



**FOREST SERVICE HANDBOOK
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FSH 2409.17 – SILVICULTURAL PRACTICES HANDBOOK

CHAPTER 50 – FOREST TREE IMPROVEMENT

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New Document	2409.17_50	20 Pages
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Digest:

50 - Incorporates and reorganizes direction in this chapter from superseded interim directive 6709.12-2006-1 in its entirety. Changes coding previously set out in ID from 18 through 18.6 to 51 through 51.8 in this chapter. This chapter establishes direction on the Forest Service Tree Climbing Program to protect Forest Service employees while ascending, descending, and working aloft in trees. Sets forth minimum national requirements for all Forest Service tree climbing operations and activities, except for smokejumper operations; for the use of associated equipment based on recognized industry standards, practices, and procedures; and for training and certification requirements.

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51 - TREE CLIMBING PROGRAM

The Forest Service Tree Climbing Program provides direction that protects Forest Service employees while ascending, descending, and working aloft in trees. By establishing national direction, training, and equipment review based on recognized industry standards, procedures, and practices.

The direction in this section provides requirements for Forest Service operations involving tree climbing in support of project work and activities and research missions and functions. Tree climbing in support of wildland fire suppression operations must be in accordance with FSH 5709.14 Smokejumper and Paracargo Handbook and the Interagency Smokejumper Training Guide.

The terms "Tree Climber Trainee," "Tree Climber," and "Tree Climber Instructor" used in this section apply to Forest Service employees, unless otherwise stated.

51.01 - Authority

Title 29, Code of Federal Regulations; Part 1910, Subpart 268; Part 1926, Subpart 104 and 107 sets forth the Occupational Safety and Health Administration (OSHA) guidelines and additional requirements specific to tree climbing.

51.02 - Objective

To ensure that Forest Service tree climbers are properly trained, certified, and equipped to safely accomplish required work projects and activities involving the ascent, descent, and working aloft in trees with approved equipment.

To ensure that safe tree climbing techniques and practices adopted by the National Tree Climbing Technical Advisory Group (sec. 51.08) or other recognized authorities are used in Forest Service tree climbing practices.

51.03 - Policy

1. Persons shall only perform tree climbing for which they are trained, qualified, and certified. Certification requirements are described in (sec. 51.3).
2. Employees engaged in tree climbing shall follow the direction and safety guidelines of the National Tree Climbing Guide.
3. Employees shall follow the standards for tree climbing safety equipment in 29 CFR 1910.268, 1926.104, and 1926.107, American National Standards Institute (ANSI) A10.14 and Z133.1 Standards, European Conformity (CE), International Standards Organization (ISO), and Union International des Associations d'Alpinisme (UIAA).

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4. All climbing projects must have a current job hazard analysis (JHA; form FS-6700-7) The JHA must be reviewed and signed by each member of the climbing team prior to commencing any climbing operation and activities.
5. Employees involved with tree climbing operation shall maintain communications with the local unit through radio, cell phone, or similar methods. Establish checkout procedures and make contact with the local unit after the climbing team reaches its climbing area. Re-establish communications for any move made from the original climbing area to a new location. When communications cannot be maintained from the job site, establish procedures to obtain help that does not leave an injured climber alone (sec 51.52).
6. Tree climbing must be conducted in teams. Two certified climbers make up the basic climbing team. Each climber shall be within natural and frequent voice contact with the other. When climbing in larger groups, every climber shall be assigned to another with whom to make natural and frequent voice contact. All team members shall climb with rapid descent capability. The team may elect to have one member serve as a ground person, or have another non-climber serve as a ground person. All climbing team members shall be certified climbers who are qualified to perform every aspect of the climbing assignment.
7. Tree climbers shall be secured while in the tree except when free climbing as described in the National Tree Climbing Guide. Climbers shall secure themselves to the tree when resting or stopping even when free climbing. Free climbing using the three-point climbing technique is authorized while:
 - a. Ascending and/or descending a tree where the density of the limbs or branches inhibits the installation of a lanyard or climbing line.
 - b. Ascending and/or descending a secured ladder to gain access to the live crown of a tree.
8. Tree climbers shall respond and adhere to safety messages offered through the National Tree Climbing Program Manager, forest, zone, and regional coordinators, technical advisors or other safety officials.
9. Tree climbers should maintain a climbing log as a record of experience for advancement from one certification level to the next, and make logs available to regional tree climbing coordinators upon request. Records of experience should contain the following information:
 - a. Date of climb.
 - b. Number of trees climbed.

