

# Trail Maintenance (Wilderness & Non-Wilderness)

R6-FS-6700-7 (08/12)

<b>U.S. Department of Agriculture Forest Service</b>	<b>1. WORK PROJECT/ACTIVITY BCHW Trail Maintenance (Wilderness &amp; Non- Wilderness)</b>	<b>2. LOCATION USFS – Forest Wide</b>	<b>3. UNIT Region 6</b>		
<b>JOB HAZARD ANALYSIS (JHA)</b> References-FSH 6709.11 and -12	<b>4. NAME OF ANALYST Back Country Horsemen of Washington</b>	<b>5. JOB TITLE BCHW Safety Committee</b>	<b>6. DATE PREPARED April 2020</b>		
<b>7. TASKS/PROCEDURES</b>	<b>8. HAZARDS</b>	<b>9. ABATEMENT ACTIONS</b> Engineering Controls * Substitution * Administrative Controls * PPE	<b>10. POST ABATEMENT ACTION RISK RATING (Severity/Probability Matrix)</b>		
			Severity	Probability	Risk Code
<b>Getting Started</b>	For all hazards listed below.	Carry a first aid kit Stay current of FA/CPR training Wear proper footwear and clothing for work and weather Bring a map, photos, compass and/or GPS and know how to use them Carry a radio Bring plenty of food and water Know your limits, take breaks and stay hydrated	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
<b>Livestock Operations</b>	Injury to personnel and livestock.	Follow BCHW JHA for livestock operations.	<b>II - Critical</b>	<b>C - Occasional</b>	<b>4 - Low</b>
<b>Chain Saw Operations</b>	Serious potential injury to sawyer(s), saw crew and public.	Follow BCHW JHA for chain saw operations.			
<b>Crosscut Saw Operations</b>	Serious potential injury to sawyer(s), saw crew and public.	Follow BCHW JHA for crosscut saw operations.			
<b>Rigging Operations</b>	Serious potential injury to sawyer(s), saw crew and public.	Follow BCHW JHA for rigging operations	<b>I – Catastrophic</b>	<b>D -- Seldom</b>	<b>4 -- Low</b>

<b>Transporting Explosives</b>	Serious potential injury to sawyer(s), saw crew and public.	Follow BCHW JHA for transporting explosives.	I – Catastrophic	D – Seldom	4 – Low
<b>Personal Protective Equipment (PPE)</b>	Injury or death	Hard hat, work gloves, boots with slip-resistant heels and soles with firm, flexible support. Eye protection; any prescription safety glasses must have side shields. Long sleeve shirt. Long pants. Hearing protection if working near chainsaw.	II – Critical	D – Seldom	4 – Low
<b>Hiking on the Trail</b>	Dehydration and sick from contaminated water	Drink plenty of water when the temperature is above 80 degrees. Increase fluids on hotter days or during extremely strenuous activity. Drink water from a municipal source. If none available, use proper filtering or treating techniques.	III – Marginal	D – Seldom	4 – Low
	Falling objects and tree snags	Look up, down and around for overhead limbs (widow makers) and burned or rotten trees, especially during high winds.			
	Trail hazards	Be aware of holes in the trail, water crossings, marshes, and altitude changes. When fording streams, use a walking stick and undo hip belt to avoid falling and possible drowning.			
	Injury by tools	Maintain a safe walking distance between people (10 feet minimum). Always have sheaths on tools and on steep slopes, carry them on the downhill side of the trail. The person carrying the crosscut saw, rock bar, or pole saw should walk last in line.			
	Getting lost	Identify safe routes and local conditions. Hike in a group. Keep visual contact at forks in the trail. For trail departures, advise the crew. Avoid hiking in the dark. Designate meeting spot should anyone become separated.			

