

Risk Assessment Analysis					Project Risk Assessment	Project: Chainsaw Operations				
Identification of Hazards and Risk Assessment						Mission Objectives:				
Subsystem	PRE-MITIGATION					Mitigation(s), Warnings and Reminders	POST-MITIGATION			
	Hazards (Loss of)	Likelihood	Severity	Risk Level	Likelihood		Severity	Risk Level	Additional Local Mitigation	Acceptable Yes/No
Emergency Procedures	Lack of preparedness for an emergency situation	Occasional	Catastrophic	HIGH	Ensure you have and understand an emergency evacuation plan. Pre-determine heli-spots and medevac routes and methods for injured personnel. Establish radio contact with District and give legal description of location prior to sawing. Carry logger style first aid kits to the worksite.	Remote	Catastrophic	SERIOUS		
	Lost, missing, or overdue employee	Remote	Catastrophic	SERIOUS	Follow unit check-in/check-out protocols. Ensure a communications and backup communications device is available and employees are trained.	Improbable	Catastrophic	MEDIUM		
Training & Certification	Cuts and injuries due to lack of training or experience	Probable	Catastrophic	HIGH	All sawyers must take the following training: S212 Wildland Powersaws; RT212 Chainsaw Refresher Training every 3 years; First Aid/CPR certification every 2 years; Blood Borne Pathogens training every year.	Remote	Catastrophic	SERIOUS		
	Additional exposure of employees in the safety circle	Occasional	Catastrophic	HIGH	Only personnel critical to the certification process are allowed in the safety circle. Insure proper spacing from other students, at least 2 1/2 tree lengths from sawyer.	Remote	Catastrophic	SERIOUS		
General	Eye injuries, hearing damage, cuts and abrasions, aerial hazards and cuts from saw	Frequent	Catastrophic	HIGH	<b>Wear PPE:</b> The following PPE is required for chainsaw operations- Forest Service approved hardhat; eye protection; hearing protection (85 dB and above); cut resistant gloves; long sleeved shirt; Forest Service approved chain saw chaps long enough to overlap boots by 2 inches; logger style first aid kit; heavy duty, cut resistant, 8" high laced boots with nonskid sole. Swampers and others working in the safety circle of the sawyer must wear all PPE including chaps.	Remote	Critical	MEDIUM		
	Injuries from improper personal chainsaw transport	Probable	Critical	HIGH	When carrying a saw on your shoulder, saw must be chapped or dogs and chain must be covered. When carrying the saw by hand, carry the saw on the downhill side with chainbrake on. Point bar forward when going downhill and point bar backward when going uphill.	Remote	Negligible	LOW		
	Personal injury or property damage from using improper equipment	Occasional	Critical	SERIOUS	Always inspect equipment and saws before use. Proper saw for the job and required equipment: chain brake fully functional; appropriate bar length; srench and file; approved container for fuel and oil; anti-vibration system; wedges (No metal or wooden); fire extinguisher	Remote	Marginal	MEDIUM		
	Injuries from improper starting procedures	Frequent	Negligible	MEDIUM	<b>Do Not Drop Start. Always start saw with chain brake engaged.</b> Follow the three approved starting methods that are allowed by the Forest Service and OSHA.	Improbable	Negligible	LOW		
	Personal injury or property damage due to improper bucking and limbing techniques.	Frequent	Critical	HIGH	Limbing and bucking on any slope where rolling or sliding of trees or logs reasonably foreseeable shall be done on the uphill side of each tree or log. When trees are on sloping ground, use blocking devices to prevent trees from rolling or sliding. Know where the	Occasional	Critical	SERIOUS		

