

U.S. Department of Agriculture Forest Service	1. WORK PROJECT/ACTIVITY TRAIL MAINTENANCE	2. LOCATION GIFFORD PINCHOT N.F.	3. UNIT MT. ADAMS R.D.
JOB HAZARD ANALYSIS (JHA) References-FSH 6709.11 and -12 (Instructions on Reverse)	4. NAME OF ANALYST Dean Robertson	5. JOB TITLE Trail Crew foreman	6. DATE PREPARED 4/17/2008
7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE	
General considerations		<p>Trail maintenance and construction requires multiple tasks, each with their own unique hazards. This JHA references several other JHA's. To do the tasks referenced in another JHA, an employee must complete the training, wear the PPE, and implement the abatement action listed in that JHA.</p> <p>Referenced JHA's</p> <ul style="list-style-type: none"> • Vehicle Travel JHA • Backcountry Travel JHA • Chainsaw and Crosscut Saw JHA • Bridge Building JHA • Explosives and Blasting JHA <p>General Trail Maintenance PPE:</p> <ul style="list-style-type: none"> • Leather glover • Hard hat • Eye protection • Ear protection • Long sleeve shirt • Leather boots with lug sole and minimum 8 inch height. 	
Tool preparation (hand file, power disk)	Cut fingers, arms, eye-ear injuries,	<ul style="list-style-type: none"> • Have a stable work surface. Watch what you're doing. • When using grinder wear shield and apron, gloves, and eye protection. Get instructions and take your time. • Use guard on hand files and wear gloves. 	
Radio communications	No communications when someone is in need of assistance either crew or public.	Implement GPNF Communication Plan . Crew leader needs to maintain radio contact with Vancouver Dispatch when staffed. Maintain contact with District office at all other times.	
Driving to trailhead	Vehicle accident. Personal injury, narrow mountainous roads.	<ul style="list-style-type: none"> • See Vehicle Travel JHA • Think ahead. Turn on lights. • Wear seat belts. Drive for current road conditions. • Assume there's oncoming traffic on curves. • Must be licensed for type of vehicle being used 	

Hiking (backpacking)	Twisted ankle, fording creeks on slick rocks, movable footing in rock slides, walking in the snow, blisters, hypothermia, heat exhaustion.	<ul style="list-style-type: none"> • See Backcountry Travel JHA • Watch where you walk. Take your time and pace yourself. • Dress appropriately and bring foul weather gear. • Drink water. • While fording use a walking stick and unbuckle pack hip belt. • Take the time to walk around dangerous spots. • Wear long sleeve shirts when on government time. • Attend to hot spots of feet before they become blisters
Cutting windfalls (chainsaw, crosscut saw, Pulaski, wedge, axe)	Cuts from chainsaw kickback, saw teeth or axe. Logs falling, rolling or being under tension cuts from glancing blows. Bee's nests, overhead limbs, spring poles, steep side slopes.	<ul style="list-style-type: none"> • See Chainsaw and Crosscut Saw JHA. Wear all PPE. • Keep hands on handles on top of saw. • Don't finish cut on downhill side of large logs when your cut is nearly finished. • Use wedges to avoid pinching the saw. • Always replace saw cover when not in use or carry with teeth away from your body if a short distance to next log. • Direct where the log will roll and avoid hitting other people. • Call out a warning if it will roll out of your sight.
Chopping windfalls	Cuts from glancing or misplaced blows, being caught by falling logs under tension, bee nests. overhead limbs, slick wet gloves, approaching public	<ul style="list-style-type: none"> • Wear proper PPE. Carry spare gloves. • Size up the situation before action. • Watch your cut at all times. Communicate with your partner. • A sharp tool is a safe tool. Wear gloves when hand filing • Maintain safe working distance of 10 feet. • Beware of obstructions when swinging. • Clean chips off cutting blade when they appear. • Watch for people approaching -- post guards when necessary.
Brushing	Cuts to feet and legs, limbs slapping the face while chopping, glancing blows from springy bushes, falling brush and small trees, pinched fingers from loppers, mental fatigue, someone walking up on you.	<ul style="list-style-type: none"> • Watch where you're chopping, Communicate with your partner. • Use the right tool for the job (i.e. Brush blade vs. Loppers). • Keep alert to where you throw and fall brush and small trees. Watch for spring poles. • Don't just be head down and working, watch what's going on around you.

