

NPS Reference Manual 50B Occupational Safety and Health Program

Chapter 15 – Chainsaw Safety for Non-Wildland Fire Operations

Approval for inclusion in Reference Manual 50B:

Signature: CHARLES
CUVELIER

Digitally signed by CHARLES
CUVELIER
Date: 2026.10.08 09:19:55 -04'00'

Title: Associate Director, Visitor and Resource Protection

Table of Contents

15.1 Introduction	3
15.2 Scope	3
15.3 Policy Objectives	3
15.4 References	3
15.5 Definitions	4
15.6 Responsibilities	7
15.6.1 Office of Health and Safety (OHS), Washington Area Support Office (WASO)	7
15.6.2 Regional Program Manager	7
15.6.3 Superintendent	8
15.6.4 Supervisor	8
15.6.5 Park/Site Chainsaw Safety Program Manager	8
15.6.6 NCSP Instructor/Competency Evaluator	8
15.6.7 Chainsaw Operator	9
15.7 Program Elements	9
15.7.1 Operator Qualification Process	10
15.7.2 Instructor/Competency Evaluator (I/CE) Qualification Process	11
15.7.3 National Wildfire Coordinating Group (NWCG)	12
15.7.4 Requalification Process	12
15.7.5 Revocation	13
15.7.6 Written Chainsaw Safety Program	13
15.7.7 Site Safety Plan	16
15.7.8 Personal Protective Equipment	16
Table 1: PPE Requirements and Recommendations for LOW and MEDIUM Risk Chainsaw Operations	17
Table 2: PPE Requirements and Recommendations for HIGH Risk and EXTREMELY HIGH Risk Chainsaw Operations	17
15.7.9 Incident Investigation and Reporting	18
15.7.10 Qualification Requirements for Non-Tree Felling Operations	18
15.7.11 Chainsaw Specialty Tools and Chainsaw Evolution	18
Appendix 15.A: Chainsaw Operator Competencies	20
Appendix 15.B: Minimum Mandatory First Aid Kit Supplies	25

15.1 Introduction

It is National Park Service (NPS) policy to provide a safe and healthful workplace for individuals performing chainsaw operations. The NPS Chainsaw Safety Program for Non-Wildland Fire Operators (NCSP) provides direction on qualifications, training, evaluation, and requirements for individuals operating chainsaws on NPS lands. This program requires verification and demonstration of skills and competencies to help ensure safe operation of chainsaws. NPS policy allows chainsaw use by employees and volunteers in the performance of NPS duties only if the chainsaw operator possesses a valid NPS Chainsaw Qualification. The standards contained in this document describe acceptable safe work practices for non-wildland fire chainsaw operations.

15.2 Scope

This chapter applies to all non-wildland fire activities on NPS lands involving chainsaw use. The program has three components: written policy, required qualification, and optional training.

15.3 Policy Objectives

1. The Chainsaw Safety Policy:
 - a. Identifies roles and responsibilities for establishing, managing, and overseeing this policy.
 - b. Identifies training to acquire chainsaw knowledge, skills, and abilities.
 - c. Establishes minimum training requirements.
 - d. Mandates chainsaw operator skills through an evaluation of competencies for all qualification levels.
 - e. Mandates safety practices, means, methods, and operations for chainsaw use, regardless of the purpose of cutting.
2. Exceptions to this policy include:
 - a. Contractors or co-operators who are not working under direct NPS supervision and not covered by DOI Workers Compensation.
 - b. Other non-NPS entities (see section 15.5: Definitions). Clarification will be provided by the WASO Office of Health and Safety as needed.

These exceptions to policy groups/individuals must ensure compliance with local, state, and federal occupational safety and health regulatory requirements, where applicable.

15.4 References

Implementation details are in:

1. 29 CFR 1910.266(e)(1) and (e)(2)
2. 29 CFR 1910.266, Appendix A
3. 29 CFR 1910.266, Appendix B
4. 29 CFR 1910.266, Appendix C

5. 29 CFR 1910.106
6. American National Standards Institute (ANSI) Z133, Safety Requirements for Arboricultural Operations
7. Reference Manual 50B

15.5 Definitions

NAME	DEFINITION
After Action Review	A structured review or debriefed process by the participants and those responsible for the project or event to analyze what happened, why it happened, and how it can be done better in the future.
Approving Official	The person who provides authorization for individuals to be permitted to operate a chainsaw after they have successfully demonstrated competency to safely operate a chainsaw.
Brushing	The clearing out of a work area by removing woody material up to 4 inches in diameter so long as it can be done safely with a simple horizontal cut.
Bucking	The process of reducing the size of fallen logs or trees by cutting the wood into moveable sections.
Chainsaw	A portable mechanical saw consisting of a power head, saw chain, and guide bar generally used to cut wood.
Chainsaw Operation	Any number of tasks that involve the use of a chainsaw, in addition to other acts, to accomplish a specific job such as tree felling.
Chainsaw Operator	Any individual who uses a chainsaw in the performance of his/her duties.
Chainsaw Safety, Maintenance, and Operation (CSMO)	The comprehensive NPS chainsaw training program that consists of training courses for each level of the NCSP.
Competency	A measurable pattern of knowledge, skills, abilities, behaviors, and other characteristics an individual needs to perform work roles or occupational functions safely and successfully.
Competency Evaluation	A written assessment of an individual's knowledge of chainsaws and/or a field evaluation of his/her skills and ability to operate a chainsaw safely.
Competency Evaluator	An individual who has completed instructor training having the knowledge, skills, and abilities to critically assess operators.
Complex Trees	A tree that is larger than 16 inches diameter (DBH), has more than 1 ft of lean in any direction, and may have defects such as cracks, cankers, or decay, and/or multiple stems, or dead trees. Complex trees have features which affect the falling of the tree and increase risk to the faller and to property.
Co-operator	An entity working on NPS lands under contract or agreement (e.g., SCA) who are not directly supervised by NPS staff and not covered by DOI Workers Compensation.

