



Steep Slopes Forest Plan Amendment



Finding of Applicability and No Extraordinary Circumstances

Steep Slopes Forest Plan Amendment (PALS # 68362) Addition of Tethered Ground-Based Harvest System

U.S. Forest Service

Tahoe National Forest

Nevada, Placer, Plumas, Sierra, and Yuba Counties, California

BACKGROUND

Timber harvest activities are allowed on a range of flat to steep slopes on lands suitable for timber production as described in the Tahoe National Forest Land and Resource Management Plan (1990) (Appendix I – Timber Land Classification). The Forest Plan includes plan components that specify timber harvest systems that may be considered for use based on slopes. New logging technology has been developed since the plan was written. This amendment would allow the use of tethered logging systems for timber harvest on steeper slopes. This analysis examines the implications or longer-term environmental consequences of the proposed amendment.

The Forest Service is proposing a Forest Plan Amendment on the Tahoe National Forest for timber harvest on steeper slopes using tethered logging systems. The amendment is proposed to provide a new tool for project and activity decision-making on steep slopes (generally considered to be slopes greater than 30%). Forest plans and forest plan amendments by themselves do not propose any actions on the ground or commit the Forest Service to take (or refrain from) any specific actions. Instead, the proposed amendment provides a programmatic framework that would guide site-specific actions that may be carried out in the future and would work in conjunction with the current standards and guidelines and management direction.

PURPOSE

The purpose of the amendment is to be able to consider new technology to improve integrated resource management to provide ecosystem services and multiple uses in the plan area, specifically timber, vegetation and soils.

In accordance with 36 CFR 219.13(5), I have determined the following specific substantive requirement(s) within §§219.8 through 219.11 are directly related to the plan direction being added, modified, or removed by the proposed amendments:

- (1) 219.8 (sustainability) (a)(2)(ii) soil and soil productivity
- (2) 219.10 (multiple use) (a)(1) timber, soil, vegetation.

NEED FOR CHANGE

The Forest Land and Resources Management Plan (Forest Plan) for Tahoe National Forest allows consideration of four different timber harvest systems: ground-based, cable, skyline, and helicopter. Forest Plan Standard and Guideline 35 allows ground-based harvest for slopes up to 30 percent, with some application on 30 to 50 percent slopes with special precautions. This Standard

Steep Slopes Forest Plan Amendment

and Guideline does not account for new harvest system technology developed since the plan was written and is currently too restrictive for today's technology. This unnecessarily constrains the ability to produce more operationally feasible timber sale projects.

To address the purpose and need, the proposed amendment allows for consideration of tethered ground-based harvest systems that are usually applied only on slopes over 30 percent by amending the Forest Plan for Tethered Harvest Systems.

DECISION

I have decided to amend the Forest Plan after consideration of the need for change, public and agency input, resource specialist recommendations, and applicable laws and regulations. My decision changes the Forest Plan components related to harvest systems on page V-32 of the Forest Plan as follows:

The Proposed amendment will amend the Forest Plan for Tethered Harvest Systems

Amend Standard from:

35. Ground-Based Harvest System

Perform yarding with horses, tractors, rubber-tired skidders, and light flotation forwarders. The yarding system is basically ground lead with some machinery capable of producing lift to one end of the product.

The harvesting practice is capable of harvesting under any cutting method within its operational limitations. It is the primary harvest practice on slopes 0-30 percent, with some application on 30-50 percent slopes with special precautions.

Maximum acceptable yarding distance is affected by many factors including log size, volume per acre, terrain, etc. The following are some optimal and maximum yarding distances that can be considered in planning ground-based operations. They are listed by yarding method optimum and maximum (respectively). Horse 100-200 feet, 400 feet; tractor: 300-800 feet, 1500 feet; rubber-tired skidder 500-1000 feet, 2000 feet; light flotation forwarder; 700-1200 feet, 2500 feet.

The loading equipment used in this practice is usually rubber-tired, requiring landings of a minimum size necessary to store and load logs.

To:

35. (A) Ground-Based Harvest System - ***No changes or adjustments.***

Add:

35. (B) Tethered Ground-Based Harvest System

Perform cutting and yarding with tracked and/or wheeled systems with a traction aid winch – either on the machine performing the work or an anchor machine. Yarding with machinery capable of lifting one end of the product. Tethered machines are usually applied only on slopes over 30 percent.

