

## **Section 4: Job Hazard Analyses (JHAs)**

The following section of the STA-DBNF Volunteer Agreement contains this agreement's JHAs. The provisions of these JHAs should be used to mitigate the risks associated with volunteer activities. All work is subject to the FSH 6709.11 Health and Safety Code Handbook requirements, which can be found in full at the following link: [https://www.fs.fed.us/t-d/pubs/ppt\\_html/htm06672C02/document/6709.11.pdf](https://www.fs.fed.us/t-d/pubs/ppt_html/htm06672C02/document/6709.11.pdf).

U.S. Department of Agriculture Forest Service		1. WORK PROJECT/ACTIVITY	2. LOCATION	3. UNIT	
		<b>Trail Maintenance- General Safety</b>	<b>Daniel Boone National Forest</b>	<b>Forest Wide</b>	
JOB HAZARD ANALYSIS (JHA) References-FSH 6709.11 and -12 (Instructions on Reverse)		4. NAME OF ANALYST	5. JOB TITLE	6. DATE PREPARED	
		<b>Laurie Smith – updated D. Shannon</b>	<b>Supervisory Forester- Forestry Technician</b>	<b>12/22/20</b>	
7. TASKS/PROCEDURES		8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE		
Working in forested and wilderness areas; use of personal protective equipment		Head injuieres from falling branches  Eye injuries from chips or branches	Wear hard hats, gloves, safety glasses, nonskid footwear, and protectivce clothing.  Leave plenty of room between crew members when working. Wear safety goggles if using axe, loppers, or chopping tools. Wear proper gear if operating a chainsaw. (Refer to Volunteer Chainsaw Operations JHA.) (Note that chainsaw use is permitted only in non- wilderness areas.)		
General foot travel		Bats, bees, yellow jackets, wasps, ticks, spiders, scorpions, rattlesnakes, copperheads, poision oak, poision ivy, noxious weeds  Improper footwear  Uneven terrain  Undergrowth	<p><b>Be aware that rattlesnakes may not be readily visible and may not sound warning rattle before striking.</b> Be particularly watchful while walking in rocky country, espeically near ledges or in areas obscured by foliage. Walk on clear paths whenever possible. If someone is bitten or stung by venomous snakes, insects, spiders or scorpions, and develops symptoms, such as chills, fever, joint pains, nausea, vomiting, profuse sweating or salivating, difficulty breathing or swallowing, or pain and inflammation at site of bite or sting, seek medical attention immediately. Do not work in insect-infested areas during insect season, if you have known allergies or react violently to insect bites or stings. If allergic to insect stings, consult your physician for proper advice and vaccine or allergy medication, or both, before going into the field. When working near bees, wasps, or yellow jackets, wear long-sleeved shirts with close-fitting collars, keep trousers tucked in boots, and avoid wearing strong-scented lotions, which can attract insects like bees. If allergic to poision ivy, poision oak, or noxious weeds, be aware of their appearance during different times throughout the year.</p> <p>Wear well-fitting, laced boots with good ankle support, slip-resistant soles and heels, that are in good condition and broken in before duty. If working in wet conditions, water proof or treated boots are recommended. Break in new footwear before work projects. Protect tender spots with adhesive tape or moleskin when first redness, tenderness, or blistering occurs.</p> <p>Identify safe routes. When contouring a steep slope, do not lean into the hill, which tends to loosen footing; erect posture or slightly leaning out provides more secure footing. Plan ahead; select safe routes; watch out for changes in ground surface, slick spots, tripping hazards, overhanging limbs or rocks, or unusual hazards. On slippery, loose ground, or when going downhill, keep most of your weight on your heels, shorten your stride, keep knees bent, and lean slightly backward. When moving uphill or in sandy soils, lean slightly forward, turn feet outward, shorten stride, and use as much of the inside of the foot as possible. Always carry tools on the downhill side. Know how to fall: try to land in the least obstructed spot; protect your head and back; roll with the fall; do not stick out your arms to break a fall.</p> <p>In heavy undergrowth, lift your knees high to clear obstacles. Slow down and exaggerate steps in the area of exposed roots to keep from catching your toes. Walk far enough behind the person ahead</p>		

	Log, rocks	of you that branches brushing past them do not hit you as they snap back. Avoid walking on logs or rocks, unless they have been tested for secure footing.