NAME	DEFINITION
Danger Tree	A tree that is uprooted, broken, or accidentally felled so that it is leaning into another tree. Also referred to as a hung tree. These can be complex trees requiring a thorough risk assessment to inform next steps. It is recommended that these trees are felled by those with higher level qualifications.
Diameter at Breast Height (DBH)	The standard measurement of a tree's trunk diameter taken at approximately 1.3 to 1.37 meters (4.3 to 4.5 feet) above ground.
Engineering Control	Eliminate or reduce exposure to a chemical or physical hazard through the use or substitution of engineered machinery or equipment.
Equivalency Waiver	An approval that allows partners or volunteer groups to perform chainsaw operations on park lands.
Fall (Fell)	To cut down standing trees using a face and back cut.
Hazard Tree	A tree with a structural defect that increases the likelihood of failure AND which has a high probability of impacting a target such as a person or property.
High Value Target	Any person, property, or service (activity) that may be injured, damaged, or disrupted. If an operator is unsure if a target is high value, consult supervisor.
Job Hazard Analysis (JHA)	A multi-step process designed to study and analyze a job. It breaks down a job into steps, which provide a means of eliminating associated hazards. JHAs result in a detailed written procedure for safely completing a particular job.
Journeyman Faller (JF)	A chainsaw operator who performs tree falling operations at an advanced level. The JF may fall any tree after careful consideration of the tree's complexity, provided it does NOT have a valued target in the tree fall zone and the diameter of the tree does NOT exceed 1.5 times the chainsaw bar length.
Lessons Learned	A document that expresses knowledge or understanding that impacts an organization and can be gained through experience which may be positive or negative.
Limbing	To remove branches from downed trees.
Master Faller (MF)	A chainsaw operator who performs tree falling operations at an expert level using advanced techniques and specialized equipment (i.e., rigging, tree jack, etc.). The MF may fall any tree after careful consideration of the tree's complexity.
Master Faller Task Evaluator	An individual who has completed a specific task on the master faller task book who is qualified to train, evaluate, and sign off other individuals seeking to obtain sign off on the same task.
Near Miss	An unplanned event that did not result in injury, illness, or damage but had the potential to do so. Only a fortunate break in the chain of events prevented an injury, fatality, or property damage from occurring.

NAME	DEFINITION
"Other non-NPS entities"	Lessees, concessionaires, youth/job corps, non-NPS emergency responders, NPS researchers.
Power Pole Pruner	A portable mechanical saw consisting of a power head, saw chain, and guide bar used to cut wood. This device is on an extension pole and has a greater safe working distance than a chainsaw.
Qualified Chainsaw Operator	Any individual that successfully demonstrates their knowledge, skill, and ability to safely perform chainsaw operations at their evaluated skill level and completes the requirements of section 15.7: Program Elements
Risk Assessment	The process of determining the likelihood of a specified negative event occurring and the severity of the negative event should it occur.
Sawyer (S)	A chainsaw operator who only performs chainsaw operations on downed and generally horizontal material from the ground (e.g., bucking, limbing, brushing, slashing, and stumping).
Simple Tree	A single stem tree of moderate (approximately 16 inches) diameter, free of defects, with no more than 1 foot of lean in any direction, with adequate room for falling, and the diameter (DBH) of the tree does NOT exceed the (chainsaw) bar length.
Site Safety Plan	Written document that provides specific location where work is occurring (e.g., physical address, GPS coordinates, location along trail or roadway). Provides name, address, and phone number of nearest medical facility and outlines the best way to summon emergency medical services (EMS). May also include a medivac plan.
Skill Level	The level of achievement an individual possesses by acquiring thorough knowledge of the subject and successfully demonstrating the ability to perform the action.
Slashing	The cutting of woody material so it lays flat on the ground.
Stumping	The practice of cutting a tree stump as close to ground level as practical after a tree has been felled.
Swamper (or puller)	An individual who assists a sawyer by moving cut material, such as brush or other debris. A minimum safe working distance of 10 feet must be maintained between the swamper and the person operating the chainsaw.
Tree-Fall Zone	For tree felling operations at the Journeyman and Master Faller levels. The Tree-Fall Zone is defined as a secured/controlled circular area with a perimeter that is set at a distance of the tree height plus 10% of the tree to be felled. Only those involved with the tree felling task are permitted within this area. <u>For Journeyman Fallers no high value targets can be in the tree-fall zone.</u>

NAME	DEFINITION
VIP	As defined in 29 CFR 553.101, “An individual who performs service under a current, signed individual or group volunteer service agreement without promise, expectation, or receipt of compensation for services rendered is considered to be a volunteer, provided such service lies within the scope of statutes authorizing the bureau’s or office’s use of volunteers.” Volunteers are members of the public and are not considered employees except in the cases of liability, tort claims, and workers’ compensation. While volunteers are not NPS employees, the same workplace policies apply, such as but not limited to: facility access, anti-harassment, standards of performance or conduct, and safety. Volunteers may also be referred to as Volunteers-in-Parks or “VIPs.”
Working Faller (WF)	A chainsaw operator who performs tree falling operations at an entry level, and who may fall simple trees.
Working Faller Work Zone	For tree felling operations, a secured/controlled circular area with a perimeter that is set at a distance of twice the height of the tree to be felled. Only those involved with the tree felling task are permitted within this area and <u>no high value targets are in this zone.</u>

15.6 Responsibilities

This section addresses the responsibilities and requirements for all chainsaw safety and operator-related roles.

15.6.1 Office of Health and Safety (OHS), Washington Area Support Office (WASO)

1. Maintain the NCSP policy.
2. Maintain a Servicewide Master List of all qualified NCSP Instructor/Competency Evaluators.
3. Coordinate with ad-hoc work groups as needed to inform NCSP review, training revisions, and policy interpretations.
4. Maintain SharePoint/Teams site with all relevant information pertaining to the NCSP.
5. Provide annual summary of chainsaw related incidents from across the Service to Instructor/Competency Evaluators and Safety Managers.
6. Maintain the approved process for Qualification and Re-Qualification for all NCSP qualification levels and for establishing Instructor Trainers.
7. Maintain process for reinstatement of expired NCSP Instructor/Competency Evaluators.