Tethered logging is a mode in which a traction aid winch is operated automatically with pre-set pulling and braking forces to maintain cable tension with the forward or reverse speed of the machine) cable winch systems, which have been specifically designed or modified by

Steep Slopes Forest Plan Amendment

the manufacturer or a professional engineer, to assist equipment in felling or yarding during timber operations. (Definition as stated in 895.1 in California Forest Practice Rules.)

The scale of this programmatic plan amendment is forest-wide on all National Forest System lands managed under the Tahoe National Forest Land Management Plan. The scope of this plan amendment is applicable for project and activity decision-making developed and reviewed in compliance with NEPA.

DECISION RATIONALE

The plan amendment meets the purpose and need for the change to the land management plan. My decision may be used for current planning and is informed by the best available scientific information, as identified during the environmental analysis and review of regulatory compliance. I find that no extraordinary circumstances exist, and findings required by other applicable laws and regulations demonstrate compliance with the regulatory framework for the activities authorized by this decision.

The proposed amendment provides a new tool for project and activity decision-making on steep slopes. This amendment would not approve projects or activities, nor would it propose ground-disturbing activities. It is being proposed to allow interdisciplinary teams the flexibility to determine what harvest systems may occur on steeper slope areas while meeting the Standards and Guidelines in the Forest Plan. Additionally, allowing tethered logging on the Tahoe National Forest provides a safer mechanized option for vegetation-management and fuel-reduction treatments in terrain where conventional systems are limited and is expected to improve worker safety while supporting effective implementation of restoration activities.

This decision amends Forest Plan Standard 35 related to ground-based harvest systems to meet desired conditions and objectives for timber harvest. After reviewing the project record, and in consultation with the resource specialists, I find no rationale for more restrictive tethered ground-based harvest system standards (usually applied only on slopes over 30 percent), when compared to what is allowable for ground-based, cable and skyline harvest systems in the Forest Plan. I have determined that more restrictive plan components for steep slope harvest using tethered ground-based harvest systems are not necessary to protect soil, water, wildlife, and vegetation resources as Forest Plan direction is appropriate for maintaining resources.

This decision incorporates all information in this document and included in the project file.

FINDING OF APPLICABILITY FOR CATEGORICAL EXCLUSION

This amendment can be categorically excluded (CE) from documentation in an environmental impact statement (EIS) or an environmental assessment (EA). The amendment will not individually or cumulatively have significant effects on the human environment and no extraordinary circumstances exist.

The applicable category of actions is identified in agency procedures as 7 CFR 1b.4 USDA-38d-USFS. This category is applicable for this plan amendment because it is to make changes to a land management plan per 36 CFR 219 that do not approve specific projects or activities; do not affect existing direction or propose new direction that commands anyone to refrain from undertaking projects and activities; and do not grant, withhold or modify contracts, permits or other formal legal instruments.

Steep Slopes Forest Plan Amendment

This category of action is applicable because the proposed amendment is programmatic and does not propose any action on the ground or commit the Forest Service to take (or refrain from) any specific actions. This decision does not authorize timber sales or any other specific activity on the Tahoe National Forest. Those types of actions, if proposed, will be analyzed in a project-level NEPA analysis and decisions will be made in compliance with NEPA and other environmental laws following applicable public involvement and administrative review procedures.

FINDING OF NO EXTRAORDINARY CIRCUMSTANCES

Based on the environmental analysis I have determined that there are no extraordinary circumstances related to this project:

(1) Federally listed threatened or endangered species or designated critical habitat or species proposed for Federal listing or proposed critical habitat. – This amendment does not pose new risks to threatened or endangered species or designated critical habitat. There are no changes in the management direction or plan components that protect threatened or endangered species or designated critical habitats. Because the proposed amendment does not authorize, fund, or carry out any action, the requirements of Section 7(a)(2) of the Endangered Species Act do not apply to the proposed amendment.

(2) Flood plains, wetlands, or other such sensitive areas – This amendment does not pose new risks to flood plains, wetlands or other such sensitive areas. There are no changes in the management direction or plan components that protect soil and water quality.

(3) Special sources of water such as sole-source aquifers, wellhead protection areas, municipal watersheds, or other water sources that are vital in a region – This amendment does not pose new risks to these areas. Special sources of water would not receive any changes in management direction or plan components.

