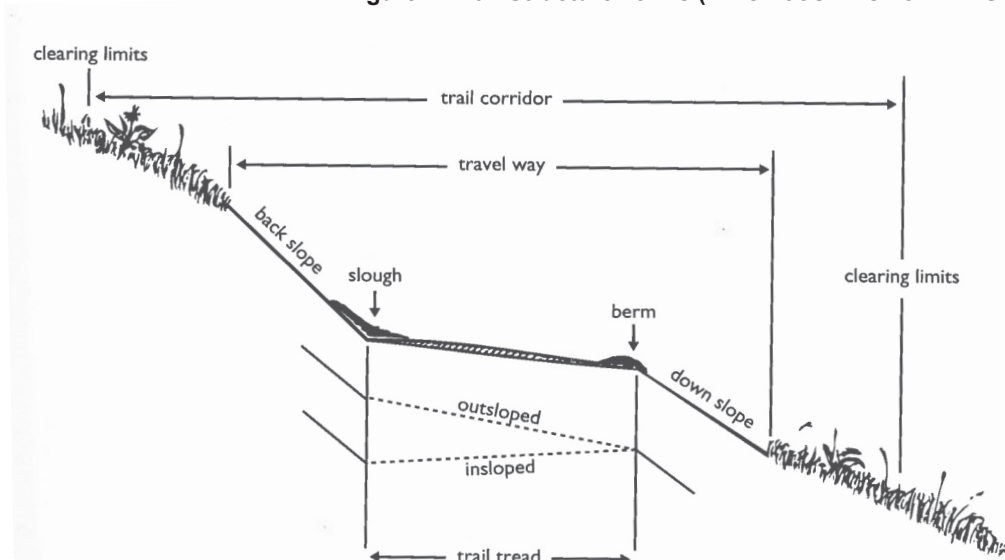
Use a copy of PCTA’s “Trail Terminology”

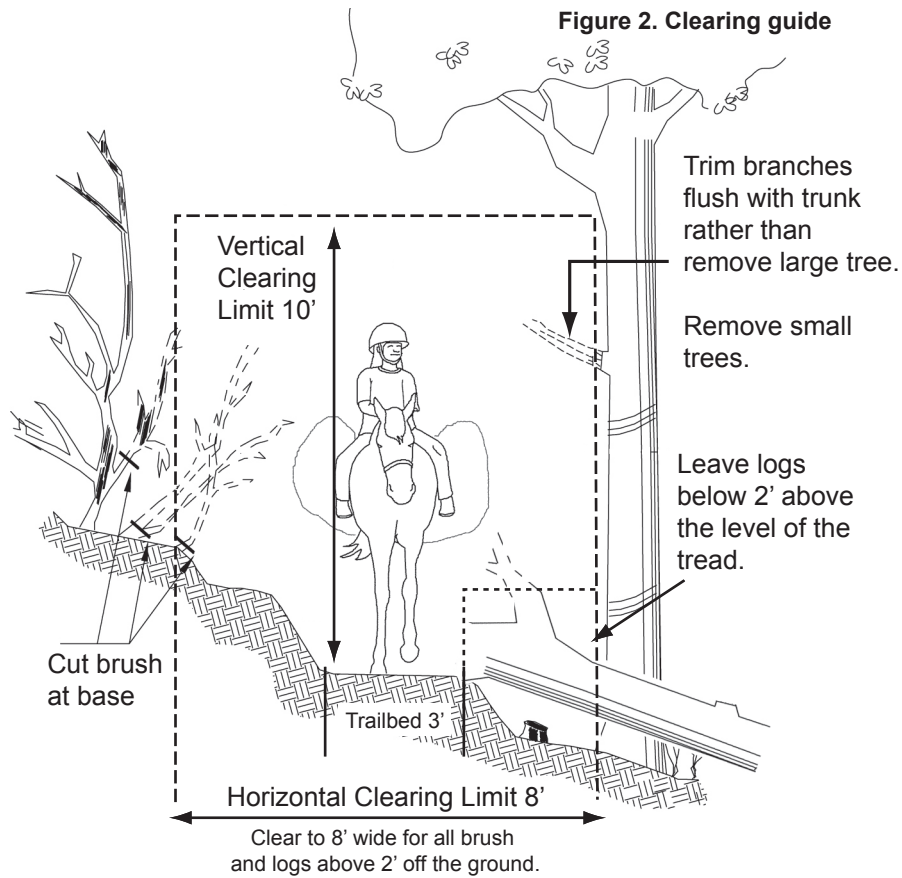
## KEY CONCEPTS:

