



**Giant Sequoia
National Monument
Specialist Report**



**Transportation
Trails and Motorized
Recreation Report**

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Introduction

The presidential proclamation (Clinton 2000) establishing the Giant Sequoia National Monument (Monument) required preparation of a management plan. The required plan amends the existing 1988 Sequoia National Forest Land and Resource Management Plan (1988 Forest Plan), as amended by the 1991 Kings River Wild and Scenic River and Special Management Area Implementation Plan and the 2001 Sierra Nevada Forest Plan Amendment (2001 SNFPA). The proclamation (Clinton 2000) focused on certain resources and uses in establishing the monument, so that the proposed plan amendment also focuses on those areas in implementing the proclamation (Clinton 2000).

The Monument management plan may also incorporate the management direction provided by the 1990 Sequoia National Forest Land Management Plan Mediated Settlement Agreement (MSA) and the 2004 Sierra Nevada Forest Plan Amendment Supplemental Environmental Impact Statement (2004 SNFPA SEIS), as applicable, and to the extent that direction is consistent with the proclamation (Clinton 2000). Although the Monument plan environmental impact statement (EIS) must consider these sources of direction, the plan is not constrained by the requirements prescribed in these documents. The plan is informed by the best available science and is based on a thorough review of relevant scientific information and practical experience, per the proclamation (Clinton 2000) and planning direction, resulting in a plan which could be substantially different from current management direction.

The Monument management plan describes a long-term vision and the strategic management direction to guide management activities that move resources toward the desired conditions. This Monument plan defines the parameters (limits) for management activities and may offer the flexibility to adapt project level decisions to accommodate rapidly changing social and resource conditions.

The purpose and need of this management plan is to establish management direction for the land and resources within the Giant Sequoia National Monument, in order to protect the objects of interest, while providing key resources and opportunities for public use within the Monument. The objects of interest are generally identified in the proclamation (Clinton 2000), with the requirement that the management plan would provide direction for their proper care. Although many valuable objects of interest are identified, the proclamation (Clinton 2000) is also clear that the major purpose of the Monument is to protect and maintain the giant sequoia groves and the rare giants within their unique and natural habitat. Through public and agency dialogue, the objects of interest have been determined to be a mix of specific individuals/locations (e.g., specific caverns or named sequoias) and broad ecosystem processes (such as what occurs with sequoia groves and associated watersheds).

The proclamation (Clinton 2000) states that the Monument plan will provide for and encourage continued public and recreational access and use consistent with the purposes of the Monument. The proclamation (Clinton 2000) also states that the Monument plan will establish a transportation plan that provides for visitor enjoyment and understanding about the scientific and historical objects consistent with their protection (65 FR 24098). The transportation system would be managed for public use, related to recreation, special use authorizations, and private land access. In addition, it would emphasize developing access points in coordination with gateway communities and other agencies to provide clear and welcoming entry into the Monument. The transportation system would also focus greater emphasis on providing access to the objects of interest and opportunities for traveling on loop roads and trails. In accordance with the proclamation (Clinton 2000), motorized vehicles, including over-snow vehicles, would be restricted to designated roads, and non-motorized mechanized vehicles (mountain bikes) would be restricted to designated roads and trails.

Current Management Direction

The 1988 Forest Plan, the Mediated Settlement Agreement (MSA), the 2001 Sierra Nevada Forest Plan Amendment (SNFPA), and the presidential proclamation (Clinton 2000) are compared, in order to determine what current direction is for trails and motorized recreation. (See Appendix A in the final environmental impact statement [FEIS].)

The presidential proclamation (Clinton 2000) alters a portion of the forest plan direction by limiting motorized vehicles to designated roads and non-motorized mechanized vehicles (mountain bikes) to designated roads and trails.

Some of the forest plan direction pertains to specific management area prescriptions. Most of the management area prescriptions have a statement regarding maintenance and development of trails to protect resource values.

The MSA directs wording changes to specific statements in some of the management area prescriptions. Most of these changes relate to off-highway vehicles (OHV), to remove specific reference to OHVs and make the direction more general.

Description of Proposal

Desired Conditions, Strategies, and Objectives

Desired conditions describe a desired future state of a resource or opportunity in the Monument. Desired conditions are aspirations and not commitments or final decisions approving projects and activities, and may be achievable only over a long period of time.

Management strategies describe the general approach that the responsible official would use to

achieve the desired conditions. Strategies establish priorities in management effort and convey a sense of focus for objectives.

Objectives are concise projections of measurable, time-specific intended outcomes that are consistent with the identified strategies and provide a means of measuring progress toward achieving or maintaining desired conditions.

Desired Condition

Roads and trails are safe and fully-maintained to minimize adverse resource impacts, while providing public and administrative access to National Forest System lands and facilities within the Monument. The road system is properly sized to provide needed access to the objects of interest for their proper care, protection, and management, as well as visitor enjoyment of the Monument. Roads that are no longer needed have been decommissioned to restore natural drainage and vegetation or converted to other uses.