(4) Areas having formal Federal or state designations, such as wilderness areas, parks, or wildlife refuges; wild and scenic rivers; marine sanctuaries; national natural landmarks; inventoried roadless areas; or national recreation areas – This amendment does not pose any risk to wilderness areas, parks, or wildlife refuges; wild and scenic rivers; or inventoried roadless areas. The 2001 Roadless Rule gives direction for where and when timber harvest is allowed in the inventoried roadless areas. When timber is harvested in an inventoried roadless area, tethered ground-based harvest systems could be a harvest method used to remove timber. Designation and management of wild and scenic rivers and wilderness take precedence over timber harvest, fuels management and potential harvest systems. This amendment is procedural in nature and does not propose any ground disturbing activities. Consequently, there will be no direct effects to designated areas on the Forest from this amendment. This amendment will result in no changes to the process to protect cultural and natural resources and will not modify other management direction or plan components or Forest Service policy within designated areas. There are no marine sanctuaries, national natural landmarks or national recreation areas. There are no changes to management direction or plan components for these designated areas.

(5) Specially managed areas, such as designated research or experimental areas, coral reefs, coastal barrier resources, or, unless exempt, coastal zone management areas – This procedural amendment does not pose any risks to research natural areas. There are no changes to Forest Plan direction for these specially managed areas.

Steep Slopes Forest Plan Amendment

(6) Important or prime agricultural, forest, or range lands – No important or prime agricultural or range lands exist. This procedural amendment does not pose any risks to important forest lands. There are no changes for Forest Plan direction for these important areas.

(7) Property (e.g., sites, buildings, structures, and objects) of historic, archeological, or architectural significance, as designated by Federal, Tribal, State, or local governments, or property eligible for listing on the National Register of Historic Places – This amendment is procedural in nature and does not propose any ground disturbing activities. Consequently, there will be no direct effects to property (e.g., sites, buildings, structures, and objects) of historic, archeological, or architectural significance, as designated by Federal, Tribal, State, or local governments, or property eligible for listing on the National Register of Historic Places on the Forest. This amendment will result in no change to the process to protect cultural and historic resources and will not modify other management direction or plan components or Forest Service policy to avoid cultural resource sites or modify project activities to minimize impacts to them.

Summary

Although the above conditions exist in the area included in the scale of the plan amendment, there are no extraordinary circumstances associated with the plan amendment. The plan amendment relates only to direction of the Tahoe National Forest Land and Resource Management Plan. As described in 36 CFR 219.2(b), “A land management plan provides a framework for integrated resource management and for guiding project and activity decision-making on a national forest, grassland, prairie, or other administrative unit.” The land management plan, and thus any direction included in it, includes no specific project or activity decision and, therefore, has no specific effect on resource conditions or provision of conditions to support uses and services. Although land management plan direction may include constraints that could affect how project or activities are designed, such development or changes to such direction are not within the scope of 7 CFR 1b.4 (USDA-38d-USFS) and not included in this plan amendment.

APPLICATION OF SUBSTANTIVE REQUIREMENTS

The planning rule requires that those substantive rule provisions within 36 CFR 219.8 through 219.11 that are directly related are applicable to this amendment. The applicable substantive provisions apply only within the scope and scale of the amendment (36 CFR 219.13(b)(5)).

As explained in the discussion that follows, both the purpose and the effects of the amendment are such that provisions in § 219.8 Sustainability and § 219.10 Multiple Uses requirements based on the NFMA are directly related to the amendment. I have applied those provisions within the scope and scale of the amendment.

A determination that a rule provision is directly related to the amendment is based on any one or more of the following criteria:

1. The purpose of the amendment (§ 219.13(b)(5)(i));
2. Beneficial effects of the amendment (§ 219.13(b)(5)(i));
3. Substantial adverse effects associated with a rule requirement (§ 219.13(b)(5)(ii)(A)); “when an EA or CE is the NEPA documentation for the amendment, there is a rebuttable presumption that there is no substantial adverse effect, and thus no direct relationship between the rule and the amendment based on adverse effects (§ 219.13(b)(5)(ii)(B)).”
4. Substantial lessening of protections for a specific resource or use (§ 219.13(b)(5)(ii)(A)).