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- c. Purpose of climb.
 - d. Tree species and size.
 - e. Techniques and equipment used.
10. Employees engaged in tree combing activities containing known active avian nests shall consult with the USFWS Ecological Services and appropriate State wildlife offices to obtain appropriate permission.

51.04 - Responsibility

51.04a - Washington Office, Deputy Chief for National Forest System

The Deputy Chief for National Forest Systems, as the Designated Agency Forest Management Official, is responsible for acting upon recommendations from the National Tree Climbing Technical Advisory Group for tree climbing policies that affect the work environment and safety of employees.

51.04b - Director, Forest Management

The Washington Office Director, Forest Management is responsible for:

1. Providing overall program policy and safety oversight for the Forest Service Tree Climbing Program.
2. Serving as the Washington Office representative for the National Tree Climbing Technical Advisory Group.

51.04c - National Tree Climbing Program Manager

The National Tree Climbing Program Manager, Dorena Genetic Resource Center, Umpqua National Forest is responsible for:

1. Coordinating region, station, Area, and Institute tree climbing training and certification programs and managing day-to-day operations of the Forest Service Tree Climbing Program.
2. Serving as the chairperson, or designating a chairperson on the National Tree Climbing Technical Advisory Group.
3. Developing and maintaining a national tracking system for pertinent information on all tree climbers on a servicewide basis, including name; location; telephone number; electronic mail address; certification and recertification date(s); type of certification; qualifications; and skill level.

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4. Assisting in the investigation and documentation of tree climbing accidents and violations of the Forest Service Tree Climbing Program, and/or serving as a technical expert or member on boards of review.
5. Developing and maintaining a National Tree Climbing Program Web site linked to Forest Service and USDA Web sites (<http://www.fs.fed.us/treeclimbing/>).
6. Serving as liaison with Federal, State, and other agencies on tree climbing matters.
7. Conducting and coordinating annual training workshops for certification of tree climber trainees, tree climbers, and tree climbing instructors.

51.04d - Regional Foresters, Station Directors, Area Director, and Institute Director

In units where employees are engaged in established tree climbing operations and activities, regional foresters, station directors, Area Director, and Institute Director are responsible for:

1. Officially appointing regional, station, Area, and Institute tree climbing coordinators in writing.
2. Ensuring that sufficient resources are available to manage a safe and effective tree climbing program.

51.04e - Region, Station, Area, and Institute Tree Climbing Coordinators

Region, station, Area, and Institute Tree Climbing coordinators are responsible for:

1. Maintaining a thorough working knowledge of Forest Service Tree Climbing Program policy and technical guidelines and basic tree climbing techniques and practices.
2. Ensuring their program's compliance with the requirements of the Forest Service tree climbing program policy in this section and the technical guidelines contained in the National Tree Climbing Guide (referenced in sec. 51.07).
3. Ensuring the operational effectiveness and performance of tree climbing programs under their control, and adherence to agency policy and technical guidelines.
4. Serving on the National Tree Climbing Program Technical Advisory Group.
5. Coordinating tree climber and tree climbing instructor training and certification.

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6. Entering data into the agency's national tracking system for information on all tree climbers (based at the Dorena Genetic Resource Center), including name; location; telephone number; electronic mail address; certification and recertification date(s); type of certification; qualifications; skill level; and annual training and experience.
7. Complying with operational and technical advisories and alerts issued by the National Tree Climbing Technical Advisory Group or National Tree Climbing Program Manager.
8. Suspending tree climbing operations and activities that are considered unsafe or unwise.
9. Recommending to issuing officials the revocation or suspension of tree climbing certificates when appropriate (sec. 51.33).
10. Appointing tree climbing technical advisors for the respective region, station, Area, and Institute, as deemed necessary.
11. Assisting in the investigation and documentation of tree climbing accidents and violations of the Forest Service Tree Climbing Program policy and technical guidelines, or serving as a technical expert or member on boards of review.