Walking and hiking on trails	Slips, trips, falls, and blisters	Walking and hiking on trails are the leading causes of field injuries. Watch where you are walking. Be aware of boulders, branches, holes, and other obstacles on the trail. If adverse weather is present, be alert of areas that might be wet and icy. Wear proper footwear, including boots and socks. Leave plenty of room between crew members when walking.
Cliffhines and steep country	Falls from unstable grounds	Keep crews out of steep country with unstable soils during hazardous conditions, such as heavy rainfall or high winds. Be cautious on wet plant material and loose rocks/gravel on steep slopes. Be aware of cliffhines and do not approach cliff edges for work or views.
Working with tools	Bodily injury	Use gloves, protective clothing, and footwear. Make sure you are familiar with and know how to operate all tools you might use. If there is uncertainty as to the use of any tool, check with a supervisor/leader and learn proper operating techniques prior to using that tool. (See JHA on Use of Equipment & Machinery and the attached FSH 6709.11 - HEALTH AND SAFETY CODE HANDBOOK CHAPTER 40 - EQUIPMENT AND MACHINERY for more information).
Lifting	Back injury	Use proper lifting techniques. Bend knees when lifting. Lift with legs and not with back. Do not exceed your personal ability.
Loading equipment	Back injury	Use your legs and not your back to lift; get help to lift if equipment is too heavy.
Driving on low maintenance roads	Vehicle Accident	Be aware that vehicles, hikers, and motorcycles frequently use such roads. Drive defensively and use your headlights.
Hauling trailer	Vehicle Accident	Drive defensively and perform safety checks regularly to assure proper maintenance and drivability. Drive slower when hauling trailer and round corners more gently. Be aware of the tracking of your trailer.
Backing trailer	Vehicle Accident	If a second person is available, allow them to guide you but keep them in view at all times. If you're alone and unsure of what's behind you, get out and inspect the area before backing.
Working in warm/hot weather	Heat exhaustion and dehydration	DRINK PLENTY OF WATER. Take periodic breaks in shaded areas. Pace yourself while working.
Crossing fences	Cuts (especially on barb wire)	Be careful when going over, through, or along barb wire fencing. When going over or through, use extreme caution and make sure of your footing. Use buddy system, where one person holds wire apart as the other goes through, when possible.
<b>10. LINE OFFICER SIGNATURE</b>	<b>11. TITLE</b>	<b>12. DATE</b>

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) writing the JHA, the date(s) of development, and the name of the appropriate line officer approving it. The supervisor 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><b>Blocks 1, 2, 3, 4, 5, and 6:</b> Self-explanatory.</p> <p><b>Block 7:</b> 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><b>Block 8:</b> 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"> <li>a. Research past accidents/incidents</li> <li>b. Research the Health and Safety Code, FSH 6709.11 or other appropriate literature.</li> <li>c. Discuss the work project/activity with participants</li> <li>d. Observe the work project/activity</li> <li>e. A combination of the above</li> </ul> <p><b>Block 9:</b> 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"> <li>a. Engineering Controls (the most desirable method of abatement). For example, ergonomically designed tools, equipment, and furniture.</li> <li>b. Substitution. For example, switching to high flash point, non-toxic solvents.</li> <li>c. Administrative Controls. For example, limiting exposure by reducing the work schedule; establishing appropriate procedures and practices.</li> <li>d. PPE (least desirable method of abatement). For example, using hearing protection when working with or close to portable machines (chain saws, rock drills portable water pumps)</li> <li>e. A combination of the above.</li> </ul> <p><b>Block 10:</b> 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><b>Blocks 11 and 12:</b> 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"> <li>a. Nature of the accident or injury (avoid using victim's name).