



Online Intro to Trail Maintenance Training Instructor Outline

Introduction – 6:00-6:20

- Technology Tips – 5mins
 - Audio/video/*6
 - How to ask questions
 - Raise hand/Zoom’s “Reactions”
 - We’re going to play videos – quality may vary depending on your connection, bear with us
 - We’ll record this training
- Instructors introduce themselves - 3mins
- Group introductions - 4mins
 - Encourage turning cameras on
 - Wave/reaction/holler if: calling from CA, OR, WA, another state, gone hiking/horseback riding on PCT, haven’t been on PCT yet, PCTA member (explain membership), done trail work with PCTA or other org, 1st time volunteer with PCTA
 - Thanks! Usually meet in person, get to know each other, that’s a favorite part of volunteering.
 - Great to see what tonight’s group has in common, how we’re different. Speaks to PCT volunteer community as a whole.
- Start recording
- Why are we here tonight? -3mins
 - Substantial backlog of deferred maintenance. Trail work being taken up by volunteers, led by orgs, in partnership with agencies. Tackle deferred plus annual maintenance.
 - PCTA wide variety of trail maintenance opportunities – single day, week-long, right at trailhead, deep in backcountry. Skills and techniques we talk about tonight are foundation for those projects.
 - In a typical year, we’d teach these in-person. Getting creative.
 - This sampler class isn’t PCTA requirement, doesn’t prepare students to work independently or right away, especially during pandemic. Instead, want students to understand there’s a range of trail work tasks, leave tonight with foundation of tasks/techniques/tools, idea of what you want to do under crew leader supervision, or what class/training to take next.
- Details on today’s course – 2mins
 - Focus of the 100 Course
 - Hillside hydrology
 - How trails work and the concepts of trail design
 - Safety & Personal Protective Equipment (PPE)



- Developing “Trail Eyes”
- Basic trail maintenance skills
- Tools of the Trade
- We’ll have breaks, Q&As and door-prize drawings throughout

Safety and Tools – 6:20-6:50

- Safety is the #1 priority
 - Don’t take undue risks
 - Safety, Fun, Get Work Done
- Safety Documents – 5mins
 - Required by agency for coverage
 - Trailhead Communication Plan (TCP), Emergency Action Plan (EAP), Job Hazard Analysis (JHA)
 - Located on the PCTA website in the “Crew Leader Center”
 - Add link to chat window <https://www.pcta.org/volunteer/crew-leader-center/>
 - Safety is the priority
 - Crew Leader training cover this in great depth
 - Purposes of tonight, know that before you even arrive at a project, there will be multiple safety plans in place that many people will know.
 - Serious accidents rarely happen on the PCT but when they do, we are prepared.
- Personal Protective Equipment (PPE) - 10mins
 - Photo example
 - Important, required for trail work
 - Volunteers bring: boots (different criteria for some tasks like saw), long pants, long sleeves, sun protection
 - PCTA provide: hard hat, work gloves, eye protection
 - Changes due to COVID: face mask (non-N95)
 - Details lined out before project, you’ll know what you’re responsible for
 - Circumstances change, best and safest to wear all PPE at all times
- Tools – 15mins
 - Photo example
 - PCTA provides tools
 - Having the right tool for the job
 - Short description of
 - Tread maintenance tools
 - Corridor clearing tools
 - Individual preferences
 - Tools can vary by region
 - Add link to chat window:

- Handtools for Trail Work:
https://www.fhwa.dot.gov/environment/recreational_trails/publications/fs_publications/05232810/05232810.pdf
- Facilitate Q&A session
 - Read the questions out loud for people who can't see the chat window

