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
3) Go/No go
4) 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
5) 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)
**PCTA Trail Skills College Field Reference**

**Course 100. Intro to Trail Maintenance January 2019 Version**

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* 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.

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Figure 2. Clearing guide

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

- Waterbar (buried rocks or log)
- Without bar, this is a Drain Dip
- 5% Outslope
- 10-15% Outslope
- Outfall 2’ to 5’ wide
- Ramp 10’ to 20’
- Apron 5’
- Backramp 5’