</li> <li>b. Type of assistance needed, if any (ground, air, or water evacuation)</li> <li>c. Location of accident or injury, best access route into the worksite (road name/number), identifiable ground/air landmarks.</li> <li>d. Radio frequency(s).</li> <li>e. Contact person.</li> <li>f. Local hazards to ground vehicles or aviation.</li> <li>g. Weather conditions (wind speed &amp; direction, visibility, temp).</li> <li>h. Topography.</li> <li>i. Number of person(s) to be transported</li> <li>j. Estimated weight of passengers for air/water evacuation.</li> </ul> <p>The items listed above serve only as guidelines for the development of emergency evacuation procedures.</p> <p style="text-align: center;"><b>JHA and Emergency Evacuation Procedures Acknowledgment</b></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%; margin-top: 20px;"> <thead> <tr> <th style="width: 50%; text-align: center;">SIGNATURE DATE</th> <th style="width: 50%; text-align: center;">SIGNATURE DATE</th> </tr> </thead> <tbody> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> </tbody> </table>	SIGNATURE DATE	SIGNATURE DATE	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
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U.S. Department of Agriculture	1. WORK PROJECT/ACTIVITY	2. LOCATION	3. UNIT
Forest Service	<b>Use of Equipment &amp; Machinery</b>	<b>Daniel Boone National Forest</b>	<b>Forest Wide</b>
<b>JOB HAZARD ANALYSIS (JHA)</b>	4. NAME OF ANALYST	5. JOB TITLE	6. DATE PREPARED
References-FSH 6709.11 and 12 (Instructions on Reverse)	<b>Franklin Vaughan</b>	<b>Forest Safety Manager</b>	<b>2/11/21</b>
<b>7. TASKS/PROCEDURES</b>	<b>8. HAZARDS</b>	<b>9. ABATEMENT ACTIONS</b> Engineering Controls * Substitution * Administrative Controls * PPE	
Qualifications	General	Personnel working alone should have up to date training in First Aid and CPR, should have all necessary immunizations and be in good health, should be aware of any adverse life threatening reactions (bee sting, asthma, etc), and be qualified to operate any equipment required by the task. Consult Health and Safety Code manual for required PPE.	
Check Out & Check In	No one aware of working individual location	Perform tailgate safety meeting with crew leader before beginning work and ensure the leader knows when you are leaving.	
Working Away from Vehicle	Personal Injury	Ensure adequate radio/cell phone communications at all times. Do not deviate from check-out plan without calling in correction. Be aware of additional degree of exposure when working alone; avoid all risks that could lead to incapacitating injury.	
Contacts with Public	Confrontation with unknown personnel	Assume all unknown personnel to be potentially dangerous, avoid confrontation. Make other person aware that you are in radio contact. Be aware of alcohol or firearms.	
Procedures	Increased Risk Inherent in Solo Work	Review JHA, FSH 6709.11 Health & Safety Code Handbook and conduct tailgate safety session. Correct recognized hazards prior to beginning work. Identify hazards that cannot be corrected.	
Working in Non-Developed Areas	Environmental (Wind, Rain, Snow, and Intense Sun)	Required PPE include a hardhat, first-aid kit, radio communication, and appropriate clothing and foot wear for field work projects as identified in FSH 6709.11 Health & Safety Code Handbook. Be aware of weather forecasts prior to beginning work and plan appropriately. Evaluate risks prior and during work frequently.	
	Biological (Insects, Poisonous Plants, and Animals)	Be aware of potential biological hazards, know appropriate defensive techniques, avoid unnecessary exposure. Know appropriate first-aid techniques for the hazardous situations likely to be encountered.	
Using Non-Motorized Equipment & Machinery	Bodily Injury	Refer to FSH 6709.11 - HEALTH AND SAFETY CODE HANDBOOK CHAPTER 40 - EQUIPMENT AND MACHINERY prior to using any of the following:  Hand and Portable Tools Other Tools and Equipment Power-Operated Tools  *This direction is available online at the following link and a copy is attached to this agreement: <a href="https://www.fs.fed.us/cgi-bin/Directives/get_dirs/fsh?6709.11">https://www.fs.fed.us/cgi-bin/Directives/get_dirs/fsh?6709.11</a> . Do not begin work until this direction is reviewed and documented that the individuals performing the work have done so on the tailgate safety form.	

