



## FOREST SERVICE HANDBOOK NATIONAL HEADQUARTERS (WO) WASHINGTON, DC

### FSH 6709.11 – HEALTH AND SAFETY CODE HANDBOOK

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Associate Deputy Chief

## 21.04 - Responsibility

Line Officers and Supervisors have the responsibility to:

1. Ensure the safety of both employees and the public.
2. Use the job hazard analysis (JHA) to document the level of experience and skill employees must possess to safely complete a specific work project or activity.
3. Analyze tools, equipment, and facility needs necessary for safe and healthful operations.
4. Require use of selected tools and personal protective equipment (PPE).
5. Select tools and personal protective equipment (PPE) to accommodate employee gender, size

## 21.1 - Job Hazard Analysis

The JHA is developed to ensure safety and health by assigning responsibility and accountability to employees, first-line Supervisors, and Line Officers. Everyone should prepare a JHA for all work projects and activities. Identify the worksite, name(s) of the employee(s) writing the JHA, and the name of the approving Line Officer, and the date the JHA was developed within the

JHA. The Supervisor shall document in the JHA that employees have read and understand the contents, have received the required training, and are qualified to perform the job (sec. 71).

## 21.11 - Qualifications

Specific qualifications are required for many work projects and activities. Examples are:

1. First Aid/Cardiopulmonary Resuscitation (CPR) Training.
2. Incident Command System Training.
3. Chain Saw Operation.
4. Hazardous Communication Training (Right-to-Know).
5. Motorized Heavy Equipment and Vehicle Endorsements/Licenses.
6. Firearm Certification.
7. Blaster Certification.
8. Mountain Bicycling.
9. Pesticide Use and Application Training/Certification.
10. Forest Protection Officer Certification (Law Enforcement).

## 21.13 - Personal Protective Equipment

### 21.13a - General Requirements

For general requirements on PPE, refer to 29 CFR 1910.132. Follow these safety and health practices for selecting, training, using, and maintaining PPE.

1. Select PPE (such as the color of Forest Service-approved hardhats) based on the hazards identified in the JHA.
  - a. PPE shall fit properly.
  - b. Defective, damaged, or unsanitary PPE must not be used.
  - c. Supervisors shall be responsible to assure the adequacy (as well as proper maintenance and sanitation) of employee-owned equipment.
2. Train each employee to wear the PPE required by the JHA. Training must include:
  - a. PPE requirements such as when and where it should be worn.

- b. Proper donning, adjustment, and removal of PPE.
  - c. Proper care, maintenance, useful life, limitations, and disposal of PPE.
3. Before performing any work project or activity requiring or recommending PPE, ensure that employees can demonstrate an understanding of their training. Employees are accountable for accidents and injuries that result from not using or misusing required PPE.
4. Provide additional training as necessary. Circumstances in which Supervisors should provide additional training include:
- a. Workplace changes that require new or updated training.
  - b. Changes in the PPE to be used.
  - c. Evidence that an employee's knowledge or use of PPE is not adequate.

### 21.13b - Specific Requirements

Section 72, exhibit 01 identifies PPE required, approved, and furnished by the Agency without local JHA justification. Before starting a work project or activity, check the appropriate chapter of this Handbook for additional PPE requirements.

Occupational Head Protection. Employees shall wear appropriate head protection when working where there is a potential for head injuries. Ensure that hardhat/helmet protection is Forest Service-approved and that the hardhats are made from material having a melting point of 350 °F (177 °C) or higher. For general and specific requirements, refer to 29 CFR 1910.132, 1910.135 and NFPA 1977 (sec. 21.06).

Inspect shells daily for dents, cracks, penetration, or any other damage that might compromise protection. Also inspect the suspension systems, headbands, sweatbands, and any accessories daily.

Follow manufacturer's recommended cleaning practices.

### 21.14 - Procedures

By review and signature approval of the JHA, a Line Officer or other competent person shall approve and document the assignment of employees to work alone. Supervisors and employees shall consider the entire project. If the nature of the work causes employees to be separated to the point of being unable to see or communicate with each other while in the field, then they must be considered 'alone' even though they are on the same project. Positive two-way communications are required and must be addressed in the Job Hazard Analysis/Risk Assessment when performing work in remote locations and when working alone. Line and crew shall jointly assess the risk and agree on a process that meets the intent for a check-in/check-out

plan. They shall agree on the communication and tracking devices used and ensure training proficiency with the device(s). With changes in technology, differences in locations, and other challenges, it is not feasible to designate one device but allow the line/crew to select a device that meets the intent of work safety. When an individual is alone in remote locations, the tracking feature should be used to determine employee location. This tracking feature will only be used to ensure safety of the employee/employees, and never used to track employees for accountability of work or time, in accordance with the National Federation of Federal Employees' (NFFE) Memorandum of Understanding signed by NFFE and Forest Service Management. Employee privacy will be maintained. If there is a significant potential hazard to an employee working alone, additional personnel shall be assigned as the benefit must always outweigh the risk.