15.6.2 Regional Program Manager

Unless otherwise appointed, by default, Regional Safety Managers are considered the Regional Program Managers for the NCSP and are responsible for the following:

1. Provide chainsaw program guidance and support to parks/offices within their region.
2. Coordinate NCSP training for their region.
3. Review lessons learned, Safety Management Information System (SMIS) reports, and other documents resulting from accidents or near misses involving chainsaw operations.

4. Communicate lessons learned to appropriate parties to prevent recurrence, including park superintendents, site managers, safety managers, collateral duty safety coordinators (CDSC), facility managers, other field personnel, and WASO OHS.
5. Review and approve or deny all re-qualification documents for NCSP Instructor/Competency Evaluators as defined within this policy in coordination with WASO OHS. For expired instructors, follow the WASO OHS defined process.
6. Consult with WASO OHS to resolve technical questions received from parks/offices.

15.6.3 Superintendent

1. Ensure compliance with all requirements within this policy.
2. Appoint a Park/Site Chainsaw Safety Program Manager.
3. Sign, or designate a signatory for, the chainsaw operator's qualification card as the authorized "Approving Official."

15.6.4 Supervisor

1. Ensure chainsaw operators under their supervision are qualified and operating within the operator's approved qualification.
2. Maintain copies of chainsaw operators training records (CPR/First Aid, NCSP, and field experience).
3. Investigate and report all near misses and incidents resulting in injury or property damage according to RM-50B and ensure they are reported into SMIS.
4. Monitor chainsaw operators' development and take further training action as needed to ensure competency and that all applicable requirements are met.
5. Periodically inspect chainsaw operators' personal protective equipment for serviceability, specifically chaps and hardhats.
6. Conduct and document tailgate safety meetings to include either a review or development of a new JHA for all chainsaw operators before chainsaw operations begin.
7. Take corrective actions if any unsafe practices are observed.

15.6.5 Park/Site Chainsaw Safety Program Manager

1. Be appointed in writing by the Superintendent.
2. Serve as the primary point-of-contact for the park/site for the chainsaw safety program.
3. Assist the Superintendent in evaluating the program annually.
4. Maintain a list of all qualified chainsaw operators including qualification level and expiration dates.
5. Coordinate training and field assessments as needed to requalify current chainsaw operators.
6. Ensure supervisors and operators maintain an operator's training and qualification record and produce the records upon request.

15.6.6 NCSP Instructor/Competency Evaluator

1. Conduct the NPS Chainsaw Safety, Maintenance, & Operations (CSMO) training course.
2. Maintain Instructor/Competency Evaluator status per this policy.

3. Complete and submit to the Regional Program Manager, the NCSP Instructor/Competency Evaluator Qualification Training and Recertification Record with all supporting documentation prior to qualification expiration.
4. Before issuing a qualification card, verify students have completed all required training as identified in this policy for the qualification level requested.
5. Administer the approved competency assessment based upon the specific qualification level being obtained.
6. Provide constructive feedback to any chainsaw operator that fails to demonstrate the ability to safely operate a chainsaw.
7. Only instruct and evaluate chainsaw operators within instructor qualification level and no higher.
8. Complete, sign, and provide to the Approving Official (park superintendent or their designee) the NCSP Official Chainsaw Safety Competency Evaluator Form, the NCSP qualification card, and the NCSP Competency Evaluation Field Assessment Form for everyone evaluated.
9. Provide copies of completed NCSP Official Chainsaw Safety Competency Evaluator Form to be maintained at the park/unit level.
10. For those who are certified as Instructor Trainers, all rosters for new Instructor/Competency Evaluators must be submitted to WASO OHS for inclusion in the Master List and in relevant communication channels.

15.6.7 Chainsaw Operator

1. Ensure all tools and accessories used in chainsaw operations are serviceable.
2. Protect equipment and tools from damage.
3. Notify supervisor of any chainsaw operation that is above the operator's qualification or ability to perform.
4. Immediately notify supervisor of all chainsaw safety related incidents including injury, property damage, near miss, or danger trees.
5. Maintain personal training records, to include CPR/First Aid with universal precautions, and other training as defined within this policy.
6. Inspect PPE and report to supervisor when replacement is needed.
7. Adhere to the chainsaw safety standards contained in RM-50B.

15.7 Program Elements

This section describes the required elements to become a qualified operator or instructor.

Prerequisites. Before proceeding with the qualification process, the following requirements must be completed and verified:

1. Be 18 years of age or older.
2. Must hold a current CPR/First Aid certification with universal precautions covered (e.g., Blood-borne pathogens). The training must include an on-line or in-person element and in-person skills check (e.g., American Heart Association or equivalent course).
3. Must show proof of attending the All-Employee Operational Leadership course. Note:

Volunteers must take either the All-Employee Operational Leadership Course or *TrailSafe!* training.

4. Must show proof of completing the NCSP Introduction to Chainsaw Operations & Safety eCourse located on DOI Talent, unless the operator is participating in the 32-hour CSMO Sawyer Training Course outlined below.

15.7.1 Operator Qualification Process

Each qualification level is contingent on completing the previous level. For example, a Journeyman Faller must satisfy the qualification requirements for the Sawyer and Working Faller levels before they can initially qualify as a Journeyman Faller. Qualifications are valid for three (3) years. An employee who already possesses skill at a qualification level (see Appendix 15.A: Chainsaw Operator Competencies) may bypass the training requirement and go directly to the competency assessment.

Sawyer (S). Once all prerequisites above are completed, there are two ways to become a qualified Sawyer operator:

1. Pass the written exam AND the field competency assessment provided by a qualified Instructor/Competency Evaluator AND show proof of completing the NCSP Introduction to Chainsaw Operations & Safety eCourse located on DOI Talent.
OR
2. Complete the 32-hour CSMO Sawyer Training Course AND pass both the written exam AND field competency assessment provided by a qualified Instructor/Competency Evaluator.