Steep Slopes Forest Plan Amendment

5. Substantial impacts to a species or substantially lessening protections for a species (36 CFR 219.13(b)(6)).

Applying these criteria, I have determined that the substantive requirements of 36 CFR 219.8 through 11 that are directly related and thus applicable to this plan amendment, at its scope and scale, are as follows: (1) 219.8 (sustainability) (a)(2)(ii) soil and soil productivity and (2) 219.10 (multiple use) (a)(1) timber, soil, vegetation. The substantive requirements are detailed out in [Appendix A](#).

The effects of this programmatic amendment are negligible, as this amendment does not affect the intent of the Forest-wide Vegetation Management standards, but it does address the contradiction between the intent of the standards and the impacts from implementing these standards. It would not result in a substantial lessening of protections for specific resources, uses, or species.

219.8(a)(2)(ii) Soils and soil productivity, including guidance to reduce soil erosion and sedimentation. The timber harvest standards and standard and guideline 55 were developed to protect the productivity of soils on lands managed for timber production. Although the amendment has the potential to have negligible impacts on soil productivity and erosion as documented in the Soil, Water, and Safety Report (Jimenez 2026, pp. 2), the potential reduction in productivity will not be substantial, nor would it impact the ability to achieve management goals. Journal-quality research as well as professional monitoring from National Forest System lands detail that mechanical logging equipment utilizing a tether system can complete operations while maintaining soil productivity and water quality standards and guidelines (ibid., pp. 8)

219.10(a)(1) Integrated resource management for multiple use. This amendment will have a beneficial effect on the ability to manage timber and vegetative fuels by making an additional tool available for management of resources (219.13(b)(5)(i)).

FINDINGS REQUIRED BY OTHER LAWS AND REGULATIONS

National Forest Management Act (NFMA)

Under the National Forest Management Act and its implementing regulations at 36 CFR 219 (2012 Planning Rule), a plan may be amended at any time. Plan amendments may be broad or narrow, depending on the need for the change. As the Responsible Official, I have the discretion to determine whether and how to amend the Tahoe National Forest Land and Resource Management Plan (TNF LRMP 1990, referred to as the Forest Plan) and to determine the scope and scale of any amendment (36 CFR 219.13(a)).

The pertinent specialists have reviewed the proposal and determined the proposal is consistent with the 2012 Planning Rule, specifically applicable substantive requirements of 36 CFR 219.8 to 11, format of plan components per 36 CFR 219.7(e), or inclusion as other content in the plan per 36 CFR 219.7(f). This amendment is consistent with the Findings in the Tahoe Land and Resource Management Plan Record of Decision (1990) since the amendment will not individually or cumulatively have significant effects on the human environment and no extraordinary circumstances exist.

Steep Slopes Forest Plan Amendment

Table 1: Documentation of Review Completion

Resource	Person Responsible	Reports
Cultural/Heritage	Carrie Smith	Screened Undertaking R2025051700111
Hydrology and Soils	Jason Jimenez	Soil, Water and Safety Report
Silviculture	Ryan Davy	N/A
Wildlife, Aquatic and Botanical Species	Christina Liang	Biological Evaluation

Other Legislative, Regulatory, And Policy Requirements – No Effects

Because the plan amendment has no effect on resource conditions or provision of conditions to support uses and services, nor does it affect constraints that relate to project or activity effects on resource conditions or provision of conditions to support uses and services, the following are determinations relative to the following legislative, regulatory, and policy requirements:

Endangered Species Act: No effect, no ESA consultation required

Regional Forester Sensitive Species (FSM 2670): No effect

National Historic Preservation Act (NHPA): No effect, no SHPO consultation required

Special designation legislation (list, e.g. Wilderness Act, Wild and Scenic River Act): No effect

Clean Air Act: No effect.

Clean Water Act: No effect.

Executive Orders. No effect on the following:

- EO 11988, Floodplain Management
- EO 11990, Protection of Wetlands
- EO 13007, Indian Sacred Sites
- EO 13112, Invasive Species
- EO 13186, Migratory Birds
- EO 13443, Facilitation of Hunting Heritage & Wildlife Conservation

PUBLIC INVOLVEMENT

This action was originally listed as a proposal on the Tahoe National Forest Schedule of Proposed Actions in July 2025 and was updated periodically during the analysis. A legal notice announcing the 30-day scoping and public comment period was published in Grass Valley's *The Union*, September 16, 2025, and posted on the Forest website <https://www.fs.usda.gov/r05/tahoe/projects/68362>. The Forest also provided notice to interested parties via email to approximately 270 people. The goals of the 30-day public participation period were to initiate the development of the Forest Plan amendment, and to provide information and seek comments on the proposal and amendment (36 CFR § 219.16; 36 CFR § 219.13(b)(2)). The letter presented the project as appropriate for being categorically excluded from detailed analysis in an environmental assessment or environmental impact statement. The 30-day review process was conducted in accordance with 36 CFR 219 (applicable to forest plan amendments) and was the only public participation opportunity for the proposal. Three interested parties expressed interest in the project as a result of the outreach.