<p>Use of Equipment &amp; Machinery (Non-Motorized)</p>	<p>Bodily Injury</p>	<p>All volunteers shall follow these basic safety practices for maintenance and use.</p> <ol style="list-style-type: none"> <li>1. Volunteers shall be instructed in proper chopping techniques and tool sharpening.</li> <li>2. Carry a chopping tool by grasping around the shoulder of the handle close to the tool head. Hold the tool so that the flat surface of the blade is vertical (parallel to your leg), with the arm hanging naturally at one's side. Use of a sheath is recommended, especially when carrying a tool for long distances. Never carry a chopping tool on your shoulder.</li> <li>3. Always remove branches, debris, or underbrush that might interfere with chopping.</li> </ol> <p>All Volunteers shall read <b>FSH 6709.11 - HEALTH AND SAFETY CODE HANDBOOK; Chapter 40 - equipment and machinery, SECTIONS 41.2 and 41.21, PAGES 5-6</b> (page numbers refer to the internal page numbering of this chapter, which is attached below in Appendix A) for additional information and specific guidance regarding the safe use of chopping tools.</p>
<p>Use of chopping tools, including axes, adzes, brush hooks, hatchets, machetes, and Pulaskis</p>	<p>Bodily Injury</p>	<p>Cutting tools must be handled with extra care. Do not store them with other tools where someone could be cut accidentally by inadvertently grabbing a sharp edge. The nuts and bolts on tools, such as shears and snips, require frequent adjustment. Wipe the edges of cutting tools frequently with a lightly oiled rag. Never hit a cutting tool with a striking tool.</p> <p>For specific guidance on the use of Handsaws (Bow Saws Hacksaws) Knives, Chisels/Punches, Files, see <b>FSH 6709.11 - HEALTH AND SAFETY CODE HANDBOOK; Chapter 40 - equipment and machinery, SECTIONS 41.2 and 41.21, PAGES 6-7</b> (page numbers refer to the internal page numbering of this chapter, which is attached below in Appendix A).</p>
<p>Use of cutting tools</p> <ol style="list-style-type: none"> <li>1. Pry bar; digging and tamping bars</li> <li>2. Grubbing tools, including combination tools, grubbing hoes, mattocks, McLeods, picks, Pulaskis, and various types of hoes</li> <li>3. Wrenches</li> <li>4. Hammers</li> <li>5. Pliers</li> <li>6. Screwdrivers</li> <li>7. Vises</li> <li>8. Jacks</li> <li>9. High-lift Jacks</li> <li>10. Hand Trucks</li> <li>11. Hoists.</li> <li>12. Peaveys, cant hooks, and pike poles</li> <li>13. Shovels</li> <li>14. Wheelbarrows</li> <li>15. Wedges</li> </ol>	<p>Bodily Injury</p>	<p>All volunteers shall read <b>FSH 6709.11 - HEALTH AND SAFETY CODE HANDBOOK; Chapter 40 - equipment and machinery, SECTION 42, PAGES 9-19</b> for additional information and specific guidance for other tools.</p> <ol style="list-style-type: none"> <li>1. Section 42.1, Item 1, Page 9</li> <li>2. Section 42.1, Item 2, Page 10</li> <li>3. Section 42.1, Item 3, Page 10</li> <li>4. Section 42.1, Item 4, Page 11</li> <li>5. Section 42.1, Item 4, Page 11</li> <li>6. Section 42.1, Item 4, Page 11</li> <li>7. Section 42.1, Item 4, Page 12</li> <li>8. Section 42.1, Item 4, Page 12-13</li> <li>9. Section 42.1, Item 4, Page 13</li> <li>10. Section 42.1, Item 4, Page 13-14</li> <li>11. Section 42.1, Item 4, Page 14-15</li> <li>12. Section 42.1, Item 4, Page 15</li> <li>13. Section 42.1, Item 4, Page 15</li> <li>14. Section 42.1, Item 4, Page 15</li> <li>15. Section 42.1, Item 4, Page 16</li> </ol> <p><i>All page number references in this section refer to the internal page numbering of the referenced chapter, which is attached below in Appendix A.</i></p>
<p>Use of other tools and equipment</p>	<p>Hazards Using Motorized Equipment &amp; Machinery</p>	<p>All employees/volunteers operating motorized equipment and machinery must be agency qualified to operate this machinery or equipment. Each piece of motorized equipment and machinery has an individual JHA and manufacturers'</p>

		<p>instructions. These must be followed. Document prior to operating such motorized equipment and machinery that its safety information has been reviewed and attach appropriate documentation to a copy of the signed tailgate meeting safety form.</p> <p>For specific guidance on Volunteer Chainsaw Operations and Weed and Bush Trimmer operation, see the succeeding two JHAs.</p>
<b>10. LINE OFFICER SIGNATURE</b>	<b>11. TITLE</b>	<b>12. DATE</b>