51.04f - Tree Climbing Technical Advisors

Tree climbing technical advisors are responsible for:

1. Maintaining their status as tree climbing instructors, adherence to tree climbing techniques, and have a thorough knowledge of the Forest Service Tree Climbing Program policy and technical guidelines.
2. Serving as a member of the National Tree Climbing Program Technical Advisory Group.
3. Serving as an evaluating facilitator for evaluating tree climbing instructors when designated.
4. Recommending approval for certification of tree climbing instructors.
5. Suspending tree climbing operations that are considered unsafe or unwise.
6. Serving as a member of an investigation team or on a board of review to assist in investigations of tree climbing accidents, or violations of requirements of the Forest Service Tree Climbing Program policy and technical guidelines.

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7. Obtaining instructor recertification through the Dorena Genetic Resource Center every 3 years.

51.04g - Forest Supervisors

Forest supervisors at units with established tree climbing programs are responsible for:

1. Appointing forest or zone tree climbing coordinators based on recommendations of regional tree climbing coordinators and/or the National Tree Climbing Program Technical Advisory Group.
2. Providing adequate resources for implementing a safe and effective tree climbing program.

51.04h - Forest or Zone Tree Climbing Coordinators

Forest or zone tree climbing coordinators are responsible for:

1. Maintaining a thorough working knowledge of and adherence to basic tree climbing techniques and practices and to the Forest Service Tree Climbing Program policy and technical guidelines.
2. Ensuring operational effectiveness and performance of the forest or zone tree climbing program, including the conduct of training and certification and the compliance with requirements of the Forest Service tree climbing program.
3. Providing pertinent information on forest or zone tree climbers to the regional tree climbing coordinator. This information should include name; location; telephone number; electronic mail address; certification and recertification date(s); type of certification; qualifications; skill level; and annual training and experience.
4. Suspending tree climbing operations and activities that are considered unsafe or unwise.
5. Recommending to issuing officials the revocation or suspension of certificates (sec. 51.33).
6. Assisting in the investigation and documentation of tree climbing accidents and violations of the Forest Service Tree Climbing Program policy and technical guidelines, or serving as a technical expert or a member on boards of review at the request of the regional tree climbing coordinator.

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51.04i - Evaluating Facilitator

Evaluating facilitators are temporarily designated by the National Tree Climbing Program Manager or region, station, Area, or Institute tree climbing coordinators when a need to evaluate instructors arise. They are instructors that have maintained and demonstrated a strong expertise in the tree climbing policies, procedures, and equipment and have shown the ability to effectively instruct diverse climbing candidates. This expertise and abilities are utilized to evaluate and certify climbing instructor candidates. Tree climbing coordinators, technical advisors, and experienced instructors make up the pool of potential evaluating facilitators.

51.04j - Tree Climbing Instructors

Tree climbing instructors are responsible for:

1. Conducting tree climbing training and certification in accordance with section 51.3 and the guidelines contained in the National Tree Climbing Guide. The training program must include the following components:
 - a. Review the manufacturer's specifications on the use, care, and storage of climbing equipment and systems, including serviceability and retirement of worn or defective equipment and components.
 - b. Perform practice sessions on the use of basic climbing equipment and techniques.
 - c. Training on care, use, and storage of climbing equipment and systems with emphasis on climbing techniques, practices, and procedures.
 - d. Training on rescue operations and activities. Training should include a practicum on proper rescue techniques.
 - e. Tree hazard assessment.
2. Maintaining qualifications for the type of instruction they are certified to perform.
3. Providing pertinent information regarding tree climbing training to forest, zone and regional tree climbing coordinators. This information should include date and location of training and trainees' names; location; telephone number; electronic mail address; type(s) of certification; qualifications; and skill level.
4. Signing the "Instructor" block on form FS-NTCP-1, Tree Climbing Certification Card, for qualified applicants, and submitting the completed cards to the issuing official for validation.