I considered all comments and the Forest Service responses to those comments ([Appendix B](#)) before I decided to approve this Forest Plan amendment.

ADMINISTRATIVE REVIEW OPPORTUNITIES and IMPLEMENTATION DATE

A legal notice announcing the 45-day objection filing period is scheduled to be published in Grass Valley's *The Union* newspaper on March 20, 2026. This finding is subject to the objection process pursuant to 36 CFR 219, subparts A and B. The Acting Forest Supervisor, Amber Waters, is the responsible official for the proposed Forest Plan Amendment.

Pursuant to 36 CFR 219.17 (a)(2), a plan amendment for which an EIS [Environmental Impact Statement] is not prepared is effective immediately upon the date of my signature on this document.

CONTACT INFORMATION

For additional information concerning this decision, please contact: Karen Walden, Forest Environmental Coordinator, 631 Coyote Street, Nevada City, CA 95959, karen.walden@usda.gov.

SIGNATURE AND DATE

AMBER WATERS
Acting Forest Supervisor

The United States Department of Agriculture (USDA) is committed to making its digital content accessible. USDA customers, employees, job applicants, and members of the public with disabilities must have access to information and communication technology (ICT) comparable to the access available to those without disabilities. The [U.S. Access Board](#) ("Access Board") is responsible for developing accessibility standards. In 2017, the Access Board published a [Final Rule](#) that updated the accessibility requirements in Section 508 of the Rehabilitation Act of 1973 (Section 508), 29 U.S.C. 794d, and refreshed the guidelines in the law. The Final Rule went into effect on January 18, 2018. The standards are available at [Information and Communication Technology: Revised 508 Standards and 255 Guidelines](#).

For more information, see the [USDA Accessibility Statement](#).

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at [How to File a Program Discrimination Complaint](#) and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

USDA is an equal opportunity provider, employer, and lender.

APPENDIX A – SUBSTANTIVE REQUIREMENTS

Applying Directly Related Substantive Requirements (36 CFR 219.13(b)(5))

In accordance with 36 CFR 219.13, the Responsible Official has determined specific substantive requirement(s) within Sections 219.8 through 219.11 that are directly related to the plan direction being added by the proposed amendment.

Applying the Directly Related Substantive Requirements (36 CFR 219.13(b)(5)) The 2012 Planning Rule establishes substantive requirements for forest plans set forth at 36 CFR 219.8 through 219.11. Each substantive requirement has an overarching purpose accompanied by specific means to achieve the purpose, generally through inclusion of forest plan components. For forest plan amendments, the Responsible Official must apply the directly related substantive requirement(s) within the scope and scale of the amendment (36 CFR 219.13(b)(5)).

The following describes how the directly related substantive requirements were applied within the scope and scale of the amendment. Each directly related substantive requirement has a section that: (A) describes the overarching purpose of the substantive requirement; (B) identifies the specific plan components (including both amended plan components and existing, unchanged plan components) to ensure the substantive requirement’s purpose is met; and (C) describes how the amended plan would meet the overarching purpose of each substantive requirement.

Directly Related Substantive Requirement: 36 CFR 219.8 - Sustainability

36 CFR 219.8 requires forest plans to provide for social, economic, and ecological sustainability with Forest Service authority and consistent with the inherent capability of the plan area.

36 CFR 219.8 (a) Ecological sustainability (2) Air, soil, and water (ii) Soils and soil productivity, including guidance to reduce soil erosion and sedimentation.

(A) Purpose of the Substantive Requirement

The overarching purpose of **36 CFR 219.8(a)(2)(ii)** is to provide for ecological sustainability in the plan area. Forest plans must include plan components, including standards or guidelines, to maintain or restore soils and soil productivity, including guidance to reduce soil erosion and sedimentation. Ecological sustainability refers to the capability of ecosystems to maintain ecological integrity (36 CFR 219.19) with ecological integrity focused on composition, structure, and function within the natural range of variation and can withstand and recover from most perturbations imposed by natural environmental dynamics or human influence.