<p>Boulder removal</p>	<p>Smashed appendages, back strain, abrasions.</p>	<ul style="list-style-type: none"> • Look the situation over before action. • Plan where the rock will be placed before rolling. • Lift with your legs, not back. Don't be afraid to ask for help. • Assess where the rock may roll when it's off trail. • Try not to roll rocks down hill - if done be sure to communicate the danger!! • Take breaks when tired. If rock is too large or hazardous, use explosives (see Explosives and Blasting JHA).
<p>Water barring</p>	<p>Cuts while peeling logs, back strain, smashing appendages, glancing blows.</p>	<ul style="list-style-type: none"> • Use the most appropriate tool for the job. • When using a Pulaski to peel, peel on side away from you. • Lift with your legs. Communicate while working. Watch the cut.
<p>Building tread with pick mattocks, hazel hoe, Pulaski.</p>	<p>Back strain, hitting other workers, blisters, glancing blows to shins, legs and feet, bad handles, debris in eyes.</p>	<ul style="list-style-type: none"> • Maintain at least 10 feet working space between people. • Have firm footing and be balanced before beginning. • Move overhead obstacles that will interfere with your swing and watch where you are swinging. • Work at a comfortable pace. Take breaks when needed. • Wear well-fitted gloves to prevent blisters. If they occur take immediate first aid. • A sharp, well maintained tool is a safe tool. Have a good file with file guard to sharpen tools. • Wear PPE.
<p>Corduroy construction, bridge and puncheon construction</p> <ul style="list-style-type: none"> • Falling and bucking trees (see Chainsaw JHA) • Splitting trees (maul, wedges) • Peeling trees (axe, drawknife.) • Highlining trees (see Bridge Building JHA) • Placing Corduroy or bridge decking. • Spiking decking • Placing Dirt (shovel, wheel barrow) • Carrying trees (log tongs) 	<p>Falling trees, snags and limbs, Injuries from tools and cables, back strain and other personal injuries.</p>	<ul style="list-style-type: none"> • See Bridge Building JHA and Chainsaw Crosscut Saw JHA. • Wear all PPE, • Have a lookout, Keep area clear, Have an escape route. • Place tree in position to work, which does not force bending over long periods. • Peel sections at a time rather than full length of log. • Use pry bar or peeve to roll big logs. • Lift with legs. Work as a team. Watch where you step. • Take your time and think things through.

Pack stock (horses, mules)	Kicks, bites, spooked animals.	<ul style="list-style-type: none"> • Leave the stock alone and let packer do the packing. • Give them plenty of room on the trail and if you meet them, stay on the downhill side so they can see you. • Never come up behind an animal without talking so it knows where you are. 	
Wildlife encounters while working.	Animal attacks.	<p>Animals will be the most dangerous when:</p> <ol style="list-style-type: none"> 1. Young are present 2. They feel threatened 3. You are an obstruction in their path 4. You encounter their den area, feeding area or a trail thy use frequently. 5. Rutting season. 6. Old or injured. <p>Give animals room when you meet them. Do not discard food near camp or work areas. Hang food in camp if animal sign is present.</p>	
10. LINE OFFICER SIGNATURE	11. TITLE	12. DATE	

Previous edition is obsolete

JHA Instructions (References-FSH 6709.11 and .12)

The JHA shall identify the location of the work project or activity, the name of employee(s) involved in the process, the date(s) of acknowledgment, and the name of the appropriate line officer approving the JHA. The line officer acknowledges that employees have read and understand the contents, have received the required training, and are qualified to perform the work project or activity.

Blocks 1, 2, 3, 4, 5, and 6: Self-explanatory.

Block 7: Identify all tasks and procedures associated with the work project or activity that have potential to cause injury or illness to personnel and damage to property or material. Include emergency evacuation procedures (EEP).

Block 8: Identify all known or suspect hazards associated with each respective task/procedure listed in block 7. For example:

- a. Research past accidents/incidents.
- b. Research the Health and Safety Code, FSH 6709.11 or other appropriate literature.
- c. Discuss the work project/activity with participants.
- d. Observe the work project/activity.
- e. A combination of the above.

Block 9: Identify appropriate actions to reduce or eliminate the hazards identified in block 8. Abatement measures listed below are in the order of the preferred abatement method:

- a. Engineering Controls (the most desirable method of abatement). For example, ergonomically designed tools, equipment, and furniture.
- b. Substitution. For example, switching to high flash point, non-toxic solvents.
- c. Administrative Controls. For example, limiting exposure by reducing the work schedule; establishing appropriate procedures and practices.
- d. PPE (least desirable method of abatement). For example, using hearing protection when working with or close to portable machines (chain saws, rock drills, and portable water pumps).
- e. A combination of the above.

Block 10: The JHA must be reviewed and approved by a line officer. Attach a copy of the JHA as justification for purchase orders when procuring PPE.

Blocks 11 and 12: Self-explanatory.

Emergency Evacuation Instructions (Reference FSH 6709.11)

Work supervisors and crew members are responsible for developing and discussing field emergency evacuation procedures (EEP) and alternatives in the event a person(s) becomes seriously ill or injured at the worksite.

Be prepared to provide the following information:

- a. Nature of the accident or injury (avoid using victim's name).
- b. Type of assistance needed, if any (ground, air, or water evacuation).
- c. Location of accident or injury, best access route into the worksite (road name/number), identifiable ground/air landmarks.
- d. Radio frequencies.
- e. Contact person.
- f. Local hazards to ground vehicles or aviation.
- g. Weather conditions (wind speed & direction, visibility, temperature).
- h. Topography.
- i. Number of individuals to be transported.
- j. Estimated weight of individuals for air/water evacuation.

The items listed above serve only as guidelines for the development of emergency evacuation procedures.

JHA and Emergency Evacuation Procedures Acknowledgment

We, the undersigned work leader and crew members, acknowledge participation in the development of this JHA (as applicable) and accompanying emergency evacuation procedures. We have thoroughly discussed and understand the provisions of each of these documents:

SIGNATURE DATE

SIGNATURE DATE
