U.S. Department of Agriculture	1. WORK PROJECT/ACTIVITY	2. LOCATION	Unit
Forest Service	Chainsaw Operations	Chattahoochee-Oconee NF	Blue Ridge District
		National Forests in North Carolina	Chattooga District Tusquittee District
JOB HAZARD ANALYSIS (JHA)	4. NAME OF ANALYST	5. JOB TITLE	6. DATE PREPARED
References-FSH 6709.11 and 12 (Instructions on Reverse)	Peter Myers	AFMO/Chainsaw Coordinator	02/11/2020
7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Control	s *PPE
General Chain Saw Use and Operations	Equipment	Proper saw for the job: bar length, power head	
		and proper wedges and felling axe or equivalent.	
	All PPE should be worn at all times.		
	Personal Protective Equipment (PPE)	<ul> <li>Wear appropriate Personal Protective Equipment</li> <li>Leather gloves</li> </ul>	nt (PPE), including:
		<ul> <li>Leg protection (chaps) - chaps shall have full length of the thigh and overlap the Chaps shall meet the US Forest Service directed in the FS Health and Safety Co on the upper left inside hip of the chap specifications.</li> <li>Hardhat approved for saw operations AN</li> <li>8" high laced leather boots, sturdy, with</li> <li>Long sleeved shirt</li> <li>Eye protection - safety glasses or face sh</li> <li>Hearing protection rated to reduce noise</li> <li>First aid kits shall be available at the wor vehicle. First aid kits available for chair supplied to handle traumatic injuries.</li> </ul>	top of the boots by 2 inches. Specifications 6170 – 4F as ode Handbook. Check the tag os to ensure they meet these ISI Z89.1 – 1986. skid resistant soles. ield e levels to 85dBA k site and on each transport
		<ul> <li>Maintain appropriate Communication at all tim</li> <li>Vehicle radio and hand- held radio's - tur appropriate channel selected for locat</li> <li>Cell phone – check coverage</li> </ul>	rned on,
	Qualification	Sawyers must maintain national certification proficiency levels as follows: "A" apprentice sa sawyer. "C" advanced sawyer. "C" sawyer cert be currently certified by a nationally recognize aid and perform CPR.	wyer. "B" intermediate tification. Saw operators shall
Carrying Chain Saw	Cuts Falls Burns	Stop saw before carrying. Point bar forward wh saw is at the side. Point bar to the rear when go the side. Pack and guard bar and dogs when car and check saw as not to be hot and cause burns	bing uphill and the saw is at rrying saw on the shoulder,

Pre-use Inspection	Damage Hazardous Conditions	<ul> <li>walking space between crewmembers. Ensure fuel cap is secure.</li> <li>Know the saw you will be using. Saws vary by brands and models.</li> <li>Check that parts of the saw are securely attached and that no parts are missing or damaged. Make corrections as required.</li> <li>Check the chain condition; sharpen or replace as necessary.</li> <li>Check the bar adjustment and set chain tension as required.</li> <li>Test run the saw and ensure that the chain break and kill switch operate properly.</li> </ul>
Fueling Chain Saw	Burns Spillage Fire	Stop the saw when checking fuel or bar oil levels. When refueling fill tank on bare ground or other noncombustible surface. Wipe spilled fuel off saw. Never start saw within 10 feet of the fueling area. Refuel saw at least 20 feet from persons smoking or other potential sources of ignition. Beware of Fuel geysering. The pressurization of fuel in fuel containers that can result in unintended fuel spray when fuel cap is removed.
Environmental Conditions	Weather Darkness	. All work shall terminate and each employee shall move to a place of safety when environmental conditions create a hazard for the employee. No felling at night.
Starting Saw	Kickback Cuts	There are two recognized methods for safely starting a saw - On ground starting and stand starting. In both methods the trigger lock should not be used. Drop Starting is prohibited. Ensure the area is clear of people and hazards. Start the saw with the chain break on. Keep a secure grip on the saw at all times.
Size Up	Obstacles Species Conditions Escape Route's	The first hazard mitigation is analyzing the felling job by considering: (1) Location of people, structures, and power lines. (2) Roads and travel in the cutting area. (3) Topography and steepness of ground. (4) Nearby hazards such as trees, low hanging and dead limb, rocks, and brush. (5) Primary and secondary escape routes, safety zones and alternatives. (6) Wind direction and speed. (7) Tree species, both live and dead. (8) Tree conditions: diameter and height of tree. (9) Soundness of tree: spilt, lighting struck, broken off top, rot, deterioration or physical damage to the root system, trunk, stem, limbs, or bark. (10) Lean direction and or limb distribution. (11) Widow makers. (12) Spiked top and/or schoolmarm. (13) Burning top or fire inside cavity. (14) Moisture in the form of rain, snow, or ice. (15) Insect damage trees.
Felling Considerations	Qualifications Space Escape routes Species Tree condition Deformities	Train new operators in chain saw use. Never let trainee sawyers operate without constant, direct supervision until they demonstrate the ability to handle the saw independently and proficiently and/or are carded to do so. A sawyer <b>should</b> not work alone. Individual chain saw operators have management support in any situation in which the faller opts toward safety in felling, bucking, and brushing operations. This should be based on his/her