Working Faller (WF). Must have a current Sawyer operator qualification AND complete the following:

1. Pass a field competency assessment provided by a qualified Instructor/Competency Evaluator OR;
2. Complete the CSMO Working Faller training which includes an online training found in DOI talent AND a 24-hour training course AND pass the field competency evaluation.

Journeyman Faller (JF). Must have a current Working Faller operator qualification AND complete the following:

1. Pass a pre-test field competency assessment provided by a qualified Instructor/Competency Evaluator to demonstrate Working Faller proficiency level. Upon passing pre-test, pass the written exam and Journeyman level field competency assessment.
OR
2. Complete the 32-hour CSMO Journeyman Faller Training Course AND pass the pre-test, written exam, and field competency assessment provided by a qualified Instructor/Competency Evaluator.

Master Faller (MF). Must have a current Journeyman Faller operator qualification AND complete all of the following:

1. Submit a written portfolio of five (5) complex trees demonstrating proficiency to a Master Faller or Master Faller Task Evaluator for review. Upon review and approval, the Master Faller or Master Faller Task Evaluator will issue a task book to the JF operator to work on

completing OR, work directly, in person, with a Master Faller or Master Faller Task Evaluator to demonstrate competency in felling a wide range of complex trees.

2. Train with a Master Faller or Master Faller Task Evaluator to complete specific assigned tasks identified in the MF task book. For each task completed, the individual may then serve as a Master Faller Task Evaluator for that specific task.

NOTE: As individual tasks are signed off from the MF task book, an endorsement for that approved task is added to the JF qualification card. Once the task book is complete, the qualification of Master Faller will be achieved.

15.7.2 Instructor/Competency Evaluator (I/CE) Qualification Process

The following details how an experienced chainsaw operator can become a qualified I/CE.

Prerequisites.

1. Must be 21 years of age or older.
2. Must hold a current CPR/First Aid certification with universal precautions covered (e.g., Blood-borne pathogens).
3. Must show proof of attending the All-Employee Operational Leadership course.
4. Must have a minimum of three (3) years of active chainsaw experience. Active experience is defined as performing 40 hours of chainsaw operation per year at the level for which the operator is seeking instructor qualification. The experience must be verified by the operator's supervisor.

Sawyer Instructor/Competency Evaluator (S-ICE).

1. Attend the 32-hour CSMO Sawyer Training Course.
 - a. Completion from attending a previous 32-hour CSMO Sawyer Training Course is authorized – must show proof of attending (roster/certificate).
2. Complete and pass the 24-hour NCSP ICE Training Course.

Working Faller Instructor/Competency Evaluator (WF-ICE). Must be qualified as a S-ICE AND complete the following:

1. Submit the NCSP Working Faller Instructor/Competency Training Application to the Regional Program Manager.
2. Complete the NPS Working Faller Chainsaw Safety eCourse on DOI Talent.
3. Watch the recorded training session and complete the session quiz coordinated by WASO OHS.

Journeyman Faller Instructor/Competency Evaluator (JF-ICE). Must be a qualified WF-ICE AND complete the following:

1. Submit a portfolio to a qualified JF-ICE of felling five (5) complex trees that demonstrate the competencies of a JF listed in Appendix 15.A: Chainsaw Operator Competencies.
2. Complete the 32-hour NCSP Journeyman Faller Instructor/Competency Evaluator Course. Pass the pre-test, written exam, and field competency assessment.

Master Faller Task Evaluator (MF-TE). At this level, there are only task evaluators instead of Instructor/Competency Evaluators.

- A new MF-TE receives qualification by working with an existing MF-TE on a task book element. Once knowledge and skill is demonstrated, the task book can be signed.

Example: A MF-TE seeking to complete task book item #2 locates another MF-TE who has completed task book item #2. They train together (either in person or virtually) until the experienced MF-TE is satisfied that the trainee MF-TE is competent at the task. The experienced MF-TE then signs task book item #2.

NOTE: Chainsaw operators who have completed all prerequisites may perform chainsaw operations outside the limits of their qualification to develop or improve their skills and abilities **ONLY** when they are under the direct supervision of a qualified operator, so long as the qualified operator is willing to accept the responsibility of supervising the trainee and ensuring their safety.

Instructor Trainer Process

WASO OHS maintains the process for establishing Instructor Trainers (i.e., those I/CEs who can train and qualify new instructors). See above sections 15.6.1: WASO OHS and 15.6.6: NCSP Instructor/Competency Evaluator for further information.

15.7.3 National Wildfire Coordinating Group (NWCG)

1. This policy does NOT pertain to chainsaw operators holding a current red-card qualification and trained and qualified through the NWCG.
2. Employees currently qualified through the NWCG program as a Faller (FAL-3, FAL-2, or FAL-1) may perform chainsaw operations in the performance of their duties in a non-wildland fire setting providing they:
 - a. Produce a current red-card with chainsaw operator qualification listed upon request.
 - b. Work within the limitations of their qualification.
 - c. Maintain their qualification level through the NWCG.
3. Employees NOT currently qualified under the NWCG must adhere to this policy and be trained/qualified as defined in section 15.7: Program Elements.

15.7.4 Requalification Process

Chainsaw qualifications are valid for three (3) years. The following describes the requalification process for qualified chainsaw operators and Instructor /Competency Evaluators.

Chainsaw Operators

1. Complete and pass the competency assessment for the level they are currently qualified by a qualified I/CE at the level of requalification every three (3) years.
2. Must hold a current CPR/First Aid certification with universal precautions.
3. Re-qualification cards are signed by the Approving Official (park superintendent or their designee).

NCSP Instructor/Competency Evaluator

It is of critical importance that all I/CEs possess and maintain the knowledge and skill required to effectively instruct, qualify, and perform competency evaluations. All I/CEs should perform a self-assessment prior to submitting their requalification packages.

