

U.S. Department of Agriculture Forest Service #19		1. WORK PROJECT/ACTIVITY Limbing and bucking blowdowns with axe and crosscut saw	2. LOCATION Green Mountain and Finger Lakes National Forests	3. UNIT All
JOB HAZARD ANALYSIS (JHA) References-FSH 6709.11 and -12 (Instructions on Reverse)		4. NAME OF ANALYST David J. Haberl	5. JOB TITLE Forester	6. DATE PREPARED 04/12/2021
7. TASKS/PROCEDURES (List them in the order they will occur)	8. HAZARDS What will happen and to whom? What will be the outcome of exposure?	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls (state if you considered these) Training * PPE Be specific – who needs to do what?		
Provide Training	Lack of training/orientation leads to personal injury.	<ul style="list-style-type: none"> • Must attend classroom and field training encompassing in part or in total a national training program such as Wildfire Power Saws S-212 or MTDC Chain Saw and Crosscut Saw Training Course. Training must include crosscut saw specific training. Sawyers must maintain national certification cards indicating their proficiency levels at the A, B, or C sawyer level for crosscut saws. • Certification requires, at minimum, a renewal once every three (3) years. • Project supervisor shall ensure that all workers doing this activity are trained/oriented on the hazards and abatement actions outlined below. • Project supervisor shall ensure that all workers be alert to and communicate unanticipated hazards not listed below. • Repeat training whenever a new employee or volunteer begins this type of work or when site conditions or work processes change. • The general <i>Guide to Working Safely Outdoors</i> on the GMFL assesses the hazards and abatement actions for work activities to which all employees may be exposed. Personnel shall be familiar with this information. 		
Pre-Work Meeting with crew	Sawyers can be injured if they are improperly prepared or briefed on the jobsite prior to beginning work.	<p>Project supervisor shall ensure that:</p> <ul style="list-style-type: none"> • All participants have PPE required. Forest Service approved hard hat (full brim or cap style). <ul style="list-style-type: none"> ○ Wraparound eye protection (safety glasses or shield). ○ Gloves (slip resistant appropriate for weather conditions). 		

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		<ul style="list-style-type: none"> ○ Heavy duty cut resistant or leather, water proof or water repellent, 8-inch high, laced boots with non-skid soles and adequate ankle support. ○ Type IV first aid kit. ● No one works alone. ● Everyone has reviewed and understands material in JHA. ● Tailgate safety sessions are conducted at start of each project or when working conditions change. 		
Maintaining Crosscut Saws and Axes	Improperly maintained crosscut saws and axes can cause injury such as cuts from sharp edges, splinters from cracked handles and eye injuries from flying objects.	<ul style="list-style-type: none"> ● Saws and axes should be clean and free of rust and pitch. Citrus based cleaners, such as Citrosqueeze, can be used in place of petroleum based cleaners like kerosene. Rubbing (isopropyl) alcohol is another good pitch removing cleaner. ● Saws should be tuned and sharp. (See unit crosscut instructor) ● For storage when not in use saws should be cleaned, oiled (preferably with unused 30 weight motor oil) and hung unsheathed in a location where people cannot come into contact with the teeth. ● Axes should be sharp, heads tight and handles free of cracks. When filing an axe wear heavy leather gloves and use a hand guard on the file. Viewing the MTDC video, An Axe To Grind, is highly recommended. Refer to Health and Safety Code Handbook, section 41.21 for more information on chopping tool maintenance. ● Sheathes for saws and axes should be in good condition. ● Wedges should be free of cracks or mushroomed heads. 		
Transporting crosscut saws and axes on foot.	Transporting improperly can result in injury to user or bystanders due	<ul style="list-style-type: none"> ● Keep crosscut saw and axe sheathed as much as possible when not in use. (except for long term storage of saw) 		

Appendix 17 – GMFL Safety and Occupational Health Plan

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FS-6700-7 (11/99)

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	to being struck by tool during slip, trips and falls.	<ul style="list-style-type: none"> • Wear gloves when removing or replacing sheath. • When hiking, the last person/people in line will carry the saw(s). • Carry the sheathed saw on the downhill shoulder, teeth pointing outward with rear handle removed. • Carry axes by grasping around the shoulder of the handle near the cutting head, blade edge facing down on the downhill side. Sheath should be on when not in use. 		
Transporting crosscut saws and axes in vehicles.	Vehicle passengers could be seriously injured or killed by loose tools during a vehicle collision	<ul style="list-style-type: none"> • When transporting in a vehicle, lay the saw flat, preferably between two layers of plywood for protection. • Do not carry tools inside the same compartment with passengers unless tools are securely strapped down and tool carrying area is separated from passengers by a heavy duty screen permanently attached by hardware on all corners. Tools must still be lashed down even with a screen. If tools are carried in pickups: <ul style="list-style-type: none"> • Install cab guard behind pickup cab. • Securely lash down tools in bed 		
Inspecting work site for hazards (situational awareness)	Failure to analyze possible hazards at work site can result in injury.	Project/activity leader shall insure that work site has been evaluated for hazards. <ul style="list-style-type: none"> • Escape routes are determined for bucking situations when needed. • Slope of work site is taken into consideration. • Beware of rocks or objects on log to be bucked. • Look for overhead hazards. • Take into consideration the limits of personal ability and equipment. • Plan for safety of people and property in the cutting zone. 		