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5. Maintaining currency as an instructor by attending a regional tree climbing instructor workshop every 3 years.
6. Maintain tree climbing experience through annual workshops, practice sessions, or production climbing.
7. When designated, serves as an evaluating facilitator for evaluating tree climbing instructors.

51.04k - Tree Climbers/Trainees

Tree climbers are responsible for:

1. Maintaining current certification and proficiency for the type of tree climbing work to be performed and a thorough working knowledge of and adherence to Forest Service Tree Climbing Program policy, techniques, practices, and technical guidelines.
2. Planning climbing operations and activities in accordance with the requirements set forth in this section and the technical guidelines in the National Tree Climbing Guide.
3. Ensuring that safety and emergency equipment is operable, in good condition, and accessible at climbing sites prior to each climb.
4. Suspending tree climbing operations and activities that are considered unsafe or unwise.
5. Refusing to climb if, in their judgment, climbing conditions or available equipment are unfavorable and/or would violate the precepts of training or the requirements in this section.
6. Recertifying every 3 years.

51.04l - Contracting Officers

Contracting officers are responsible for:

1. Incorporating the requirements listed in section 51.05 into contracts for tree climbing work conducted within National Forest System boundaries or other lands and properties administered by the Forest Service.
2. Ensuring all tree climbing contracts are reviewed by a certified tree climber or qualified contracting officer representative, per section 51.04m, for safety and resource protection issues before they are released for solicitation.

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51.04m - Contracting Officer Representatives/Inspectors

Contracting officer representatives and inspectors designated to administer tree climbing contracts are responsible for acquiring sufficient knowledge in current tree climbing practices in order to properly execute the provisions of such contracts (sec. 51.05).

51.05 - Requirements for Tree Climbing Contracts

Forest Service contracting officers shall include the following requirements in contracts for tree climbing operations and activities conducted on National Forest System lands or other lands and properties administered by the Forest Service (sec. 51.04l):

1. The contractor shall comply with the safety requirements of this handbook and the National Tree Climbing Guide. At the request of the contractor, alternate procedures may be approved by the contracting officer that meet the intent of Forest Service safety requirements, but differ in actual practice.
2. The contractor shall follow all Federal, State, and local safety laws and regulations applicable to the contract work to be performed.
3. The contractor shall:
 - a. Provide a statement of technical capability and the number of years the contractor has performed tree climbing work.
 - b. Document the qualifications or skill level of individual personnel who executes the provisions of the contract.
 - c. Specify the techniques and safety practices planned and/or equipment to be used for the contract.

51.06 - Definitions

Refer to section 1.5 of the National Tree Climbing Guide for definitions of technical terms related to tree climbing.

Issuing Official. The National Tree Climbing Program Manager, regional coordinator, technical advisor, unit leader, or station coordinator.

Three-Point Climbing Technique. The basic tree climbing method whereby three points of contact on secure surfaces are constantly maintained. Potential points of contact include each hand or foot, or a properly attached lanyard.

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CE. European Conformity. The CE mark indicates that it has passed strength testing requirements, and the manufacturing processes meet European Union laws. The CE mark is accompanied by a number (for example CE 0639) that identifies the registered testing facility the company uses. The “EN” (European Normal) number indicates the standards for which a product is tested. In Europe, all climbing products in defined categories must receive CE certification before they can be sold.

UIAA. Union International des Associations d'Alpinisme. CE standards are based on the pre-existing UIAA norms that climbing equipment manufacturers referred to before CE testing was implemented. The UIAA norms lay out additional (though voluntary) requirements for certain products. For example, the UIAA helmet rating calls for even higher force absorption standards than the applicable CE norm. Products that meet the UIAA norm have been tested in UIAA approved facilities and have the UIAA stamp.

ISO. International Standards Organization. Manufactures ISO certified have a registered facility oversee their quality assurance systems to make sure they conform to the norms.

kN. kiloNewton (kN). A measure of force, rather than a measure of static weight or mass. Force is calculated by multiplying mass by acceleration. One kiloNewton equals approximately 100kg (225 pounds) when the accelerating force of gravity is acting on it. Pieces of equipment are designed to absorb the force that a fall generates (these include rope and webbing, harness, and all gear used as anchors or life support) and are rated with the maximum number of kiloNewtons they can withstand when new.