	Personal Injury due to falls or environmental hazard	Probable	Critical	HIGH	Observe winds and stop operations when deemed unsafe due to speed and gust. Never continue working in hazardous weather conditions such as fog obscuring treetops, continued high winds, and electrical storms. Ensure adequate footing when ground is wet or snow covered.	Occasional	Critical	SERIOUS		
	Unable to receive assistance if injured when working alone	Frequent	Catastrophic	HIGH	INDIVIDUAL SAW OPERATORS ALWAYS HAVE THE OBLIGATION TO SAY "NO" AND WALK AWAY FROM ANY SITUATION THEY DETERMINE TO BE AN UNACCEPTABLY HIGH RISK. Always discuss the worst-case scenario and possible mitigation. Supervisors are responsible for insuring that there employees have a logger style first-aid kit on site at every saw project. Since chainsaws are inherently dangerous with associated injuries potentially very serious, it is strongly recommended to not operate a chainsaw alone. Saw operators engaging in thinning operations or other operations that will involve extensive chainsaw use will not work alone. Exceptions to this would be bucking a non-complex tree out of a road to gain access. It is suggested that under these conditions, the sawyer should make radio contact with the local unit or dispatch office and advise of the current situation, including specific location.	Remote	Catastrophic	SERIOUS		
	Accidental combustion of fuel and saw causing burns	Improbable	Marginal	MEDIUM	Allow saw to cool for 5 minutes before fueling. Fill chainsaw on bare ground or non-combustible surface. Refuel outdoors and at least 20 feet from open flame or other ignition source. Start saw at least 10 feet from fueling area. Follow owners manual recommendations on proper fuel cap tightening. Open fuel containers carefully due to pressure build up in containers.	Improbable	Negligible	LOW		
Felling Operations	Personal injury or property damage due to improper saw use, not following safety procedures, other human factors, or erratic tree behavior	Frequent	Catastrophic	HIGH	No night felling or when the distance 2 1/2 times the height of tree (360°) to be felled is obscured by darkness, fog, smoke or other condition. The feller shall evaluate the inherent danger of the situation and determine if the tree can be felled safely. If the tree CANNOT be safely felled, the procedure should be ended, the tree flagged, and the information passed on to the supervisor and adjacent workers. Establish and clear primary and secondary escape routes, safety zones, and alternates. Insure proper spacing from other workers, at least 2 1/2 tree lengths from sawyer. Saw from safe standing height. Consider mental and physical condition of yourself and crew members. Make sure to walk layout. Check for structure, trails, roads, and other recreation areas/activities. Post lookouts as appropriate to warn forest users and stop traffic. Watch for utility lines and any other improvement that could cause injury or be damaged. When felling or bucking in campgrounds, check for metal objects in trees before cutting. Avoid falling when there are high wind gusts. Patrol area and warn recreationists of proposed falling. Watch for spring poles. Undercut all trees exceeding 5" DBH. Correctly establish lean of tree. Make proper face cuts large enough to control tree nearly to ground. Make downhill or offside cut first. Insert wedges into back cut ASAP. Check top, especially once tree begins to lift, and check direction of fall and for falling branches. Continue watching for kickback and falling material (especially those that may be thrown back). Be sure felling never causes danger to others. Perform warning shouts for all felling operations as follows face cut, back cut and tree coming down. Watch for other falling trees that may have been hit by felled tree. Check adjacent snags and trees for broken tops, hanging limbs, or debris before returning to work. Observe	Occasional	Catastrophic	HIGH		

Personal injury or property damage due to hazards associated with snags or hung trees.	Frequent	Critical	HIGH	Remove bark from snags, watch tree and area closely, and consider all snags rotten. Watch overhead branches when striking wedges. Consider every hung tree as a vary hazardous situation. Never climb on lodged tree. The complexity involved in removing a hung tree with a chainsaw may require an advanced C sawyer. Be aware that trees may reverse or change their direction of fall after a hang-up requiring multiple escape routes .	Remote	Critical	MEDIUM		
Prepared by <u>KENT WEUNER</u>					Date <u>APRIL 19, 2022</u>				
Line Officer Signature <u>Dan Maiten</u> Title <u>REGIONAL FORESTER</u>					Date <u>APRIL 19, 2022</u>				