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		<ul style="list-style-type: none"> Inspect for spring poles, falling or rolling root wads and broken limbs under the log that could hook the sawyer if log rolls. Evaluate binds, tension and compression in log where cuts are planned. Anticipate log’s tendency to roll, slide or bind. Evaluate footing for possible slips, trips and falls. 		
Using axes for limbing and bucking.	Using axes improperly can result in serious injury such as cuts to the lower leg.	<ul style="list-style-type: none"> Size Up project using OHLEC (Objective -Hazards-Leans-Escape Paths- Cutting Plan) Remove obstacles, branches and brush that might interfere with chopping. Protect co-workers from flying chips by having them stay clear and wear eye protection. Axe should be sharpened properly, handle free of cracks and head tight. Maintain a comfortable body position when chopping. Never chop cross handed. Be alert on hillsides, uneven ground or any time footing is poor. Cut only what is needed. Try to use the saw for bucking whenever possible as you are more likely to be injured by chopping with the axe. Do not use axe as a wedge. One person chopping per tree. When possible stand on the opposite side of limb being cut. Generally swing toward top of tree. The angle of branch connection makes cutting easier. Remove stuck wood chips from the cutting edge before resuming chopping. 		

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		<ul style="list-style-type: none"> When swinging downward, DO NOT allow the axe handle to drop below a plane that is parallel with the ground unless chopping on the opposite side of a tree from where your body is positioned. (This is very important, have someone demonstrate the principle if not understood). Be aware that a striking angle closer to parallel from 45 degrees of the surface being cut can result in the axe glancing off. 		
Using wedges when bucking.	Improper use of wedges can result in eye injury.	<ul style="list-style-type: none"> Always wear eye protection meeting current ANSI standards. Strike wedge squarely. Do not use cracked or flawed wedges. Repair or replace driving tools when head is chipped or mushroomed. 		
Dealing with spring poles.	Tension released incorrectly can result in injury when saw or ax is “flung” at high speeds striking cutter and causing serious cuts.	<ul style="list-style-type: none"> Remove spring poles before limbing and bucking tree. Cut only when necessary. Is there a limb, log or other obstruction pinning the spring pole that can be removed to release the tension? Position yourself to work from a safe location. When making cuts to relieve tension use a pruning saw or axe and not the crosscut. Go slow! Allow fiber to respond to cuts. Make a series of small cuts on compression side at or near point of equal tension. Go Slow! 		
Planning bucking cuts.	Not planning bucking cuts and techniques to be used can result in injury due to struck by type accidents.	<ul style="list-style-type: none"> Plan escape routes and escape beyond eight feet when log is released. When bucking uprooted trees do not stand behind or downhill from root plates. Remove small trees growing on root plates before limbing and bucking. If root plate rolls you could be struck by or pinned beneath. Leave limbs that may be preventing log from rolling. 		

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		<ul style="list-style-type: none"> • Warn co-workers when release cut is about to be made. • Never approach bucking operations from down hill. 		
Emergency response	Lack of emergency response plan causes delays in obtaining emergency medical treatment	<p>At each job site, provide the following information and document on your tailgate safety meeting form and share with all project participants:</p> <ol style="list-style-type: none"> 1. Means of communication (radio, cell, satellite) 2. Primary contacts (rescue squad, F.S. dispatcher, relay person) 3. Travel routes for emergency responders 4. Location of closest medical facilities 5. How to contact them (phone #s) <p>Keep a two-way radio or cell phone available in case of an emergency and a fully stocked crew type first aid kit on site.</p> <p>Be able to describe work location to emergency medical responders. Contact them prior to starting work in case directions are difficult to give to an E-911 operator.</p> <p>All workers should have access to a map and directions to the nearest medical facility and the location of the vehicle keys. Do not attempt to transport someone with serious injuries. Call emergency responder for this kind of transport.</p>		
10. LINE OFFICER SIGNATURE		11. TITLE	12. DATE	
		Forest Supervisor John A. Sinclair		

Previous edition is obsolete

JHA Instructions (References-FSH 6709.11 and .12)	Emergency Evacuation Instructions (Reference FSH 6709.11)																												
<p>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.</p> <p>Blocks 1, 2, 3, 4, 5, and 6: Self-explanatory.</p> <p>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).</p> <p>Block 8: Identify all known or suspect hazards associated with each respective task/procedure listed in block 7. For example:</p> <ul style="list-style-type: none"> 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. <p>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:</p> <ul style="list-style-type: none"> 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. <p>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.</p> <p>Blocks 11 and 12: Self-explanatory.</p>	<p>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.</p> <p>Be prepared to provide the following information:</p> <ul style="list-style-type: none"> 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. <p>The items listed above serve only as guidelines for the development of emergency evacuation procedures.</p> <p style="text-align: center;">JHA and Emergency Evacuation Procedures Acknowledgment</p> <p>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:</p> <table style="width: 100%; border: none;"> <thead> <tr> <th style="text-align: center;">SIGNATURE</th> <th style="text-align: center;">DATE</th> <th style="text-align: center;">SIGNATURE</th> <th style="text-align: center;">DATE</th> </tr> </thead> <tbody> <tr> <td style="border: none;">_____</td> <td style="border: none;">_____</td> <td style="border: none;">_____</td> <td style="border: none;">_____</td> </tr> <tr> <td style="border: none;">_____</td> <td style="border: none;">_____</td> <td style="border: none;">_____</td> <td style="border: none;">_____</td> </tr> <tr> <td style="border: none;">_____</td> <td style="border: none;">_____</td> <td style="border: none;">_____</td> <td style="border: none;">_____</td> </tr> <tr> <td style="border: none;">_____</td> <td style="border: none;">_____</td> <td style="border: none;">_____</td> <td style="border: none;">_____</td> </tr> <tr> <td style="border: none;">_____</td> <td style="border: none;">_____</td> <td style="border: none;">_____</td> <td style="border: none;">_____</td> </tr> <tr> <td style="border: none;">_____</td> <td style="border: none;">_____</td> <td style="border: none;">_____</td> <td style="border: none;">_____</td> </tr> </tbody> </table>	SIGNATURE	DATE	SIGNATURE	DATE	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
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