1. Submit the “NCSP Instructor and Competency Evaluator Qualification Training & Requalification Record” to the Regional Program Manager for review and approval showing:
 - a. At minimum, instructed three (3) training courses over the three-year term, with at least one (1) course being at the qualified instructor level.
Example: A JF-ICE must instruct a minimum of one JF course and two courses at any other level over the three-year term.
 - b. At minimum, administered at minimum five (5) competency evaluations over the three-year term.
Example: A JF-ICE must administer a minimum of one JF competency evaluation and four competency evaluations at any other level over the three-year term.
 - c. Provide a current copy of CPR/FA card with universal precautions.
 - d. MF-TE will complete a Master Faller Currency Record.

Once the Regional Program Manager reviews and approves the NCSP Instructor and Competency Evaluator Qualification Training & Recertification Record with all supporting documentation, the Regional Program Manager will issue a new I/CE card and forward it to the appropriate instructor. The Regional Program Manager will provide the updated information to WASO OHS in order to update the I/CE Master List. Formerly qualified NCSP I/CEs with a break in service can be considered for reinstatement by contacting the Regional Program Manager.

15.7.5 Revocation

The revocation process is normally initiated by the first-line supervisor and approved by the park/office Superintendent/Manager in consultation with the Regional Program Manager and WASO OHS as appropriate. Revocation of an operator’s qualification may occur when:

1. An operator has failed to demonstrate appropriate operational procedures resulting in placing themselves or others in danger.
2. An operator lacks the physical ability to safely undertake cutting activities commensurate with their qualification.
3. The review of chainsaw-related accidents and near misses reveals the operator was acting outside of their qualification.

15.7.6 Written Chainsaw Safety Program

Each Park/Office will develop a written Chainsaw Safety Program that will provide clear expectations and guidance on who the policies cover, with defined roles and responsibilities to be established by the program. The following are basic components that must be addressed within the written program:

1. **Requirements.** Each park/office will create a Job Hazard Analysis (JHA) that lists:
 - a. Tasks to be performed.
 - b. Potential hazards associated with the tasks.
 - c. Controls for each potential hazard identified for all chainsaw operations.

Refer to RM-50B Chapter 11: Job Hazard Analyses (JHAs) for more information.

2. **Risk Analysis**. Crew/operators will use the Operational Risk Management Process (with GAR/SPE) to assess initial risk and implement mitigations using the principles of Operational Leadership. Risk level ratings include:

- a. Low Risk.
- b. Medium Risk.
- c. High Risk.
- d. Extremely High Risk.

Note: As a best practice, use a GAR to assess an operation during the planning phase then revisit the GAR right before or during an operation to assess/re-assess as needed. Use a SPE to assess individual hazards as needed (e.g., an individual tree that needs additional assessment prior to initiating cutting). Per RM-50B Chapter 46: Operational Leadership, a documented (i.e., written down) risk assessment must be completed for tasks that are being performed for the first time, tasks that are rarely performed, or routine tasks where the conditions have changed (i.e., novel circumstances).

3. **Training**. Explain what training is required for employees to operate a chainsaw consistent with this policy.
4. **Roles and Responsibilities**. Explain the roles and responsibilities that fall within the policy for each park/office concerning chainsaw operations. Roles may consist of Superintendent, Trainee, Qualified Operator, Park Chainsaw Program Manager, or an I/CE if a park has one. The focus here should be exactly what the park/office performs for this program.
5. **Handling and Operating a Chainsaw**. This section must discuss the following:
- a. Operators will be qualified in accordance with the NCSP policy.
 - b. Use of personal protective equipment (PPE).
 - c. Smoking, vaping (e-cigarettes), and the use of any open flames are prohibited.
 - d. Operators without a qualification may operate under the direct supervision of a qualified operator in a 1-to-2 trainee/operator ratio training environment while they work toward qualification. Working under the direct supervision of a qualified operator is not meant to circumvent the requirement for all operators to obtain qualifications. A best practice is that the supervising qualified operator is a chainsaw Instructor/Competency Evaluator.
 - e. Incidents resulting in damage, injury, or more serious consequences will be promptly investigated, reported, and reviewed using recognized accident investigation techniques. See section 15.7.9: Incident Investigation and Reporting below.
 - f. Operators must never work alone. At a minimum, another person must be always within line-of-sight of the chainsaw operator, who:
 - Is aware of the chainsaw operation underway.
 - Periodically checks on the chainsaw operator.
 - Can communicate with emergency medical services or park dispatch in the event of an emergency.
 - It is recommended that they should also be CPR/First Aid certified.

- g. Prior to chainsaw operations beginning for the day, the operators must notify dispatch or someone in the supervisory chain at the park/office management position.
- h. Each operation must include a “safety station” within 100 feet of the work zone that contains:
 - A first aid kit suitable for the current chainsaw operation and associated crew size. Appendix 15.B: Minimum Mandatory First Aid Supplies provides a list of the minimally acceptable number and type of first aid supplies for first aid kits required under paragraph (d)(2) of the logging standard (29 CFR 1910.266(e)(1) and (e)(2), Logging Operations).
 - Must establish a tested method of communication (e.g., two-way radio, cell phone, satellite phone, or in-reach device) to contact EMS. In remote operations where communication transmission can be challenging, a secondary communication method must be determined and tested.
 - A “site safety plan” that identifies the physical address, GPS coordinates, or other general physical location identifiers of the work site; a recommended way to summon EMS; a Medivac plan (for rural or back country chainsaw operations) to include identification of a landing zone should one be needed; and the name, address, and phone number of the nearest medical facility.
- i. Full skip or semi skip chainsaw chain must only be used by experienced operators and on larger chainsaws due to the increased risk of kickback.
- j. Equipment must not be operated within 10 feet (3.05 meters) of refueling operations or in areas where refueling recently occurred.
- k. All persons other than International Society of Arboriculture (ISA) Certified Arborist Utility Specialists must maintain a minimum approach distance of 10 feet to electrical conductors.
- l. Before and during use of a power tool, the operator must ensure all manufacturers’ safety devices are working properly and unmodified. The operator must remove the tool from service when a safety device is not working properly or is modified (ANSI Z133).
- m. 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. For gas powered chainsaws the two approved starting methods are: ground start or leg-lock start.
- n. The chain brake must be engaged or the engine shut off anytime a chainsaw is not actively cutting, including before starting, setting down, repositioning aloft, or moving both feet on the ground (ANSI Z 133).
- o. In manual tree felling operations, notches (face cuts) must be used on all trees and trunks greater than 4 inches (12.7 centimeters) in DBH.
- p. When more than one individual is limbing or bucking a tree, each person must be positioned, and their duties assigned, so the actions of one individual will not create a hazard for the other individual.
- q. The safe working distance to a person operating a chainsaw is 10 feet.
- r. Proper use and storage of chainsaw liquid fuel is important to protect safety. 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.