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<p>b. Research the Health and Safety Code, FSH 6709.11 or other appropriate literature.</p> <p>c. Discuss the work project/activity with participants</p> <p>d. Observe the work project/activity</p> <p>e. A combination of the above</p> <p><b>Block 9:</b> 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> <p>a. Engineering Controls (the most desirable method of abatement). For example, ergonomically designed tools, equipment, and furniture.</p> <p>b. Substitution. For example, switching to high flash point, non-toxic solvents.</p> <p>c. Administrative Controls. For example, limiting exposure by reducing the work schedule; establishing appropriate procedures and practices.</p> <p>d. PPE (least desirable method of abatement). For example, using hearing protection when working with or close to portable machines (chain saws, rock drills portable water pumps)</p> <p>e. A combination of the above.</p> <p><b>Block 10:</b> 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><b>Blocks 11 and 12:</b> Self-explanatory.</p>	<p>The items listed above serve only as guidelines for the development of emergency evacuation procedures.</p> <p style="text-align: center;"><b>JHA and Emergency Evacuation Procedures Acknowledgment</b></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%; margin-top: 20px;"> <tr> <td style="text-align: center; width: 50%;"><b>SIGNATURE</b></td> <td style="text-align: center; width: 50%;"><b>SIGNATURE</b></td> </tr> <tr> <td style="text-align: center;"><b>DATE</b></td> <td style="text-align: center;"><b>DATE</b></td> </tr> <tr> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> <tr> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> <tr> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> <tr> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> <tr> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> <tr> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> <tr> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> </table>	<b>SIGNATURE</b>	<b>SIGNATURE</b>	<b>DATE</b>	<b>DATE</b>	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
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			FS-6700-7 (2/98)
U.S. Department of Agriculture Forest Service	1. WORK PROJECT/ACTIVITY <b>Use of Weed &amp; Brush Trimmer</b>	2. LOCATION <b>Daniel Boone National Forest</b>	3. UNIT <b>Forest Wide</b>
<b>JOB HAZARD ANALYSIS (JHA)</b>	4. NAME OF ANALYST	5. JOB TITLE	6. DATE PREPARED



References-FSH 6709.11 and -12 (Instructions on Reverse)	<b>Matt Able</b>	<b>Trails/Dispersed Rec Program Manager</b>	<b>02/28/21</b>
7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE	
Inspection of weedtrimmer prior to use	Lack of maintenance; equipment unfit for use	Before running trimmer, consult operators manual for instruction. Check for missing, worn, and loose parts. Ensure guards are attached. Inspect fuel lines and fuel tank. Adjust handle and strap for comfort and balance. If unit is unsafe to operate, tag it out of service in a position that will be immediately obvious to anyone attempting to operate it. Do not repair unit without proper instructions. Follow manufacturer's maintenance and servicing guidelines.	
Operation of unit	Lack of training  Flying objects, cutting head, hot muffler, hot gear shaft	Read the operator's manual. Locate the safety decals on your unit. Make sure the decals are legible and that you understand and follow the instructions on them. You should be in good mental and physical health in order to operate the unit.  Never operate the cutting head above your knees. Always start the unit on the ground. Shut down immediately, if the unit starts to shake or vibrate. Keep feet and hands away from rotating cutting head. Keep two hands on the unit at all times while it is in operation. Always hold the unit with your fingers and thumbs encircling the handles. Avoid touching the muffler and gear shaft until the unit has adequately cooled following use.	
Preparation of the work site	Uneven and steep terrain, bottles and glass, hidden objects, snags, widowmakers, etc.	Inspect area before using the unit. Remove, mark, or flag hazards. Remove objects upon which the unit may become entangled or which it may throw. Flag obstructions which must be avoided during operation. Other workers in the area should be warned of your intent to operate the unit; children and animals should not be allowed within 50 feet of the trimmer while in operation.	