(B) Plan components that meet the purpose of the Substantive Requirement

Amended Standard 35(B) for Tethered Ground-Based Harvest Systems.

(C) How the Amended Plan Meets the Substantive Requirement’s Purpose

Ecological sustainability requires a persistent, present, functioning ecosystem. Under current forest conditions, ecological sustainability is compromised because, compared to historic conditions, many of the existing forest stands are unnaturally dense. Forest conditions have substantially higher numbers of less fire-resistant small- to medium-sized trees, excessive accumulations of surface and understory ladder fuels, and vegetation in an overly stressed condition due to changes in precipitation (drought), increasing temperature, and over a century of fire exclusion. Together, these existing conditions greatly reduce the Forest’s ability to persist under changing conditions or severe disturbances. Competition for limited resources in stressed, overly

Steep Slopes Forest Plan Amendment

dense forest stands increases the Forest's vulnerability to extensive insect and disease infestations, drought, and the persistent and growing threat and occurrence of large-scale, high severity megafires. The amended forest plan component is integrated with existing forest plan direction to encourage and support maintaining ecological sustainability across the Tahoe National Forest. The amended Forest Plan meets the purpose of maintaining and restoring soils and soil productivity because it contains a Standard plan component aimed at restoring resilient forest conditions as guided by the scientific literature on historic forest conditions that developed under active fire regimes. The amended Forest Plan guides active management to reduce soil erosion and sedimentation more effectively to (1) reduce threats to the Forest's ecological sustainability from large, severe, wildfires; (2) effectively manage forest stand density for improved forest resilience; and (3) promote long-term soil productivity while reducing erosion and sedimentation affecting water quality.

Although there are other unamended standards and guidelines and best management practices, the primary standard and guideline used on Tahoe National Forest for sustaining soils is Standard and Guideline (S&G) 55: **Maintain soil productivity**. As the Forest Plan states: it may not be possible to meet this standard and guideline during some activities. In these situations, a soil scientist will work with the project interdisciplinary team to develop site-specific management prescriptions that approximate this standard and guideline, and do not result in a significant reduction in soil productivity.

- S&G 55 uses measures for **soil porosity** and to reduce soil porosity by no more than 10 percent.
- S&G 55 uses a standard for **soil cover** where the minimum soil effective soil cover prescribed for a specific site will vary due to local differences in slope, microrelief, surface rock fragments, detachability, and other factors that vary within soil types.
- S&G 55 uses a guideline for **soil organic matter** by maintaining large woody material and forest duff.

Together, the new amendment and existing unamended Forest Plan components provide managers with objectives and tools to develop forest stands that are more resilient to severe disturbances from wildfire, drought, insects and diseases, thereby providing for ecological sustainability and to maintain or restore soils and soil productivity.

Directly Related Substantive Requirement: 36 CFR 219.10 – Multiple use

While meeting the requirements of §§ 219.8 (Sustainability), 36 CFR 219. 10 requires forest plans to provide for ecosystem services and multiple uses.

36 CFR 219.10 (a)(1) – Integrated resource management for multiple use.

(A) Purpose of the Substantive Requirement

The overarching purpose of **36 CFR 219.10 (a) Integrated Resource Management for Multiple Use** is to ensure that forest plans provide for ecosystem services and multiple uses, including outdoor recreation, range, timber, watershed, wildfire, and fish, within Forest Service authority and the inherent capability of the plan area. To do so, Section 219.10 (a) stipulates that forest plans must include plan components, including standards and guidelines, for integrated resource management to provide for ecosystem services and multiple uses in the plan area.

Steep Slopes Forest Plan Amendment

This substantive requirement then lists 10 items the responsible official must consider when developing the plan components for integrated resource management. Not every item listed — or aspects of each item listed — are directly related to the scope and scale of the proposed Forest Plan amendment. The directly related considerations include aspects (emphasized in bold below) of item (1). The Forest Plan amendment recognizes the interdependence of ecological and societal resources and values.

36 CFR 219.10(a)(1) stipulates that when developing the plan components for integrated resource management, the responsible official shall consider to the extent relevant to the plan area and public participation and the requirements of 36 CFR 219.7, 219.8, 219.9, and 219.11: (1) aesthetic values, air quality, cultural and heritage resources, ecosystem services, fish and wildlife species, forage, geologic features, grazing and rangelands, habitat and habitat connectivity, recreation settings and opportunities, riparian areas, scenery, **soil**, surface and subsurface water quality, **timber**, trails, vegetation, viewsheds, wilderness, and other relevant resources and uses.