Discuss the following items from the approved JHA, with employees, before they start the job:

1. Prepare instructions for each work project or activity not covered in other applicable documents.
2. Include methods to ensure public safety and health.
3. Correct recognized hazards before beginning work projects and activities.
4. Identify hazards that cannot be corrected. Inform all involved personnel as an initial abatement action of the hazards. Do not allow performance of work projects and activities having unacceptable risks.
5. Where hazardous chemicals/materials may be encountered, provide the applicable Material Safety Data Sheet (MSDS) and discuss the implications of the work with all employees.
6. Develop emergency evacuation procedures and pinpoint individual responsibilities for implementation.
7. Conduct and document tailgate sessions as needed. Tier the sessions to the JHA to provide more specific project/task safety concerns and requirements.

## 22.34 - Trail Maintenance/Construction

### 22.34a - Standards

The standards for trail operations, maintenance, and construction are in the regulations at 36 CFR Parts 212 and 261.

### 22.34b - Qualifications

In addition to providing applicable training and certification listed in section 22.07, train employees in:

1. The use and care of appropriate hand and power tools and equipment required for each project.
2. Back-country travel/camping techniques following leave no trace principles (sec. 11.2 and 18).
3. Livestock handling, if required (sec. 16).
4. The use of motorized equipment, such as trail bikes and all-terrain vehicles (ATVs) (sec. 13.2).

### 22.34c - Personal Protective Equipment

1. Forest Service-approved hardhat or helmet.
2. Gloves.
3. Nonskid boots. Material and height of boot must be determined by the specific tool or tools to be used.
4. Eye protection.
5. Hearing protection (85 dB and above). For chain saw operation, refer to section 22.48c.

### 22.34d - Safety Practices

Basic safety and health practices for trail-maintenance work are:

1. Identify, communicate, and avoid hazards, both project related and environmental. When conditions significantly change, conduct an on-site safety session and adapt work tactics as necessary.
2. When changing from routine work to specialized project areas such as blasting, tree felling, or skidding, conduct a task-specific safety and health tailgate session. Emphasize safe and healthful practices, assignments, and high risks. The JHA should address in detail these specialized project areas.

### 22.48 - Saw Operations

Saw operations include but are not limited to use of a chain saw or crosscut saw by employees, volunteers, training consultants, and cooperators for felling, bucking, brushing, limbing, and specialized uses. Sawyers should say "NO" and walk away from any sawing situation they

determine to be an unacceptable risk. Review job hazard analysis (JHA) for sawing projects and activities (FSH 6709.11, sec. 22.08) or Risk Assessment (RA) as appropriate. See FSM 2358 for training and certification requirements and definitions for the national saw program.

## 22.48a - Standards

The standards for noise exposure, explosives, personal protective equipment (PPE), hand and portable power tools, logging operations, first aid training, and hazard communication are found in Occupational Safety and Health Administration (OSHA) regulations at:

1. 29 CFR 1910.95, 1910.109, 1910.132, 1910.133, 1910.151, 1910.242, 1910.266, 1910.1030, and 1910.1200; and
2. 29 CFR 1926.50, 1926.52, 1926.100, 1926.102, 1926.301, and 1926.302.

## 22.48b - Qualifications

Forest Service sawyers using chain saws or crosscut saws must be trained, evaluated, and certified for use of those saws in accordance with FSM 2358.06 and 2358.1, exhibit 02. Cooperators' employees and volunteers are subject to this requirement per FSH 1509.11, section 91.2.

## 22.48c - Personal Protective Equipment

Maintain PPE in a clean and fully functioning condition (FSH 6709.11, sec. 20.13, p. 70-12). The following PPE is required for sawing operations.

Table 1- Non-fire PPE requirements for saw use

<b>PPE</b>	<b>Chain Saw Operations</b>	<b>Crosscut Saw Operations</b>
<b>Hard Hat</b>	Hard hat or cutting helmet meeting ANSI Z89.1	Same as chain saw
<b>Safety Glasses</b>	ANSI Z87.1 (clear safety glasses, at a minimum) or equivalent (mesh "bug-eye" type or mesh face shield type) (OSHA 1910.266(d) (1) (vii) (B) Note)	Same as chain saw
<b>Hearing Protection</b>	Hearing protection required for gasoline powered chain saw use	None required
<b>Gloves</b>	Gloves or chain saw mitts are required for all chain saw operations. Leather required for sharpening.	Same as chain saw

	Alternative style of gloves may be used for inclement weather conditions, based on JHA.	
<b>Shirt, Pants<sup>1</sup></b>	Long sleeved shirt and long pants.	Long sleeved shirt and long pants.
<b>Leg Protection</b>	Chaps or cut-resistant pants for chain saw use shall meet the requirements of Forest Service 6170-4 or ASTM F-1897 (current version). Chaps shall overlap boots at least 2”.	None required
<b>Boots</b>	Cut-resistant or leather, laced 8 inch (204mm) high boots that provide ankle support and nonskid soles (hard toes are optional). OPTIONAL-Use JHA to determine proper footwear for the environment and/or related tasks.	Cut- resistant or leather, laced boots that provide ankle support and nonskid soles (hard toes are optional). Use JHA to determine proper footwear for the environment and/or associated tasks.