Use of proper PPE	Bees, snakes, flying objects: dust, glass, rocks, cans, wood; hearing loss	Wear safety glasses or goggles in compliance with eye protection standards set out in ANSI Standard Z87.1. Face shield may be used in addition to proper safety glasses or goggles but may not serve as a replacement for ANSI Standard Z87.1 compliant eye protection. Additionally, face shield must be ANSI Z87.1 compliant. Wear ear plugs or hearing protection headsets. Gloves must be worn. Long sleeves, long pants, and sturdy boots are required. Dust masks are recommended.	
Fueling	Fire spills	Fill unit from labeled fuel container only. Let unit cool before fueling. Never refuel running unit. Wear eye protection while refueling. Wipe any spilled fuel away from unit and move at least 10 feet from fueling spot before starting. Do not smoke or bring flame or sparks near fueling area. Have fire extinguishing device, such as extinguisher or appropriate hand tools nearby.	
Emergency Evacuation	Serious illness or injury	First aid kits shall be available at each work site. Supervisors or work leaders shall be trained in first aid and CPR. Minor injuries should be treated by agency trained employees. If an employee or worker becomes seriously injured or ill and is need of Advanced Life Support and transport, notify ECC by Radio or call 911 by telephone. Render first aid to the sick and injured until local agency medical first responders take over care. Notify the District Ranger and Forest Supervisor as soon as possible. Complete the required paperwork once emergency situation has been stabilized.	
<b>10. LINE OFFICER SIGNATURE</b>	<b>11. TITLE</b>	<b>12. DATE</b>	

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U.S. Department of Agriculture	1. WORK PROJECT/ACTIVITY	2. LOCATION	3. UNIT
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FS-6700-7 (2/98)

Forest Service	<b>Volunteer Chainsaw Operations</b>	<b>Daniel Boone National Forest</b>	<b>Forest Wide</b>
<b>JOB HAZARD ANALYSIS (JHA)</b> References-FSH 6709.11 and -12 (Instructions on Reverse)	4. NAME OF ANALYST <b>Matt Able</b>	5. JOB TITLE <b>Trails/Dispersed Rec Program Manager</b>	6. DATE PREPARED <b>02/28/21</b>
7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE	
<b>GENERAL CHAINSAW OPERATIONS:</b>			
Obtaining certification and training	Serious potential injury while attempting to operate saw outside of skill and training level	Maintain Required Qualifications: <ol style="list-style-type: none"> <li>1. Current first aid/CPR, blood borne pathogens, and Hazcom (employee right to know) training</li> <li>2. Successfully complete an approved chain saw program: classroom and field training encompassing in part or in total a national training program (for example, Wildfire Power Saws S-212 or MTDC Chain Saw course)</li> </ol> Chain saw program training/certification elements include: <ol style="list-style-type: none"> <li>1. Demonstration of sawing ability in accordance with Forest chain saw policy</li> <li>2. Employees/volunteers certified for the first time should be supervised by a certified instructor or certified operator when operating a chain saw during project work</li> <li>3. First line supervisors should monitor proficiency of sawyers to recognize additional recertification/training needs</li> <li>4. Recertification training required a minimum of every three years for nonfire personnel</li> <li>5. Follow risk management procedures</li> </ol>	
Tailgate safety meeting	Site specific hazards not identified	Hold tailgate safety meetings at start of each work session and if conditions or crew personnel change.	