<b>Hiking on the Trail, continued</b>	Sun burn	Wear protective clothing including long sleeve shirt, long pants, full brimmed hat/helmet. Use sun block and lip balm.	III -- Marginal	D – Seldom	4 – Low
	Bruises and scratches by heavy brush	Wear protective clothing such as long sleeve shirt, long pants, helmet, work gloves, and protective eye wear. Watch for others when discarding brush. Throw brush out of sight from the trail. In heavy undergrowth, lift knees high to clear obstacles.			
<b>Working on the Trail</b>	Injury by wildlife	Be observant of snakes which like to live under logs and shady areas. Administer first aid immediately.			
	Reaction by Insects and poison oak or Sumac	<p>Use insect repellent. Be aware of bee hives on ground, in brush or hollow logs. Clothing should fit tight at the wrists, ankles and waist. Tuck in shirt tails. Search your body, especially hair and clothing, for ticks and insects on a regular basis. Bathe and/or change clothes after each work day.</p> <p>Identify crewmembers that are allergic and keep them out of work locations where poisonous plants are present. Whenever the skin contacts a poisonous plant or noxious weed, wash area with cold water within 1 to 3 minutes or as soon as possible. While working in the poisonous plant environment, do not use soap and/or hot water because they can remove the natural protective oils from your skin. Upon returning from the field, use rubbing alcohol to cleanse contacted skin. Wear gloves at weeding.</p>			

<p><b>Working on the Trail, continued</b></p>	<p>Adverse encounter with hikers</p>	<p>If the public becomes aggressive or physically threatening, leave the area immediately via foot, stock or vehicle. Move a safe distance away and write down any pertinent information (including vehicle description, license number, and identify if known. Report it immediately.</p> <p>If the public has concerns, have the person explain the concern fully, assess the situation and take appropriate action. Do not argue, be as polite as possible. If you don't know the answer to their questions, inform them that you will try to get it, taking their name and contact information.</p> <p>Maintain radio contact with the land manager at all times. Avoid conflict.</p>	<p>III -- Marginal</p>	<p>D – Seldom</p>	<p>4 -- Low</p>
	<p>Adverse encounter with stock</p>	<p>Inform everyone when stock approaches; Work stops until the stock has passed the work site; Stand off the trail on the downhill side; Place tools a safe distance away from the trail; Do not make sudden movements or loud noises; Maybe take your hard hat off until animals pass; Listen and look for approaching stock; Remain calm and back away if animals become unruly. Stand and speak to riders and stock.</p>			
	<p>Injury to hikers</p>	<p>Inform the others when you see hikers on the trail; Work stops until the hikers clear the work area; If a potential hazard exists, crew members can stand watch at safe distances and stop hikers until the hazard is cleared; Ensure hikers have a clear path; Place tools off the trail in a centralized location; Keep shields on sharp edges when tool is not in use; Communicate a clear path to the hikers. Pay particular attention to trail runners.</p>			

<b>Working on the Trail, continued</b>	Back Injury	Use proper lifting techniques when picking up items; Bend knees, not back; Lift straight; Stretch periodically; Work with a partner; Hydrate. Use straps to lift logs with legs. Use legs from ground to roll rocks and logs.	III -- Marginal	D – Seldom	4 -- Low
	Injury with sharp tools	Carry tools safely as instructed by crew leader; Carry tools on the downhill side; Carry sharpened edge of tool downward away from your body; Be aware of others around you; Do not carry tools on your shoulder except rock bar pole saw or crosscut saw; Space when hiking.			
	Injury by improper tool use	Properly maintain and care for tools; Carry tool with scabbard on; Look around for others and hazards before swinging tools; Have firm footing and be balanced when swinging; Never throw a tool; When not in use, shield any sharp edges; Limb and peel logs on the opposite side of you; Keep tools sharp; Wear gloves and hard hat; Move large rocks by hand or with a lever or bar versus hitting with a tool; Maintain tight grip on tool handles; Use gentle but deliberate hoeing action; Be aware of others working around you; Do not use tools with a loose handle.			
	Hand and Foot Damage	Communicate when moving large or heavy objects; Do not roll anything heavy when people are downhill; Anticipate the roll of any loose object; watch for limb and stubs on rolling trees.			
	Overhead hazards	Be watchful of loose limbs on trees (widow makers). Be careful of burned or rotten dead trees. Avoid working at an unsafe site.			