51.07 - References

1. U.S. Department of Agriculture, Forest Service. National Tree Climbing Guide. Available from <http://www.fs.fed.us/treeclimbing/policy/> [accessed April 1, 2009].
2. U.S. Department of Agriculture, Forest Service. Wildfire Powersaw. Training course S-212.
3. Interagency Smokejumper Operations Guide. Available from http://www.fs.fed.us/fire/aviation/av_library/ [April 1, 2009]
4. American National Standards Institute (ANSI) documents. Available from <http://www.ansi.org/> [April 1, 2009].
 - a. ANSI A10-14, Requirements for Safety Belts, Harnesses, Lifelines and Drop Lines for Construction and Industrial Use.
 - b. ANSI Z133.1, Arboricultural Operations.

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5. European Standards CE (European Conformity) certification mark. Available from <http://www.cemarking.net/> [April 1, 2009].

51.08 - National Tree Climbing Program Technical Advisory Group

The National Tree Climbing Program Technical Advisory Group, composed of the National Tree Climbing Program Manager, the tree climbing coordinators at the regions, stations, Area, and Institute, and tree climbing technical advisors, performs the following:

1. Provides program recommendations to the National Tree Climbing Program Manager.
2. Provides operational and technical advice to Forest Service tree climbers.
3. Serves as a board of appeal on issues relating to tree climbing.
4. Recommends changes to the Forest Service Tree Climbing Program policy in section 51.03 and to the technical guidelines referenced in the National Tree Climbing Guide.
5. Establishes and/or approves tree climbing training programs through which applicants for certification can satisfy the requirements of section 51.3.
6. Establishes criteria for equipment selection, approval, and use.
7. Approves the use of new equipment, techniques, and practices.
8. Addresses national issues at annual National Tree Climbing Program workshops.

51.1 - Qualifications

The regions, stations, Area, and Institute shall adhere to the training and certification program for employees who climb trees in support of project work and activities.

1. Forest Service tree climbing operations and activities must comply with direction of this handbook, and the National Tree Climbing Guide.
2. Only Forest Service employees who hold a valid tree climbing certification card issued by the Forest Service may engage in tree climbing.
3. All tree climbers shall be trained and certified before commencing climbing projects and activities.
4. Tree climbers shall use only the techniques and equipment which they are certified to employ.

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5. Tree climbing performed in support of smokejumper wildland fire suppression operations and activities must be in accordance with FSH 5709.14, Smokejumper and Paracargo Handbook and the Interagency Smokejumper Training Guide.

6. Smokejumpers who engage in tree climbing in support of project work and activities shall comply with the requirements in this handbook.

51.2 - Equipment

51.21 - General Requirements

1. Basic tree climbing equipment must consist of components that are necessary to accomplish the desired climbing assignment and that meet the safety standards specified in the National Tree Climbing Guide, section 51.4.
2. Set aside equipment intended for tree climbing operations and activities and use it only for these purposes.
3. Inspect equipment prior to each use.
4. Clean and properly store equipment after use.

51.22 - New Equipment

1. New equipment or techniques not specifically mentioned in the National Tree Climbing Guide or section 51.4, may only be used in tree climbing operations and activities when the new equipment or techniques:
 - a. Are approved in writing by the Regional Tree Climbing Coordinator and technical advisor(s).
 - b. Meet the applicable standards set forth in ANSI A10.32 and Z133.1, or are CE certified (referenced in sec. 51.06) or by a nationally recognized testing and certification organization.
 - c. Are defined in the job hazard analysis (JHA).
2. New equipment, techniques, and practices meeting the intent of the standards specified in paragraph 1b of section 51.22 may also be approved by the National Tree Climbing Technical Advisory Group for agencywide application and use.

51.3 - Certification

Only Government employees who are properly trained in tree climbing under the requirements of the Forest Service Tree Climbing Program are eligible for Forest Service certification.

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1. Prerequisites. Applicants for tree climbing certification must:
 - a. Possess an American Red Cross first aid certification or equivalent.
 - b. Demonstrate the required knowledge and skills of the certification level for which they have applied.
2. Duration. Tree climbing certification cards are valid for a period not to exceed 3 years.