Fueling	Fire from gas spilled on muffler or other ignition source  Chemical burn from gas spilled on clothes, skin, eyes	<ol style="list-style-type: none"> <li>1. Let saw cool before refueling</li> <li>2. Fuel on bare ground; avoid spillage during fueling</li> <li>3. NO SMOKING DURING REFUELING</li> <li>4. Move at least 10 feet away from fueling area before starting saw</li> <li>5. Stay 20 feet away from ignition sources when fueling</li> <li>6. Replace excessively gas/oil soaked gloves</li> <li>7. Read and remain familiar with MSDS</li> <li>8. Mix fuel in well ventilated area</li> <li>9. Clean up spills promptly</li> <li>10. Use labeled containers</li> </ol> <ol style="list-style-type: none"> <li>1. Wear gloves and safety eye wear</li> <li>2. Remove contaminated clothing and gloves; immediately wash exposed are with soap and water</li> </ol>	
Saw maintenance	Improperly operating saw may lead to fatigue and injury	<ol style="list-style-type: none"> <li>1. Keep saw in good working order</li> <li>2. Ensure spark arrester is in good condition</li> <li>3. Keep idle adjusted properly</li> <li>4. Inspect bar for wear and proper chain tension</li> <li>5. Do not use a saw that is not properly maintained</li> </ol>	
Sharpening chain	Cuts to hands	<ol style="list-style-type: none"> <li>1. Wear gloves when sharpening chain</li> <li>2. When sharpening chain, use a vise if available</li> <li>3. Never file chain while saw is running</li> <li>4. Keep guard over chain when saw is not in use</li> <li>5. Understand proper angle, raker height, and filing</li> <li>6. Adjust raker height as needed but avoid taking too much off</li> </ol>	
7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE	

Transporting saw by vehicle	Injury to vehicle occupants and damage to vehicle	<ol style="list-style-type: none"> <li>1. Driver and passengers shall not ride in enclosed cargo portion of vehicle hauling flammable/combustible liquids, and chain saws</li> <li>2. Ensure that fuel will not leak during transit, down load fuel if necessary to prevent leak</li> <li>3. Bars should be covered with commercial coverings, chaps, etc.</li> <li>4. Chain saws should be secured</li> </ol>
General cutting	<p>Cuts to body</p> <p>Struck on head by falling material</p> <p>Struck in eye by flying objects</p> <p>Hearing Loss</p> <p>Slips, trips, and falls</p> <p>Cuts to body from thrown chain</p> <p>Fatigue</p> <p>Back injury, pulled muscles, torn ligaments</p> <p>Heat exhaustion and hypothermia</p> <p>Lack of communications with employees in cutting area</p> <p>Serious cuts to body from KICKBACK</p> <p>Cuts to co-workers in area</p> <p>Slips/trips/falls</p>	<p>Wear required PPE:</p> <ol style="list-style-type: none"> <li>1. Sturdy leather gloves</li> <li>2. Long-sleeve (non-synthetic) shirt</li> <li>3. Forest Service (FS) approved chainsaw chaps (minimum 2 inches overlap with boot)</li> </ol> <ol style="list-style-type: none"> <li>1. Wear FS approved hard hat</li> </ol> <ol style="list-style-type: none"> <li>1. Wear approved (ANSI Z-87 marked) safety eye glasses</li> </ol> <ol style="list-style-type: none"> <li>1. Wear ear protection</li> <li>2. Follow direction outlined by OSHA Hearing Conservation Program (link found in "Useful Links" subsection above)</li> </ol> <ol style="list-style-type: none"> <li>1. Wear 8-inch high, heavy-duty, nonskid sole, cut-resistant, laced leather boots</li> </ol> <ol style="list-style-type: none"> <li>1. To reduce risk of throwing chain, check chain tension each time saw is refueled</li> <li>2. Do not operate saw above shoulder height</li> </ol> <ol style="list-style-type: none"> <li>1. Take frequent breaks</li> <li>2. Alternate cutting tasks, and ask for additional sawyers if needed</li> <li>3. Stop cutting when tired</li> </ol> <ol style="list-style-type: none"> <li>1. Do not attempt to carry heavy logs</li> <li>2. Cut materials to sizes which can be safely carried or ask for help</li> </ol> <ol style="list-style-type: none"> <li>1. Wear proper clothing for time of year and weather conditions</li> <li>2. Wear layers that can be removed or added to, as conditions dictate</li> <li>3. Take breaks and drink fluids</li> </ol> <ol style="list-style-type: none"> <li>1. Radio contact from cutting operations will be maintained with dispatch of ICP</li> <li>2. Verbal and visual communications will be established and maintained with crewmembers</li> </ol> <ol style="list-style-type: none"> <li>1. Keep bar tip extended through the cut, keep bar tip clear of all other objects; wear protective equipment</li> <li>2. Ensure saw has a chain break</li> <li>3. Keep thumb and fingers wrapped around handlebar at all times</li> </ol> <ol style="list-style-type: none"> <li>1. Maintain a minimum 10 feet spacing</li> <li>2. Be alert, and do not permit co-workers to work immediately behind sawyer</li> <li>3. Shut off saw, and/or engage chain break if co-worker needs to access the area near the saw</li> </ol> <ol style="list-style-type: none"> <li>1. Step over logs, not on them</li> <li>2. Clear work area around material that is being cut</li> </ol>