(B) Plan components that meet the purpose of the Substantive Requirement

Amended Standard 35(B) for Tethered Ground-Based Harvest Systems.

(C) How the Amended Plan Meets the Substantive Requirement's Purpose

The proposed change to the existing Forest Plan adds a specific Standard to the Forest Plan to allow mechanical harvest with ground-based equipment on steeper slopes to more efficiently and effectively manage forest stand density for improved fuel treatments and resilience. The use of chainsaw's high costs and slow pace constrain its effectiveness for reducing fuels in the Sierra Nevada. The Forest Plan amendment, integrated with retained existing Forest Plan direction, removes some mechanical operability constraints to support effective use of timber harvest, other mechanical thinning of vegetation, and prescribed fire to reduce stand densities and ladder fuels to increase the resilience of forests to fire, drought, and other disturbances incited by drought. With potential future increases in wildfire size and severity, fire policy and forest restoration might benefit if mechanical thinning is more widely used to leverage and complement managed fire. Significant increases in treatment pace and scale are possible if mechanical thinning is used to facilitate larger prescribed burns and enable managed wildfire (North et al. 2015). The multiple-use purpose would be met by the amended Forest Plan's Standard and would be commonly achieved through fuels and vegetation management actions that would provide timber as a by-product.

References

North, M., A. Brough, J. Long, B. Collins, P. Bowden, D. Yasuda, J. Miller, and N. Sugihara. 2015. "Constraints on Mechanized Treatments Significantly Limit Mechanical Fuels Reduction Extent in the Sierra Nevada." *Journal of Forestry* 113(1): 40–48.

APPENDIX B – RESPONSES TO PUBLIC COMMENTS

COMMENT 1: This over aggressive logging and deforestation in fact is making our environment hotter and more flammable. This is also ecocide or lethal for so many species of wildlife.

RESPONSE 1: This Forest Plan Amendment is not a logging project. It is an analysis of a potential harvesting tool to use in future site-specific projects.

COMMENT 2: In regard to the applicability of this amendment to PG&E's work under the Operations and Maintenance Plan, exclude utility vegetation management on electric transmission and

Steep Slopes Forest Plan Amendment

distribution lines from scope of timber harvest activities as vegetation management activities on its electric transmission and distribution lines do not constitute timber harvesting.

RESPONSE 2: The steep slope forest plan amendment is applicable to the Tahoe National Forest as a whole. Site-specific projects would identify whether tethered harvest systems would be appropriate or not.

COMMENT 3: Revise the plan amendment to accommodate safety. Consider worker safety.

RESPONSE 3: The Forest Plan Amendment is about a potential harvest system tool. This tool would be available as determined through site specific project analysis. How and when the tool is used is a choice to be considered before harvesting operations begin. Safety was addressed in the Soil, Water, and Safety Report and is summarized as follows. Tethered logging reduces worker exposure to high-risk manual activities on steep slopes and has been associated with lower injury and fatality rates in regions where it is used. Remaining risks, such as equipment failures, are rare and mitigated through training and adherence to manufacturer specifications.

COMMENT 4: Establish a clear set of application criteria for use of tethered cable logging equipment. The Soils and Erosion sections of the 1990 TNF Forest Plan ROD still applies and should apply even more strongly to the proposed steep slope logging proposal. A rigorous soil erosion and long-term productivity monitoring and adaptive management plan need to be described in detail.

RESPONSE 4: The Forest Plan standards and guidelines for soil, erosion and monitoring still apply and were addressed in the Soil, Water, and Safety Report. For project-specific actions, adherence to TNF Forest Plan standards and guidelines does not vary according to the type of harvest system(s) proposed for use. A quick summary of Forest Plan's unchanged S&G 55 is listed in the substantive requirements under 36 CFR 219.8 - Sustainability.

COMMENT 5: Specific existing conditions need to be described in locations where the tethered cable logging approach may be applied. Post-treatment tethered cable logging impacts need to be measured, recorded and reported out annually, especially after the rainy season and after snow melts.