51.31 - Levels of Certification

Form FS-NTCP-1, Tree Climbing Certification Cards is issued to qualified applicants as evidence of qualification. The Tree Climbing Certification is valid for 3 years. The Tree Climbing Certification Card must be issued for the following levels of certifications and categories for which applicants are qualified:

1. Tree Climber Trainee. This level of certification signifies that an applicant has successfully completed a basic climbing course. Upon certification, the trainee shall climb with an experienced tree climber for a minimum of one climbing season during which time the trainee ascends a minimum of 10 trees.
 - a. Upon review of the tree climber trainee's accumulation of experience, a tree climbing instructor may upgrade the trainee's certification to Tree Climber.
 - b. This review may include verification of experience and skill level from the trainee's supervisor or an experienced team member, and may require demonstration of proficiency to the satisfaction of the instructor.
 - c. The upgraded certification is valid through the original expiration date.
2. Tree Climber. This level of certification signifies that a tree climber trainee has successfully completed the requirements for trainee level and has demonstrated tree climbing proficiency and skill.
3. Tree Climbing Instructor. This level of certification signifies that a tree climber has successfully completed a basic tree climbing instructor training workshop, and has met the approval of the evaluating facilitator(s).
4. Categories of equipment and techniques may include, but are not limited to:
 - a. 3-point climbing (required).
 - b. Knots-task specific (required).

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- c. Rescue (required).
 - d. Body thrust.
 - e. Secured footlock.
 - f. Friction knot systems.
 - g. 4-inch tie-in system.
 - h. Ladders (sectional and/or orchard).
 - i. Climbing spurs.
 - j. Ascenders.
 - k. Rappel rack.
 - l. Rescue-8 rappel.
5. Tree Hazard Assessment (required). (See sec. 2.4 of the National Tree Climbing Guide, for more detailed information on tree hazards and hazard tree climbing.)
6. Any specialty climbing categories, identified in section 51.6, for which the climber has been trained and qualified to use and/or instruct.

51.32 - Training

1. Regions, stations, Area, and Institute with established tree climbing programs must provide training to tree climbers. Contact the National Tree Climbing Program Manager, Dorena Genetic Resource Center, for assistance to units in developing and/or providing training programs.
2. All climbers shall pass a written or verbal examination that demonstrates knowledge of at least the following:
 - a. Safety requirements set forth in the National Tree Climbing Guide
 - b. Identifying, mitigating, and/or reporting hazards associated with tree climbing work.
 - c. Function, care, use, and maintenance of tree climbing equipment.

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3. All climbers shall satisfy the tree climbing instructor of their ability to safely perform the following minimum requirements based on the National Tree Climbing Guide after completion of the written or verbal examination:
 - a. Successfully tie all task specific knots.
 - b. Demonstrate proficiency in using three-point climbing technique, including installation of a lanyard and limbing-over on a task specific basis.
 - c. Demonstrate proficiency in tree hazard assessment.
 - d. Perform an aerial rescue using an approved rappel system.

51.33 - Revocation and Suspension

1. Certification cards may be revoked or suspended by the issuing official, if tree climber trainees, tree climbers, or tree climbing instructors:
 - a. Fail to conform to the required knowledge and skills of the certification level for which they are certified.
 - b. Demonstrate unsafe climbing habits.
 - c. Are responsible for serious violations of Forest Service Tree Climbing Program requirements set out in this section; or technical guidelines contained in the National Tree Climbing Guide.
2. Issuing official shall thoroughly document all revocations and suspensions of certification cards and tree climbing operations and activities.

51.34 - Recertification

Tree climber qualifications are valid for 3 years, unless terminated sooner for violation of tree climbing policy, or at the discretion of the tree climbing coordinator for serious and/or repeated violations of safety practices and procedures.

51.4 - Personal Protective Equipment

Refer to the National Tree Climbing Guide for a listing of safe tree climbing personal protective equipment (PPE).