## 22.48d - Equipment Requirements

Use and maintain chain saws and crosscut saws in accordance with the manufacturer’s recommendations.

### 1. Chain Saw Requirements.

a. Required Features. The following features are required for chain saws used on NFS lands:

- (1) A fully functioning throttle trigger interlock, which prevents the throttle from engaging unless the interlock is depressed on the handle.
- (2) A fully functioning anti-vibration system.
- (3) A fully functioning chain brake.
- (4) A functional chain catch pin.
- (5) A functional spark arrestor screen.
- (6) Proper length bar and power head sized for the specific sawing project or activity.
- (7) A properly filed and maintained chain that is appropriate for the sawyer’s certification level and the specific sawing project or activity. For example, a reduced

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<sup>1</sup> Short sleeved shirts may be used based on a JHA

kickback chain is appropriate for less experienced sawyers. Longer bars and chisel or full/semi- skip chain is appropriate for more experienced sawyers.

(8) A bar guard that is adequate to cover the muffler, chain, and bumper spikes when the saw is carried on the shoulder.

(9) A scabbard that is adequate for carrying the saw at the side.

b. Recommended Features. Bumper spikes are recommended for felling and bucking. A full wrap-around or three-quarter wrap-around handle bar is recommended for felling.

c. Required Additional Equipment. The following additional equipment is required for chain saw operations:

(1) A first aid kit that meets OSHA standards (29 CFR 1910.266, Appendix A).

(2) A chain saw bar wrench.

(3) A chain file with a handle and guard.

(4) An approved safety container for chain saw fuel.

(5) Proper wedges for the specific sawing project or activity. Wooden wedges are not permitted.

(6) A 3-to-5-pound single bit axe. Custom tools, ('pounders') are not acceptable.

c. Optional Additional Equipment. A pruning saw.

## 2. Crosscut Saw Requirements.

a. Required Features. The following features are required for crosscut saws:

(1) The proper length for the sawing project or activity.

(2) Proper type, tooth pattern and length of saw for task that is also properly sharpened and set.

(3) Handles.

(4) A sheath.

b. Required Additional Equipment. The following additional equipment is required for use of crosscut saws on NFS lands:

(1) A first aid kit that meets OSHA standards (29 CFR 1910.266, Appendix A).

(2) Proper wedges for the specific sawing project or activity. Wooden wedges are not permitted.



- (3) A 3-to-5-pound single bit axe. Custom tools ('pounders') are not acceptable.
- (4) Crosscut saw lubricant.
- c. Optional Additional Equipment. The following additional equipment is optional:
  - (1) A double-bit axe.
  - (2) An under-buck tool.
  - (3) A pair of hanging wedges.
  - (4) A pruning saw.
  - (5) Digging tools.

Refer to sections 12.2 and 12.5 of this chapter for further direction on equipment requirements for vehicles and for transporting saws and fuel. Refer to sections 41, 43, and 44 of this chapter for direction on requirements for handtools, power tools, and heavy equipment.

## 22.48e - Procedures

Sawing projects and activities must be conducted by qualified sawyers (FSM 2358). Crew leaders will review the JHA/RA with sawyers and other affected personnel for each sawing project or activity before work commences (FSH 6709.11, sec. 22.08). Daily discuss how to accomplish the project or activity with the sawyers and others involved. Hold periodic tailgate safety sessions that include all personnel involved in or affected by the project.

1. Sawyers must be alert and able to conduct sawing operations commensurate with their certification level (FSM 2358).
2. All sawyers should work in a position or location that is within the sight or hearing of another sawyer or other employee involved in the sawing operation. When situations arise when a sawyer must work alone, such as incidental work to remove a tree blocking a roadway, the sawyer shall:
  - a. Evaluate the situation to ensure the benefits of the operation outweigh the risk;
  - b. Establish two-way communication with a dispatcher, a supervisor, or another Forest Service employee before commencing work;
  - c. Report how long it will take to do the work;
  - d. Report when the work commences;
  - e. Provide an update if work takes longer than expected; and
  - f. Report when the work is complete.

3. All work must terminate and each employee shall move to a place of safety when environmental conditions, such as but not limited to, electrical storms, strong winds which may affect the fall of a tree, heavy rain or snow, extreme cold, dense fog, fires, mudslides, and darkness, create a hazard for the employee in the performance of the job (29 CFR 1910.266(d)(5)).

## 22.48f - Safety Practices

Contact the National Saw Program Manager, Regional Saw Program Manager, or local Saw Program Coordinator for more information about saw safety practices and a current list of Forest Service nationally recognized sawyer training courses.