- 1) Where Do Trails Come From, and How Do They Work:
  - Concept of trail design and management
  - Hillside hydrology and water erosion on trails
  - Ideal tread surface and drainage structures
- 2) Safety Awareness, Documents, and Concerns:
  - Personal Protective Equipment (PPE), Job Hazard Analysis (JHA), Tailgate Safety Session (TSS), Emergency Action Plan (EAP)
  - Ten essentials

- Go/No go
- 3) Brushing and Hand Saw Clearing:
    - Proper/ improper tool care and use
      - Lopper, hand saw, pole saw, Pulaski
    - Develop “Trail Eyes,” visualize trail corridor large enough for delivery truck to pass through
    - Standard clearing limits and basic brushing techniques
      - Cut brush flush with ground, tree trunk, limb junction
      - Recognize and safely remove spring poles
      - Log out small blow down and limb larger blow down
  - 4) Cleaning Drain Dips and Waterbars:
    - Proper/improper tool care and use
      - Shovel, McLeod, adze hoe, Rheinhard, Pulaski
    - Develop “Trail Eyes,” suggest hiking in rain to better understand water on trails
    - Clear dip and outfall ditch of any plants, roots, debris
    - Reestablish the apron, pack soil well
      - 20 – 30’ in length, 15% or greater out-slope to help self clean
    - If present, keep inside ditch clear of plants, roots, debris
  - 5) Report Work Promptly

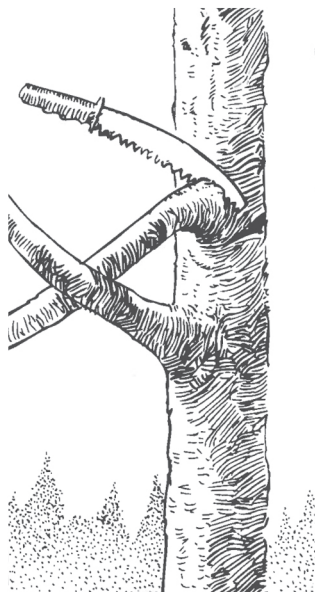
Figure 1. Trail Structure Terms (IMAGE COURTESY OF THE SCA)



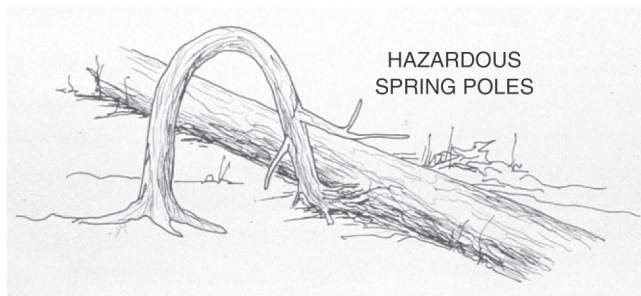


*\* These are general trail-wide clearing guidelines. Please work with your local land manager to determine if different guidelines are used in your local area.*

**Figure 3. Saw branches almost flush with the trunk to avoid leaving "hat racks." (IMAGE COURTESY OF THE SCA)**



**Figure 4. Look out for spring poles (trees or limbs that are held down by other trees.) Spring poles can release with great force, causing serious injuries. Make a series of small cuts on the inside of the bend when severing a spring pole. (IMAGE COURTESY OF THE USFS)**



**Figure 5. Diagram of modern waterbar construction**

