

JOB HAZARD ANALYSIS (JHA): Ice Age National Scenic Trail

Chainsaw Operations: IATR-06

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Approved By: Eric Gabriel, Superintendent (signature on file)

Required Personal Protective Equipment (PPE): Hard Hat (ANSI Z89.1 compliant), Sturdy leather (cut-resistant) Boots, leather or other sturdy Work Gloves, Eye Protection/Face Shield (ANSI Z87.1 compliant), Hearing Protection (ear muffs, plugs, or a combination), Saw Chaps (meets or exceeds USFS 6170-4F), Weather-Appropriate Shirt & Long Pants

* Swampers also required to wear identified PPE, minus chaps

Recommended Additional PPE: Blood Stopper Belt Trauma Kit, Safety Whistle

Tools and Equipment: Chainsaw, Saw Kit, Fuel & Bar Oil, Logger's First Aid Kit (meets 29 CFR 1910.266), Cellular Phone or Two-Way Radio

Required Standards and General Notes: Chainsaw Operators must possess a valid National Sawyer Certification Card. Chainsaw operations always involve at least two people for safety enhancement. Sawyers and Swampers maintain currency in First Aid/CPR, *Trail Safe!* videos, and an approved OF-301A Volunteer Services Agreement

Sequence of Job Steps	Potential Hazards/ Injury Sources	Safe Action or Procedure
Certification/Training	Various potential injuries due to operating saw outside of skill/training level	Complete approved chainsaw operator training (NRSTP); operate chainsaw within certification parameters
Risk Management Analysis	Site-Specific Hazards	Identify site-specific hazards associated with each saw operation, mitigate hazards or stop work until safety concerns are addressed. Utilize <i>Trail Safe!</i> risk analysis tools (SPE/GAR) to determine Low, Moderate, or High Risk
Fueling	Fire from gas spilled on muffler or other ignition source; fuel geysering; damage to equipment from improperly labeled fuel containers	Let saw cool before refueling. Fuel on bare ground, use funnels. No smoking during refueling, or during chainsaw operations (includes vaping and e-cigarettes) Move at least 10 feet away from fueling site before starting saw.

		<p>Replace excessively gas/oil-soaked gloves.</p> <p>Mix fuel in well ventilated area.</p> <p>Clean up spills promptly.</p> <p>Gasoline will be stored in approved containers or Department of Transportation (DOT) approved containers in quantities of 5 gallons or less. "Approved" containers are tested and certified by a nationally recognized testing laboratory (NRTL) such as Underwriters Laboratory (UL) or Factory Mutual Engineering Corp (FM). Approved containers will be marked or labeled with the UL or FM label. A safety can is a common type of approved container with a flash arresting screen, spring-closing lid and spout cover, and so designed that it will safely relieve internal pressure when subjected to fire exposure.</p> <p>Clearly mark fuel containers that have gas/oil mix ratio.</p>
Saw Maintenance	Fatigue/injury from improper saw maintenance	<p>Keep saw sharpened.</p> <p>Keep idle adjusted properly.</p> <p>Inspect for bar wear/proper chain tension.</p> <p>Take frequent rest breaks.</p>
Sharpening Chain	Cuts to hands	<p>Wear gloves when sharpening chain.</p> <p>Use vise if available.</p> <p>Never file chain while saw is running.</p>
Transporting Saw	Injury due to falls while carrying saw	<p>Always employ chain guard (scabbard) whenever saw is not in operation.</p>

<p>All Sawing Maneuvers</p>	<p>Cuts to body, various reasons</p>	<p>Wear all PPE (chaps, gloves, boots, etc.).</p> <p>Drop-starting a chainsaw is prohibited. A chainsaw must be started with the chain brake engaged and the operator holding the saw firmly in a manner that minimizes movement of the saw when pulling the starter handle.</p> <p>Chainsaws may not be operated unless the manufacturer's safety devices are in proper working order. Chainsaw safety devices may not be removed or modified.</p> <p>The chain brake must be engaged or the engine shut off if it is carried more than two steps.</p> <p>In manual tree felling operations, notches (face cuts) must be used on all trees and trunks greater than 5 inches in DBH.</p> <p>Check chain tension periodically to avoid "throwing" chain.</p> <p>When more than one individual is limbing or bucking a tree, each is positioned and their duties organized so the actions of one individual will not create a hazard for the other individual.</p> <p>Chainsaw engines must be started and operated at a 10-foot minimum distance from other individuals.</p>
<p>Felling *Securing Felling Area</p>	<p>Others being struck by trees/limbs/debris</p>	<p>The sawyer has the responsibility and authority to identify, secure, and manage the felling area. A MINIMUM OF 2.5 TIMES THE HEIGHT OF MATERIAL BEING FELLED IN ALL DIRECTIONS</p>

	<p>MUST BE SECURED. <i>Note: This requirement does not apply in the presence of site restrictions, such as waterways or cliffs. Other individuals must be beyond a tree's striking range and at a distance as close to twice the tree's height as practical</i></p> <p>No one is allowed inside secured felling area without authorization of the sawyer.</p> <p>Additionally, the entire downhill side will be included in the secure area on hillsides with steep slopes where material can roll for long, unpredictable distances.</p> <p>Establish a safe zone outside secured area where everyone remains until felling is completed and the sawyer signals "all clear."</p> <p>Position lookouts on all trails and roads entering the secured felling area.</p> <p>Before leaving the secured felling area, the sawyer must ensure that no hazards remain such as hang ups, unstable logs, or other dangers.</p> <p>It is the responsibility of the work leader and other volunteer workers to understand and follow these established standards, and to follow the direction of the sawyer.</p> <p>At times when Risk Assessments are elevated due to more complex operations, especially when chainsaw operations are part of a larger overall event with multiple workers moving throughout an area, the sawyer should enlist the help of another qualified sawyer (person of appropriate skills and knowledge) to serve as an overall</p>
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<p>Saw Certification & Working within the Felling Area</p>	<p>Other crew members observing felling procedures</p>	<p>Make sure all trainees are aware of which tree is to be felled and what direction it is planned to fall.</p> <p>Point out identified hazards from size up.</p> <p>It is the sawyer’s discretion to allow trainees within the 2.5-tree lengths to observe felling, but regardless, maintain safe distance and established escape route.</p> <p>All observers must remain quiet during felling.</p>
<p>Medical Emergencies</p>	<p>Personal injury or illness</p>	<p>All sawyers & swampers will maintain current First Aid/CPR training, and all saw work will be performed by sawyer/swamper buddy-system teams.</p> <p>Each operation must include a “safety station” within 100 feet of the work zone that contains a logger’s first aid kit meeting paragraph (d)(2) of the logging standard 29 CFR 1910.266(e)(1) and (e)(2), Logging Operations.</p> <p>The safety station shall include “Site Safety Plan” information available to all people on site denoting the location of the work site (physical address, Lat/Long, GPS coordinates, or other appropriate locator info) and the name, address, and phone number of the nearest medical facility. IATA “Safety Net” documentation is sufficient for</p>

		<p>this purpose at larger sponsored work events. It is recommended that the Site Safety Plan be kept inside the logger's first aid kit within the safety station.</p> <p>Each logger's first aid kit comes with an "<i>Emergency Assistance Instructions</i>" card that should be filled out to satisfy this requirement.</p> <p>Communications to request advanced emergency medical treatment must be provided for (cellular phones/radios, etc.).</p>
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