

<p>U.S. Department of Agriculture Forest Service</p>	<p>1. WORK PROJECT/ACTIVITY Trail Maintenance</p>	<p>2. LOCATION Coconino National Forest</p>	<p>3. UNIT(S) All Districts</p>
<p>JOB HAZARD ANALYSIS (JHA) References-FSH 6709.11 and 12</p>	<p>4. NAME OF ANALYST Amy Racki</p>	<p>5. JOB TITLE Partnership Coordinator</p>	<p>6. DATE PREPARED 10/28/2013</p>
<p>7. TASKS/PROCEDURES</p>	<p>8. HAZARDS</p>	<p>9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE</p>	
<p>Personal Protective Equipment</p>		<ul style="list-style-type: none"> • Wear helmet, work gloves, boots with slip-resistant heels and soles with firm, flexible support, eye protection, long sleeve shirts, long pants, hearing protection where appropriate • Carry first aid kit 	
<p>Vehicle Operation</p>	<p>Fatigue Narrow, rough roads Poor visibility Mechanical failure Vehicle Accidents Weather Animals on Road</p>	<ul style="list-style-type: none"> • Drive defensively and slow. Watch for animals • Always wear seatbelts and turn lights on • Ensure that you have reliable communication • Obey speed limits • Keep vehicles maintained. Keep windows and windshield clean • Anticipate careless actions by other drivers • Use spotter when backing up • Stay clear of gullies and trenches, drive slowly over rocks. • Carry and use chock blocks, use parking brake, and do not leave vehicle while it is running • Inform someone of your destination and estimated time of return, call in if plans change • Carry extra food, water, and clothing • Stop and rest if fatigued 	
<p>Hiking on the Trail</p>	<p>Dehydration Contaminated water</p>	<ul style="list-style-type: none"> • Drink 12-15 quarts of water per day, increase fluid on hotter days or during extremely strenuous activity • Drink water from a municipal source; if none available use proper filtering techniques: boil water for 3-5 minutes, treat it with iodine tablets, or use an approved water filtration pump • Observe team members for signs of dehydration • Review map or ask crew leader about water sources, keeping in mind the seasonality of the water source 	
	<p>Falling objects Snags Trail hazards</p>	<ul style="list-style-type: none"> • Be aware of your surroundings and watch where you step • Look for widow makers and snags • Be aware of water crossings, marshes, and altitude changes • When fording streams use a walking stick and undo hip belt to avoid drowning 	
	<p>Weather</p>	<ul style="list-style-type: none"> • Be familiar with weather forecasts • Take appropriate gear; you can experience rain, hail, snow, lightning, extreme heat, or flooding • Be watchful throughout the day of changing weather 	

	Getting lost	<ul style="list-style-type: none"> ● Identify safe routes and local conditions ● Hike in a group ● Make sure visual contact is kept at forks in the trail ● If one has to depart from the trail, advise the crew ● Avoid hiking in the dark ● Designate meeting spot whould someone become separated ● Carry a map ● Know where the destination is
	Foot damage	<ul style="list-style-type: none"> ● Wear appropriate hiking boots and socks; taking into account the terrain, the work, and the weather ● Communicate before moving heavy objects ● Use cornstarch as a drying agent on blisters or moleskin to cover raw areas
	Sun exposure	<ul style="list-style-type: none"> ● Wear protective clothing including long sleeve shirt, long pants, full brimmed hat/helmet ● Use sun block and lip balm
	Heavy brush	<ul style="list-style-type: none"> ● 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 ● Lift knees high to clear obstacles
	Carrying tools	<ul style="list-style-type: none"> ● 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 sharp tools on your shoulder except rock bar, pole saw or crosscut saw ● Maintain a safe walking distance between people (10 feet minimum) ● The person carrying the crosscut saw, rock bar, or pole saw should walk last
Working on the Trail	Animals	<ul style="list-style-type: none"> ● Be alert for wild animals such as mountain lions or bears; avoid females with young, males in rut, or animals that appear to be acting out of character ● Make your existence known; do not surprise or confront animals, especially those identified above ● If you are attacked by a bear or mountain lion, do not run; stand and face the animal, do not crouch or bend over, appear larger by raising arms or opening jacket, fight back during an attack ● Should you see a bear or mountain lion, slowly back away, do not run ● Recreation season is bee season, watch out for bee hives; flag site to warn others of its location; carry sting kit if you are succceptible to reactions ● Be observant of snakes which like to live under logs and shady areas
	Insects	<ul style="list-style-type: none"> ● Watch out for bee hives; flag site to warn others of its location; carry sting kit if you are succceptible to reactions ● Use insect repellent ● Clothing should fit tight in 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

Contact with ticks, spiders, mosquitoes, bees, and poison oak/sumac	<ul style="list-style-type: none"> ● Identify crew members that are allergic and keep them out of work locations where poisonous plants are present ● Educate crew members on plant ID ● Whenever skin contacts a poisonous plant or noxious weed, was the area with cold water within 1-3 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 ● Use rubbing alcohol to cleanse contacted skin ● Where gloves when pulling weeds
Hikers	<ul style="list-style-type: none"> ● Inform the other 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
Stock	<ul style="list-style-type: none"> ● Listen and look for approaching stock ● Inform everyone when stock approaches, work stops until the stock has passed the work site ● Stand off the trail on the downhill side ● It may be helpful to take your hard hat off untill animals pass ● Place tools at a safe distance away from the trail ● Do not make sudden movements or loud noises ● Remain calm and back away if animals become unruly
Hand and foot damage	<ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● Be watchful of loose limbs on trees ● Be careful of dead trees ● Avoid working at an unsafe site
Back injury	<ul style="list-style-type: none"> ● Use proper lifting techniques; lift with the legs, hold objects as close to your body as practical, lift slowly and smoothly- do not jerk, keep your body straight- do not twist while lifting ● Ask for assistance or do not attempt to lift objects that could be too heavy to be moved safely ● Use a pry bar when practical ● Stretch periodically ● Hydrate

	Tool use	<ul style="list-style-type: none"> • Properly maintain and care for tools, keep tools sharp • 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 • 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 workings around you, maintain 10 feet minimum between crew members • Do not use tools with a loose handle • Avoid working in the dark
Communication	Phones	<ul style="list-style-type: none"> • Utilize cell phones if reception is available
	Radios	<ul style="list-style-type: none"> • Consider agency radio or agency compatible radio • Ensure radios have properly programmed frequencies, in working order, and has an extra set of batteries before leaving on the trip • Knowledge of useable repeaters and best locations to use radios during emergency
	Satellite phone/SPOT device	<ul style="list-style-type: none"> • Use a satellite phone/SPOT device when working alone • Know how to utilize the satellite phone and set up appropriate check-in and emergency contacts in advance of going out in the field.
	Check-in/Check-out	<ul style="list-style-type: none"> • Check-in before project and check-out after project with project supervisor and/or Federal Agency Staff person
Emergency Response	Emergency Response Plan	<ul style="list-style-type: none"> • Ensure Emergency Response Plan (ERP) is in place prior to beginning of project • As soon as ERP is activated contact Federal Agency Staff person immediately
10. LINE OFFICER SIGNATURE	11. TITLE District Ranger	12. DATE

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 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 preference:

- 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 employees, acknowledge participation in the development of this JHA (as applicable) and accompanying emergency evacuation procedures. We have thoroughly discussed and understand the provisions of these documents:

SIGNATURE

DATE