<b>Working on the Trail, continued</b>	Illness, poor judgement or injury by severe fatigue	<p>Take breaks as necessary. Fatigue increases possibility of injury. Do PT prior to backpacking season to maintain aerobic fitness. Maintain good nutrition with balance of quality proteins, carbs, and fats. Pace work. Take rests as needed. Drink lots of water, even when weather is cool or wet. Consider electrolyte replacement. Change work plan if needed to manage fatigue, such as making camp early. Avoid working more than 9 hour day. Get adequate rest on days off. Days off should include some recovery time. Let crew leader know if you are getting worn out so work load can be adjusted.</p>	III -- Marginal	D – Seldom	4 -- Low
	Burns by stove or campfire	<p>Know how to operate the stove before trip. Never cook/light stove in/near tents or equipment. Never refill fuel canister indoors or near flames.</p>			
	Injury by brush cutting. Blisters, cuts, strains, back strain from chain saw, hearing or eye damage.	<p>Same as above for PPE .Slow work pace. Maintain crew spacing and watch out for crew members when swinging tools or throwing brush. Trade cutting tools if possible to eliminate fatigue, back strain.</p>			
<b>Communications</b>	Delay in getting prompt medical aid to seriously injured crew members.	<p>Follow trailhead Communication Plan (TCP) Follow Emergency Evacuation Plan (EEP) If crew divides into multiple teams, a copy of the TCP/EAP must accompany each team, and teams must be able to communicate with each other and implement the EEP if necessary.</p>	III -- Marginal	D – Seldom	4 -- Low

<p><b>Communications, continued</b></p>	<p>Lack of proper communications equipment</p>	<p>At tailgate safety briefing, ensure you have communication equipment as specified in tail gate safety briefing documents:  Two-way radio(s)  Mobile phone  Satellite phone  Satellite messenger  Have agency compatible radios on crew.  Ensure radios have properly programmed frequencies and are in working order.  Take extra set of batteries before leaving on the trip.</p>			
	<p>Inadequate communications with call center.</p>	<p>Knowledge of usable repeaters and best locations to use radios during emergency. Check in and check out before and after project in accordance with BCHW and land manager. Tailgate safety briefing at trailhead – all crewmembers must sign JHA(s)  If EAP is activated, contact BCHW and land manager contacts as soon as practical.</p>			
<p><b>Attitude about work and physical limits</b></p>	<p>Lack of good judgement leads to accident or injury</p>	<p>Taking pride in our work is important and one of the pleasures of work. Likewise, our ego is a tool to help us deal effectively with life. However, sometimes the voice of "pride/ego" talks us into taking a "calculated risk" or pushing harder than we should, or becoming competitive.</p> <p>Always listen to the "sage voice" inside that is telling you to slow down, rest, lift less weight, drive slower, etc.</p> <p>Be a team player.</p>			

<b>Environmental Conditions</b>	Injury or illness due to bad weather:	When potential overhead hazards exist.	III -- Marginal	D – Seldom	4 -- Low
	Strong winds	Suspend operations and reassess conditions when sustained wind speed exceeds estimated 15 MPH. Move crew to safe location and commence operations when, in the judgement of the lead sawyer, it is safe to do so.			
	Electrical storm	Suspend operations, retreat to low-lying area or small trees surrounded by higher trees, spread crew out. Suspend operations if all crew members are not adequately equipped with foul-weather gear, cannot communicate effectively or are unable to focus on the task.			
10. LINE OFFICER SIGNATURE <b>BCHW Safety Committee</b>		11. TITLE <b>BCHW Safety Committee</b>	12. DATE <b>May 2020</b>		