- s. Loaders, skid steers, or other heavy equipment must not be used to push over trees that are being manually felled while any worker is within one-and-a-half times the height of the tree being felled. The heavy equipment being used must be of the appropriate size for the task and must offer appropriate protection for the operator (ANSI Z133).

15.7.7 Site Safety Plan

Developing a site safety and emergency plan for daily operations is vital to ensuring chainsaw operations are conducted in a safe manner. The following information must be detailed within the site safety plan:

1. **Physical Location**. Explain the exact location where tree cutting operations will occur. Provide the physical address if one exists or GPS coordinates. List other physical location identifiers of the work site to aid emergency personnel in locating where support is needed.
2. **Medivac Plan**. For rural and backcountry operations as determined by local park SOPs, explain the nearest landing zone with appropriate coordinates should one be needed and the name, address, and phone number of the nearest medical facility (hospital).
3. **Communication Plan**. Explain the proper protocol for calling EMS personnel to the specific site where operations are occurring and what equipment should be used – radio, cell phone, SAT phone, or other satellite communication device. Clearly list all phone numbers and who they belong to within the plan, such as dispatch office or supervisor.

No chainsaw operations will begin until the site safety plan is complete and all staff briefed.

15.7.8 Personal Protective Equipment

Personal protective equipment (PPE) is worn to minimize exposure to hazards that cause serious workplace injuries and illnesses. With chainsaw operations, the following PPE guidelines must be considered:

1. Chainsaw operators must always wear PPE when operating a chainsaw.
2. A park/office program may impose more stringent PPE requirements than those listed in Tables 1 and 2 below if a specific task warrants an additional level of protection.
3. The use of PPE may increase the probability of injury or illness, so thoughtful consideration on specific PPE must occur. If this occurs, the operator may be exempted from using specific PPE provided the operator:
 - a. Clearly demonstrates to their supervisor that wearing the PPE may cause injury/illness.
 - b. The operator employs a suitable safety control method.
4. Each chainsaw operation must undergo a risk analysis (RA) as defined in section 15.7.6: Written Chainsaw Safety Program that details the risk level defining what level of PPE is required.

Table 1: PPE Requirements and Recommendations for LOW and MEDIUM Risk Chainsaw Operations

Required PPE	Recommended PPE
• <u>Head Protection</u>: Hard hat that complies with ANSI Z89.1 and based on the type of hazard present. • <u>Eye Protection</u>: Safety glasses/goggles that comply with ANSI Z87.1. • <u>Hearing Protection</u>: Ear muffs/plugs or a combination of both are required as determined by noise survey. • <u>Leg Protection</u>: Cut-resistant chaps/pants that extend 2 inches over boots and meet or exceed ASTM F1897/F1414 or USFS 6170-4F specifications. • <u>Foot Protection</u>: Sturdy leather work boots with ankle support. • <u>Hand Protection</u>: Only required when sharpening or handling chainsaw chain.	• <u>Foot Protection</u>: Safety-toed or cut-resistant boots that protect the feet. • <u>Hand Protection</u>: Gloves (leather or other) while operating the saw. • <u>Arm Protection</u>: Long sleeved shirt. • <u>Face Protection</u>: Face shield. • <u>High Visible Clothing</u>: Vest/shirt/jacket. • <u>Blood Stopper</u>: Personal first aid trauma dressing kit (worn on body). • <u>Safety Whistle</u>.

Table 2: PPE Requirements and Recommendations for HIGH Risk and EXTREMELY HIGH Risk Chainsaw Operations

Required PPE	Recommended PPE
• <u>Head Protection</u>: Hard hat that complies with ANSI Z89.1 and based on the type of hazard present. • <u>Eye Protection</u>: Safety glasses/goggles that comply with ANSI Z87.1. • <u>Hearing Protection</u>: Earmuffs/plugs or a combination of both are required as determined by noise survey. • <u>Leg Protection</u>: Cut-resistant chaps/pants that extend 2 inches over boots and meet or exceed ASTM F1897 or USFS 6170-4F specifications. • <u>Foot Protection</u>: Sturdy leather work boots with ankle support. • <u>High Visible Clothing</u>: Vest/shirt/jacket. • <u>Blood Stopper</u>: Personal first aid trauma dressing kit (worn on body). • <u>Safety Whistle</u>. • <u>Hand Protection</u>: Only required when sharpening or handling chainsaw chain.	• <u>Head protection</u>: Hardhat that complies with ANSI Z89.1 with chin strap. • <u>Hand Protection</u>: Gloves (leather or other) while operating the saw. • <u>Arm Protection</u>: Long sleeved shirt. • <u>Face Protection</u>: Face shield. • <u>Foot Protection</u>: Safety-toed or cut-resistant boots that protect the feet.

15.7.9 Incident Investigation and Reporting

Investigate all chainsaw injuries/accidents to determine root cause and prevent recurrence (in consultation with the Regional Program Manager). Enter all incidents into SMIS. See RM-50B Accident Investigation chapter for OSHA recordkeeping/reporting.

15.7.10 Qualification Requirements for Non-Tree Felling Operations

In non-tree felling situations where chainsaws are operated for specific purposes, for example, pruning tree limbs from a bucket truck or while climbing with rope and saddle, or in carpentry to construct wooden fencing, etc., the minimum qualification for operating a chainsaw is the NCSP Sawyer qualification.