Climbing equipment must comply with the requirements of 29 CFR 1926.104 and 1926.107, and ANSI A10.14. Other products may be used with different manufacturing standards, but they must meet or exceed the standards described below. Examples of other accepted standards are; CE, UIAA, and ISO. The following PPE is required for tree climbing:

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1. Climbing helmet with a 3-point (minimum) chin strap (UIAA approved).
2. Harness with a breaking strength of at least 5,400 pounds (24 kN).
3. Lanyard with a breaking strength of at least 5,400 pounds (24 kN).
4. Long-sleeved shirt and sturdy pants or coveralls.
5. Eye protection meeting the requirements of ANSI Z87.1.
6. Gloves during rappelling.
7. Appropriate footwear as identified by the JHA. Examples are soft-soled hiking boots, high-top tennis shoes, and crepe-soled work boots. When working with climbing spurs, wear boots with suitable heels to keep the spurs in place.
8. Other PPE as identified by the JHA.
9. An appropriate 10-person (minimum) first aid kit must be available to each climbing team which must include: bloodborne pathogen protective equipment (as a minimum, rubber gloves, face masks, eye protection, and CPR clear-mouth barriers) in addition to standard first aid supplies.

51.5 - Climbing Standards

Refer to the National Tree Climbing Guide for guidelines authorized on safe tree climbing procedures.

51.51 - Pre-Climb Procedures

Prepare a JHA and discuss it with the climbing team before the climbing assignment. Discuss how to accomplish the project on a day-to-day basis. Hold periodic tailgate safety and health sessions. Tree climbing operations and activities must be conducted by climbing teams only.

Employees and their supervisor shall prepare a job hazard analysis (JHA) that includes:

1. Safe procedures and hazard mitigations.
2. Check-out/check-in system.
3. Names of employees.
4. Emergency phone numbers/communication system and contact points.

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5. Other information pertinent to the project or activity. Some requirements for the JHA that are available in other documents, such as a district or project safety and health plan, may be included by reference.

If employees fail to report or return on schedule, the supervisor shall take actions required by the JHA or unit policy.

51.52 - Preparing for Climb Procedures

1. Determine from where radio contact may be made. When direct radio contact cannot be maintained from the job site, establish procedures to obtain help without leaving the injured climbers alone.
2. Team inexperienced climbers with an experienced climber to monitor the new climbers' technique and equipment use and provide advice.
3. Have rescue equipment ready for use at the tree.
4. Inspect equipment for excessive wear or breakage.
5. Determine which safety systems will be utilized for a specific climb.
6. Be aware of changes in the weather throughout the day.

51.53 - Climb Procedures

1. Once the climber is in the tree, characteristics of the tree that were not evident from the ground must be observed. Adjust procedures and techniques as necessary to maintain safety. If safety cannot be maintained, the climber shall immediately descend.
2. Use a haul line for securing, supporting, and transporting equipment and tools that could hinder climbing activities. Keep protective coverings over sharp edges and pointed tips while not in use. Keep hands free of materials and tools while climbing.
3. When climbing, secure equipment and tools to yourself or to the tree. Always secure large tools to the tree. When using cutting tools, secure yourself to the tree with a steel-cored lanyard or other cut-resistant lines.
4. Ensure that both members of the climbing team are certified for the level of work being performed.

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51.6 - Specialty Climbing

Because specialty climbing entails tree climbing work that requires additional skill levels to safely perform, tree climbers shall receive proper training and certification prior to engaging in specialty climbing work. Qualified tree climbers shall have the appropriate specialty climbing endorsements annotated on their Tree Climbing Certification Card. Following are types of specialty climbing:

1. Tree Topping with Explosives. (See sec. 4.4 of the National Tree Climbing Guide for certification requirements, and safe handling and use of explosives in trees.)
2. Chain Saw Use in Trees. (See sec. 4.5 of the National Tree Climbing Guide for certification requirements, and safe handling and operation of chain saws in trees.)

51.7 - Safety Practices

Refer to the National Tree Climbing Field Guide for specific safe tree climbing practices, as well as requirements for developing an appropriate tree climbing Job Hazard Analysis (JHA).

51.8 - Accident Investigations

Report tree climbing accidents resulting in serious injury through appropriate channels in accordance with Forest Service accident/incident reporting and notification requirements set forth in FSM 6700, chapter 30.