	Lean distribution Weather	individual skill, knowledge and understanding of personal capabilities, The final decision to fell any tree is up to the faller. A secure felling area will be established, with a radius of at least two times the height of the tree to be felled. Escape path and safety zones and alternate path should be 45 degrees from direction of tree fall and in place before first cut is made. Some tree species may split or barber chair worse than others. Slope also will increase risk of tree splitting or barber chairing. Tree conditions and deformities can be very hazardous such as splits, lightning or wind shaken damage, rot or soundness of tree, whether burning interior or top on fire, dead limbs, insect activity, frost cracks, knot, conks or fungi activity, Unstable root system, root protrusion and vines all these hazards need mitigation measures taken so tree or trees may be fell safely. Adjust for lean whether it be slight or great, head or side lean, heavy limbs or weight distribution from snow /ice or wind
		head or side lean, heavy limbs or weight distribution from snow /ice or wind. By using the cross sight or plum bob it will help to adjust amount of lean.
Cutting Alone for Road Debris Removal	Communications Delayed Medical Response	By dsing the cross sight of plum bob it will help to adjust amount of lean.         Communication must be established with dispatch (District Office/Gainesville Dispatch or North Carolina District Office/ Asheville).         • Task         • Location         • Estimated time of completion         • Contact dispatch when work is finished         Radio must be carried <u>On Person</u> during cutting operations         Have medical/First Aid Kit readily available either on person or in an easy to access location on vehicle.         Reference the USDA Forest Service Saw Operations Guide v 1.3.1
Personal Safety Considerations and Attitude.	Personal Physical Considerations General health and mental considerations Medication or under the influence	Maintain regular fitness with exercise throughout the year. Medical testing when needed. Do not operate a chainsaw when mental or physical impairment including: medication, poor frame of mind, excessive fatigue, etc. Hold safety "tailgate" briefings and sign JHA. Talk about safety for the job at hand.
Maintenance	Missing Equipment Damaged Equipment Saw Not Ready to Use	Return the saw to the saw kit in a ready to use condition Ensure that all equipment is returned to the saw kit (box). This should include: Clean saw with sharp chain Wedges Saw tool Axe Spare chain for the saw Spare chain bar Spark plug

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	File for the chain
	• Flat file
	All operators shall be currently certified in First Aid, CPR, and BBP
	(Bloodborne Pathogens). OSHA 1910.266 App B. First Aid kits and BBP kits
	MUST be readily available. In case of serious injury or illness, notify office
	by radio or personal communication device to request for EMS from local
	agency. Follow EMS protocols. Notify your supervisor as soon as possible
	of the incident. Use Bloodborne Pathogens precautions. Complete
	necessary paperwork.

10. LINE OFFICER SIGNATURE	11. TITLE:	12. DATE
	Blue Ridge District Ranger	
	Chattooga District Ranger	
	Tusquittee District Ranger	

JHA Instructions (References-FSH 6709.11 and .12)	Emergency Evacuation Instructions (Reference FSH 6709.11)
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.	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:
Blocks 1, 2, 3, 4, 5, and 6: Self-explanatory.	a. Nature of the accident or injury (avoid using victim's name).
<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).	<ul> <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> </ul>
Block 8: Identify all known or suspect hazards associated with each respective task/procedure listed in block 7. For example:	<ul> <li>f. Local hazards to ground vehicles or aviation.</li> <li>g. Weather conditions (wind speed &amp; direction, visibility, temp).</li> </ul>
a. Research past accidents/incidents	h. Topography.
<ul> <li>Research the Health and Safety Code, FSH 6709.11 orother appropriate literature.</li> </ul>	<ul><li>i. Number of person(s) to be transported</li><li>j. Estimated weight of passengers for air/water evacuation.</li></ul>
c. Discuss the work project/activity with participants	The items listed above serve only as guidelines for the development of emergency evacuation
d. Observe the work project/activity	procedures.
e. A combination of the above	JHA and Emergency Evacuation Procedures Acknowledgment
<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:	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:
a. Engineering Controls (the most desirable method of abatement).	
For example, ergonomically designed tools, equipment, and furniture.	SIGNATURE DATE SIGNATURE DATE
b. Substitution. For example, switching to high flash point, non-toxic solvents.	
<ul> <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</li> </ul>	Work Leader
(chain saws, rock drills portable water pumps) e. A combination of the above.	
<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.	
Blocks 11 and 12: Self-explanatory.	