15.7.11 Chainsaw Specialty Tools and Chainsaw Evolution

Power Pole Pruners

Power pole pruners are specialty tools intended for specific applications and are not a substitute for the training or qualifications required for chainsaw operations when a standard chainsaw is the appropriate tool for the task.

Employees and volunteers must complete training before operating a power pole pruner. Training will be provided by an individual knowledgeable in the safe use of the equipment and based on the manufacturer's operator's manual and applicable safety standards. Parks must document completion of the one-time training and the employee's demonstrated proficiency before authorizing independent operation. Refresher sessions can be offered on an as needed basis.

At a minimum, training will address:

- Required personal protective equipment (PPE).
- Equipment inspection and pre-use checks.
- Safe operating techniques and tool limitations.
- Safe working distances for other personnel.
- Appropriate pruning and cutting techniques.
- Recognition of hazards such as kickback, pinching, overhead hazards, and stored energy.
- Emergency procedures and shutdown.

The following safety standards apply:

- Standard PPE required for chainsaw operation will be used, except chainsaw chaps are not required unless specified by the manufacturer.
- The minimum safe working distance for personnel is 1.5 times the fully extended length of the power pole pruner.
- A standard three-cut pruning sequence should be used when pruning limbs from standing trees to reduce the potential for saw pinching and damage to the tree.
- Operators will follow the manufacturer's operator's manual for additional safe work practices.

Chainsaw Evolution/Battery Powered Chainsaws/Power Pruning Saws

As chainsaw manufactures continue to innovate and diverge from the standard front

handle/rear handle or top handle chainsaw model and increasingly implement the use of electrical batteries to power equipment, the NCSP policy will rely on the chainsaw manufacturer operator's manual for safe work practices. The NCSP policy will be amended as additional safety standards are developed by OSHA and ANSI on these new format chainsaws. The minimum qualification for operating a battery powered chainsaw is the NCSP Sawyer qualification. All power-driven tools used to cut wood with a saw chain and consisting of an integrated compact unit (handles, power source, and cutting attachment) are designed for two-hand operation and used with two hands at all times (ANSI Z133).

Top Handle Arborist Saws

Top handle saws, which are typically used by individuals working aloft, are sometimes utilized by personnel on the ground. The ANSI standard that saws must be operated with two hands at all times applies to the use of these saws (ANSI Z133 6.4.4, revised 2026).

Appendix 15.A: Chainsaw Operator Competencies

Competency: Sawyer

To be fully competent at this level, the candidate:

1. Assesses the complexity level of horizontal trees.
2. Uses a chainsaw to complete:
 - a. Bucking.
 - b. Limbing.
 - c. Brushing.
 - d. Slashing.
 - e. Stumping.
3. Adheres to all safety and performance standards (NPS policies, ANSI and OSHA standards) while performing Sawyer duties.
4. Performs proper maintenance of the saw to keep it in good working order.

Competency Criteria for the Sawyer Level

Description Level:

Sawyer qualification may perform chainsaw operations on horizontal material from the ground (bucking, limbing, brushing, slashing, and stumping).

Sub-Competency	Criteria
Safety	<u>Regulatory Understanding</u> Understands what OSHA and ANSI are and how they relate to chainsaw operation. <u>Personal Protective Equipment</u> Selects, wears, inspects, and maintains the proper PPE needed to perform chainsaw operations. <u>Emergency Preparedness</u> Participates in the preparation of the JHA and Site Safety Plan. <u>Communication</u> • Understands the terminology used to describe all operations performed at this level. • Communicates effectively with team. <u>Situational Awareness</u> • Understands the potential dangers associated with chainsaw use. • Maintains situational awareness while performing chainsaw operation using the principles of risk management.
Assessment	• Assesses the environment for potential hazards, avoids hazardous conditions, or corrects conditions that can be made safer. • Assesses the material to be cut and determines the appropriate cutting techniques to avoid hazardous situations. • Assesses the overall cutting situation to determine its complexity.

Sub-Competency	Criteria
Operations	• Starts and stops a chainsaw following industry standards and manufacturer's recommendations. • Performs bucking, limbing, brushing, and slashing operations on horizontal trees commensurate to the operator's experience level. • Identifies and mitigates reactive forces while performing chainsaw operation. • Identifies and mitigates present forces while performing chainsaw operation. • Handles the chainsaw correctly using proper body position, employing proper ergonomics.
Maintenance	Selects, identifies, and performs proper maintenance on the chainsaw and all other tools and equipment used at this level.

Competency: Working, Journey Level, and Master Tree Fallers

Tree falling is a procedural process that requires:

1. Assessment and preparation of the felling site, work area and tree.
2. Execution of the felling cuts to safely land a tree in the desired location (lay).
3. Knowledge of safety, communication, chainsaw operations, and tree falling.

Working Faller (WF)

Working Fallers must possess the competencies of a Sawyer (S) in addition to those listed below.

Competency Criteria for the Working Faller Level

Description Level:

- Operators achieving the WF qualification may fall simple trees defined as any straight, single trunk tree, up to a moderate (approximately 16 inches) diameter, free of defects, with adequate room for falling. The diameter of the tree must NOT exceed the (chainsaw) bar length.
- Considered an entry level Tree Faller qualification where individuals develop and refine their basic tree falling skills.