RESPONSE 5: This Forest Plan Amendment provides a programmatic framework about a potential harvest system tool. This analysis does not authorize timber harvest or any other specific activity. Site-specific projects would identify whether tethered harvest systems would be appropriate or not. The Tahoe National Forest conducts ongoing implementation and effectiveness monitoring of vegetation-management projects through the Forest Service's Best Management Practice (BMP) Evaluation Program, and targeted watershed-staff inspections. Existing monitoring from other National Forests shows low levels of detrimental soil disturbance and minimal hydrologic impacts when best management practices—such as slash retention, seasonal restrictions, and riparian conservation measures—are applied. This monitoring framework supports adaptive management under the Sierra Nevada Forest Plan Amendment and will inform project-level analysis to ensure tethered logging maintains soil productivity and water quality within standards and guidelines. Information about monitoring was addressed in the Soil, Water, and Safety Report.

Steep Slopes Forest Plan Amendment

COMMENT 6: The reference to the 2012 Forest Planning Rule 36 CFR § 219.8 Sustainability is not totally accurate in reference to section (a)(1) calls out Ecosystem Integrity.

RESPONSE 6: The Forest Plan Amendment uses the substantive requirements of 36 CFR 219.8 (sustainability) (a)(2)(ii) soil and soil productivity not 36 CFR 219.8 (a)(1). It also uses 36 CFR 219.10 (multiple use) (a)(1) timber, soil, vegetation. The substantive requirements are detailed out in [Appendix A](#). The existing standards and guidelines for soils (such as Standard and Guideline 55 for maintaining soil productivity, part of how the amended standard meets the purpose) and water in the Forest Plan apply for all harvest systems.

COMMENT 7: This also suggests that the Tahoe NF Tethered Cable Logging system plan amendment including use on 90% slopes (or greater) Scoping letter p. 2 is potentially damaging to natural resources being outside the capability of the land to support such actions. Further action on this proposal will likely produce significant impacts to soil productivity and water quality.

RESPONSE 7: The use of tethered logging on steeper slopes is evolving and generating new scientific studies that were reviewed for the Soil, Water, and Safety Report. New Zealand has been using tethered logging for a while and came out with a New Zealand Winch-Assisted Harvesting Best Practice Guide. This guide stated that 90 percent¹ slope is “A realistic upper limit for all winch-assist operations.” (Safetree 2022). No upper slope percent was stated in the Forest Plan standards and guidelines for cable and skyline harvest systems, so this Steep Slopes Forest Plan Amendment removes the 90 percent limit. It now states: Tethered machines are usually applied only on slopes over 30 percent. Site-specific projects would identify whether tethered harvest systems would be appropriate or not after considering evolving science, capabilities and monitoring.

Table 1. Considerations for ground-based and tethered harvesting on different slopes.²

Slope (degrees)	Slope (%)	Consideration
17°	30%	This is considered a limit for when a wheeled ground-based machine can start to slide under poor conditions.
22°	40%	This is considered a limit for a tracked ground-based machine. It can start to slide under poor conditions.
28°	50%	Most purpose built forestry machines, with good operators in good conditions can work up to this limit. Beyond this slope it is wise to consider using winch-assist.
35°	70%	This is considered the absolute upper limit for ground-based machines without winch-assist. Only under very favorable soil strength condition, with a purpose built steep slope harvesting machine and a very experienced operator, and then only traversing directly up or down the slope.
42°	90%	A realistic upper limit for all winch-assist operations.
45°	100%	Considered the absolute upper limit for any winch-assist operation. If any part of the rigging fails, a machine roll-over would be difficult to avoid.

²Source: New Zealand Winch-Assisted Harvesting Best Practice Guide. Safetree 2022.

¹ Note: a 45-degree slope is a 100-percent slope or a 1 to 1 incline, where the rise equals the run. A 42-degree slope is 90 percent.

Steep Slopes Forest Plan Amendment

COMMENT 8: Disturbance to vegetation could potentially affect refuges for animal and plant species that require relatively undeveloped landscapes and sources of clean water.

RESPONSE 8: Effects from the proposed tethered ground-based harvest systems would be identical to those from harvest systems specified in the TNF Forest Plan and would depend on project-specific proposed actions and related silvicultural and fuels prescriptions. The proposed actions and prescriptions would follow Forest Plan standards and guidelines and also would be guided by professional practices. Vegetation management would be consistent with existing management plan direction and would comply with any relevant environmental regulations (addressed in the Biological Evaluation 2026.)