7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE

Cutting with a bind or side winders	Serious bodily injury	<ol style="list-style-type: none"> <li>1. Properly assess binds/pressure before making cuts</li> <li>2. Use wedges to avoid getting bar pinched</li> <li>3. Watch for spring poles and rolling logs before making release cuts</li> <li>4. Cut on the uphill side of the log</li> </ol>
Limbing/bucking	Spring poles, unstable logs and rocks, widow makers, steep terrain	<ol style="list-style-type: none"> <li>1. Walk out the material prior to limbing/bucking to look for hazards</li> <li>2. Limb one side of the tree first, then the other</li> <li>3. Limb from top of large logs</li> <li>4. When bucking, stay on uphill side</li> <li>5. Use wedges and/or pie cut, know when to insert your wedge</li> <li>6. Determine all binds before attempting to cut</li> <li>7. Block material before bucking, if there is a potential for it to roll out of control</li> <li>8. Those not operating a saw must stay away from sawyer a sufficient distance to avoid injury by saw, material that is being cut, and flying debris</li> <li>9. Do not cross over with saw, limb on the same side as saw</li> <li>10. Know where tip of bar is at all times</li> </ol>
Felling		<b>**VOLUNTEERS ARE NOT CERTIFIED TO FELL TREES**</b>
**Saw certification; working within felling area	Injury to other crewmembers who observe felling procedures	<ol style="list-style-type: none"> <li>1. Make sure all trainees are aware of which tree is to be felled and in which direction it is planned to be felled</li> <li>2. Point out identified hazards from size up</li> <li>3. It is at the faller's discretion to allow trainees within 2.5 tree lengths to observe felling; in any case, maintain a reasonable, safe distance and be aware of the established escape route</li> <li>4. ALL OBSERVERS MUST REMAIN QUIET DURING FELLING</li> </ol>
Medical emergencies	Insect stings, bites, and allergic reactions; personal injury	<ol style="list-style-type: none"> <li>1. Watch for bee nests or swarms while walking, cutting, and after tree has been felled</li> <li>2. People who know they are allergic to bees should have a sting kit and know how to use it; such persons should make it know they are allergic and inform other crewmembers on how to use the sting kit</li> <li>3. All sawyers will maintain current first aid/CPR training</li> <li>4. Communications must be established and maintained at all times so that advanced emergency medical treatment can be requested, and promptly obtained, if necessary</li> </ol>
<b>10. LINE OFFICER SIGNATURE</b>	<b>11. TITLE</b>	<b>12. DATE</b>

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U.S. Department of Agriculture Forest Service  <b>JOB HAZARD ANALYSIS (JHA)</b> References-FSH 6709.11 and -12 <i>(Instructions on Reverse)</i>	1. WORK PROJECT/ACTIVITY <b>Solid Waste Removal</b>	2. LOCATION <b>Daniel Boone National Forest</b>	3. UNIT <b>Forest Wide</b>
	4. NAME OF ANALYST <b>Lee Breth</b>	5. JOB TITLE <b>ORA</b>	6. DATE PREPARED <b>10/27/2021</b>
7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE	
Working along roadsides	Getting hit by vehicles	Always maintain awareness of surroundings Work on side of roadway that faces oncoming traffic Wear high visibility colored safety vest	
	Cuts, scrapes, broken glass	Wear leather gloves and work boots Use tongs to pick up trash Watch for broken glass in grass and ditch lines; monitor each area before beginning work Handle garbage bags with broken glass in them carefully	
	Hypodermic needle	Be particularly cautious when discarding needles Wear leather gloves, report any accident with needles to supervisor Dispose in SHARPS container	
	Lifting injuries	Use proper lifting techniques. Bend knees when lifting. Lift with legs and not with back. Do not exceed your personal ability. Seek assistance for particularly heavy lifts.	
	Environmental Hazards	Examine each work area before beginning work; be especially aware around ditches, structures, and weeded areas. Watch for snakes in low lying areas. Watch for yellow jacket's nest in ground. Watch for hornet's nests and wasps in guardrails.  Do not stick hands back in road culverts to pick up trash	
<b>General Safety Practice</b>		<b>Carry first aid kits in vehicles</b>	
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