Sub-Competency	Criteria
Safety	<u>Attitude</u> Understands the purpose of the mission and does not proceed without clearly defined objectives. <u>Personal Protective Equipment</u> Selects, wears, inspects, and maintains the proper PPE needed to perform chainsaw tree felling operations. <u>Emergency Preparedness</u> • Participates in the preparation of the JHA and Site Safety Plan. • Prepares safety equipment for field operations commensurate with location and complexity of operations. • Knows and can demonstrate emergency response procedures including communications equipment operation and limitations. <u>Communication</u> • Understands the terminology used to describe all operations performed at this level. • Communicates effectively in a team environment. • Serves as a coach/mentor to saw crew members at Sawyer level. <u>Situational Awareness</u> • Analyzes the work area and identifies potential dangers associated with chainsaw tree falling. • Maintains situational awareness while performing chainsaw tree falling operations using the principles of risk management.
Assessment (Size Up)	• Assesses the environment for potential hazards, avoids hazardous conditions, or corrects conditions that can be made safer. • Sizes up the material to be cut and determines appropriate felling techniques (felling plan) to achieve intended lay and avoid hazardous situations. • Assesses the overall cutting situation to determine its complexity in relation to the operator's comfort level and experience. • Follows the process of accepting or rejecting the falling complexity based on size up.
Operations	• Establishes appropriate work area, commensurate with tree size, potential impact on nearby trees, planned escape routes, and limits of the work area to other personnel and the public. • Uses appropriate size chainsaw, axe, and wedges to make standardized directional felling cuts and safely fall the tree along the intended lay. • Maintains safety control through falling execution.
Maintenance	Selects, identifies, and performs appropriate maintenance of the chainsaw and all other tools and equipment used at this level.

Journey Faller (JF)

Journey Fallers must possess the competencies of a WF in addition to those listed below.

Competency Criteria for the Journey Faller Level

Description Level:

- Operators achieving the JF qualification may fall any tree they are comfortable sawing,

provided it does not require any specialty equipment, does not have a high value target, and the diameter of the tree does not exceed 1.5 (chainsaw) bar lengths.

- Considered an advanced level Tree Faller position where individuals develop and refine their skills falling complex trees.

Sub-Competency	Criteria
Safety	<u>Attitude</u> Has additional experience and knowledge and mentors S and WF operators in increasingly complex situations. <u>Personal Protective Equipment</u> Same as WF. <u>Emergency Preparedness</u> Same as WF. <u>Communication</u> Same as WF. <u>Situational Awareness</u> Same as WF.
Assessment (Size Up)	• Demonstrates ability to recognize and evaluate the environment, the tree, the overall complexity of the cutting situation, and the ability to properly execute the fall within this complexity level/skill set. • Demonstrates the knowledge to decline assignments based on size up and skill level.
Operations	• Uses the same communication protocols, work area controls, and tool practices of the WF. • Demonstrates ability to use advanced falling techniques, holding wood manipulation, and knowledge of physics to safely fall more complex trees. • Performs cuts that exceed the bar length (not more than 1.5 times). • Understands and demonstrates hung up tree mitigation methods, types of cuts, and safety challenges. • Demonstrates knowledge and ability to evaluate and fall trees up to 45 degrees off natural lean. • Demonstrates ability to use a simple falling aid to safely influence the direction of the tree fall. • Leads and mentors S and WF operators in more advanced assignments.
Maintenance	• Selects, identifies, and performs advanced maintenance of the chainsaw and all other tools and equipment used at this level. • Troubleshoots simple chainsaw problems in the field. Advanced skills in chainsaw maintenance including tuning, adjustments and chain performance. • Demonstrates knowledge and ability to use specialty tools to support higher complexity tasks.

Master Faller (MF)

Master Fallers must possess the competencies of a JF in addition to those listed below.

Competency Criteria for the Master Faller Level

Description Level:

- Operators achieving a MF qualification may fall any tree they are comfortable sawing, after careful consideration of the tree's complexity.
- Considered an expert level Tree Faller position where individuals develop and refine their skills using advanced techniques and/or specialized equipment.

Sub-Competency	Criteria
Safety	<u>Attitude</u> • Has significant experience and expert-level knowledge and mentors S, WF, and JF operators in increased complexity situations. • Knows their limitations and seeks additional knowledge/skills when warranted. <u>Personal Protective Equipment</u> Same as WF and JF. <u>Emergency Preparedness</u> Same as WF and JF. <u>Communication</u> Same as WF and JF. <u>Situational Awareness</u> Same as WF and JF.
Assessment (Size Up)	• Recognizes and evaluates the environment, the tree, the overall complexity of the cutting situation, and the ability to properly execute the fall within this competency level/skill set. • Demonstrates the knowledge and willingness to refuse an assignment, consult a more qualified specialist, or recommend other measures to mitigate extraordinary safety threats or extreme complexity. • Briefs individuals and develops a work plan, including rigging techniques, to gain mechanical advantage for ground-based falling operations.
Operations	• Uses the same communication protocols, work area controls, and tool practices of the WF and JF. • Uses advanced falling techniques, holding wood manipulation, and has sufficient knowledge of physics to safely fall highly complex trees. • Employs advanced mitigation methods for highly complex hung-up trees. • Evaluates and falls trees to an appropriate direction off natural lean. • Properly uses ground-based rigging techniques and/or machinery to gain pulling and lifting mechanical advantage to safely influence the direction of fall. • Leads and mentors S, WF, and JF operators in more advanced assignments.
Maintenance	• Selects, identifies, and performs advanced maintenance of the chainsaw and all other tools and equipment used at this level. • Troubleshoots complex chainsaw problems in the field. • Performs advanced chainsaw maintenance including tuning, adjustments, and chain performance. • Inspects and maintains all falling and rigging tools and equipment.

Appendix 15.B: Minimum Mandatory First Aid Kit Supplies

The following list sets forth the minimally acceptable number and type of first aid supplies for first aid kits. The contents of the first aid kit should be adequate for small work sites, consisting of approximately two-to-three operators working in the same area. When larger operations or multiple operations are conducted at the same location, additional first aid kits or supplies must be provided at the work site as listed below.

Items marked with an asterisk (*) can be used instead of an additional first aid kit when large or multiple operations are conducted.

1. Gauze pads (at least 4 x 4 inches)*
2. Two large gauze pads (at least 8 x 10 inches)*
3. Box of adhesive bandages (band-aids)
4. One package gauze roller bandage at least two inches wide*
5. Two triangular bandages
6. Wound cleaning agent, such as sealed moistened towelettes or bottles of sterile water
7. Scissors
8. One blanket (minimum)
9. Tweezers
10. Adhesive tape*
11. Box of nitrile gloves
12. Resuscitation equipment, such as resuscitation bag, airway, or pocket mask
13. Two elastic wraps*
14. Splint
15. Tourniquet