(Break - 3mins) This can be a good time to mark attendance

Door prize drawing

Tread Maintenance – 6:55-7:10

- Add link to TM Notebook in chat window:
https://www.fhwa.dot.gov/environment/recreational_trails/publications/fs_publications/pdf/pdf00232839.pdf
- Introduce concept of trail eyes, think like water.
- Hillside Hydrology
 - In ideal world, water flows down hillside and when it encounters a trail with good outslope, it crosses the trail and continues down without eroding trail tread.
 - Worst case, hillside sheet flow is interrupted and follows the trail instead. As water gains volume and speed on steep grades, it erodes trail into deep gully filled with rocks and roots left behind after soil is carried away.
 - Moving water picks up debris. The greater the angle, the greater speed of the water, the more the water picks up. Need to slow it down.
- Erosion
 - In typical trail world, lots of circumstances cause tread erosion in varying amounts. Trails in soft soils/on steep grades are at most risk.
 - Different trail uses (hikers, horses, mules, donkeys, lamas, pack goats) loosen tread soil as they walk along.
 - When water comes along, loosened soil is carried away leaving concave/cupped tread.
- Define slough and berm
 - Berm: loosened soil winds up on downhill side of trail, combined with leaves & other debris, forms a berm. Berm by itself or combined with cupped tread disrupts outslope, prevents sheet flow by preventing water from leaving the trail.
 - Slough: same process that forms berm happens on the uphill side, exacerbated by addtl material falling onto trail from backslope, creating slough.
 - Video example(s)
- Introduce concept of outslipping
 - We'll talk about this more in "Drainage Clearing" section
- Trail tread enhancement

- Video example(s)
- Facilitate Q&A session
 - Read the questions out loud for people who can't see the chat window

Corridor Clearing Limits- 7:10-7:30

- Brushing and lopping
 - Diagram Example, dimensions
 - Visualize corridor
 - Cut brush/branch flush – no coat hanger
 - How quickly does vegetation grow in your local environment? Varies widely on PCT, sometimes you remove less, sometimes more. Check with locals
 - Hide clipping on uphill side
 - Nice beginner trail work because you can see your result immediately
 - When in doubt, cut it out
 - Can be done with hand saw, more experienced volunteers use gas-powered saws outside of wilderness
 - Video example(s)
- Brushing for Pack & Saddle
 - Spread arms for distance, step one foot off trail
 - Remember overhead
 - Video example(s)
- Springpole removal
 - Diagram/video examples
 - Dangerous due to built up energy waiting to be released
 - Volunteers have been severely injured
 - Purposes of tonight, learn to identify these and understand safety hazards
- Facilitate Q&A session
 - Read the questions out loud for people who can't see the chat window

(Break -3mins)

Door prize drawing

Drainage Clearing – 7:35-7:52

- Drain Dips, Rolling Grade Dips, and Waterbars
 - Each is used in a specific time and place; not created equal
 - Many drains are ineffective due to misplacement, type, and location
 - PCTA offers two TSC courses to cover all of the drainage material
 - 201 – Drainage Design & Drain Dips
 - 203 – Checks & Waterbars
 - Add link to chat window: <https://www.pcta.org/volunteer/trail-skills-college/trail-skills-college-course-curriculum/>

- Outsloping and apron
 - Focus on hillside hydrology
 - Clean apron and lead-off ditch of all debris, rocks, loose dirt, and vegetation
 - 15% or greater outslope to help self-clean (if possible)
 - Ensure the apron is large/wide, clean, and has a smooth transition
 - Ensure lead-off ditch is at least the width of 2 shovels
 - Make sure all vegetation is scattered away from the trail and out of sight
 - Remove dirt/tread material from drain and relocate to the trail on the downhill side of the drain; don't forget to tamp and compact
 - Video/diagram example (waterbar)

Final Q&A

Final door prize drawing

Now what? - 7:55-7:58

- Online course meant to be a sampler but there's much more to learn
- Tonight's training not a requirement, doesn't give OK to go do trail work
- Stay connected to PCTA
 - More online trainings
 - Connect with local chapter – descriptions about where, email lists, social media: <https://www.pcta.org/volunteer/regional-groups/>
 - Trail work opportunities when/where allowed
 - Less maintenance is getting done during pandemic, but that's OK
 - We'll reach out as more in-person opportunities are available, including trainings and TSCs
- Trainings like this will help us ramp up and bounce back as public health situation allows.
 - Visit 2020 TM Protocols page for more details: <https://www.pcta.org/volunteer/2020-trail-maintenance-protocols/>
 - TSC curriculum: <https://www.pcta.org/volunteer/trail-skills-college/trail-skills-college-course-curriculum/>
- Look at trails when out hiking
- Link to USFS Publications Website: https://www.fhwa.dot.gov/environment/recreational_trails/publications/fs_publications/
- We'll share resources from tonight like slides, recordings, links.

Acknowledgements – 7:58-8:00

- Thanks for your time, thanks for coming tonight!
- As a way for you to say thanks for tonight, complete the survey. We'll email soon.
- Door-prize winners: we'll check the mailing addresses we have on file for you and get these in the mail.

Pacific Crest Trail Association

- Expect another email tomorrow with resources from tonight
- Good night!