Strategies

- Size and maintain the road and trail system to minimize adverse resource impacts, while providing appropriate public and administrative access to National Forest System lands and facilities within the Monument.
- Promote aquatic organism passage at road stream crossings where needed.
- Maintain roads with effective road drainage and erosion controls to conserve existing soil and reduce effects to adjacent riparian and aquatic systems.
- Complete 6th-field watershed analyses and review the transportation system in the Monument using forest-scale travel analysis to inform future opportunities for changes in road status, including changes in maintenance level, decommissioning, or conversion to trails.
- Consult with local tribal governments and Native Americans to provide transportation and access needs for culturally important sites and resources.
- Coordinate transportation planning, management, and road decommissioning with

Sequoia and Kings Canyon National Parks; other federal, state, and county agencies; and the Tule River Indian Tribe, to reduce traffic congestion and safety hazards, especially along major travelways.

- Partner with state and local agencies to operate and maintain roads for four-season use where appropriate.
- Provide appropriate parking facilities to meet projected use as determined through site-specific project analysis.
- Base proposals for new roads on the need to provide access to recreation opportunities, other public use, or management activities, as appropriate to the purposes of the Monument.
- Manage the current road system without adding new roads.
- Manage public access provided by the road system to only provide access to developed recreation sites, not dispersed recreation.
- Convert to trails or other uses, or decommission roads not needed to meet management objectives.
- Emphasize opportunities for creating loop trails where feasible and appropriate.
- Emphasize opportunities for creating loop roads where feasible and appropriate.
- Provide and maintain regulatory, warning, directional, and information signing on roads for travelers' use.
- Manage the roads and trails system to allow:
 - Both highway legal use and off-highway vehicle (OHV) use on designated roads.
 - Over-snow vehicle (OSV) use on designated roads.
 - Non-motorized mechanized vehicles (such as bicycles) on designated roads and trails.

Objectives

1. Within 2 years, complete travel analysis to determine the minimum necessary transportation system (Subpart A of the Travel Management Rule, 36 CFR 212.5) for the Monument.

2. Within 2 years, complete a Monument-wide watershed improvement needs inventory (WINI) to identify adverse impacts to watersheds from roads and trails.
3. During the life of the Monument Plan, establish a sustainable and desirable off-highway vehicle (OHV) and over-snow vehicle (OSV) route system (on the existing road system), including loop opportunities where feasible and appropriate.

The Proposal

In accordance with the proclamation (Clinton 2000), the Proposed Action would limit motorized vehicles, including over snow vehicles, to designated roads. Non-motorized mechanized vehicles (mountain bikes) would be limited to designated roads and trails. This alternative would emphasize developing access points in coordination with gateway communities and other agencies to provide clear, welcoming entry into the Monument. No new roads would likely be proposed in this alternative, unless they are needed to provide access to the objects of interest, to provide more opportunities for traveling on loop trails or roads, or in conjunction with the development of new recreation facilities.

In order to satisfy the requirements of the proclamation (Clinton 2000) and to create a healthy balance for both monument ecosystems and recreationists, the following considerations would be important for trails and motorized recreation in the Proposed Action:

Tourism: Provide and maintain good front country roads with pull-outs for sightseeing. Provide information and educational opportunities, such as information kiosks, brochures, visitor centers, museums, and self-guided nature and history trails. Provide adequate parking and comfort stations at major attractions.

Roads: Designate and maintain existing roads appropriate for all-terrain vehicles (ATVs), four-wheel drive vehicles, and snowmobiles, providing for user safety and minimum effect on the environment. Post maps, regulations, and safety considerations for front country

usage, wood gathering, etc. on bulletin boards at roadheads and trailheads. Partner with state and local agencies to maintain roads for four season use.

Parking: Provide appropriate parking facilities.

Trails: Design and maintain all trails and trail systems for user safety and minimum effect on the environment. Design trail systems for specific uses, such as biking, foot traffic, and pack and riding stock or other non-vehicular uses. Emphasize loop trails and other trail systems, so that users move from one place to another, as opposed to “out and back.” Plan trail systems for four season use.

Signage: Provide and maintain dependable and accurate signs at roadheads, trailheads, road and trail junctions, lakes, and other points of interest. Provide food storage at roadheads, trailheads, and stock staging areas. Provide and maintain bulletin boards and/or kiosks that provide information on backpacking, hiking, biking, boating, fishing, hunting, and horseback riding; trail and permit regulations; safety rules; trail etiquette; history; and maps of the area.

Affected Environment

The Monument offers a rich and varied range of recreation, interpretation, and education opportunities, much of which existed prior to its designation. Changes in some uses, most notably the exclusion of off-highway vehicles and snowmobiles on trails, occurred as a result of the proclamation (Clinton 2000) that established the Monument. As of December 31, 2000, the use of motorized vehicles was restricted to designated roads, and the use of non-motorized mechanized vehicles (mountain bikes) was restricted to designated roads and trails. Trails offer hiking, backpacking, horseback riding, and mountain biking. In the winter, high elevations accommodate cross-country skiing and snowshoeing. Snowmobiles and off-highway vehicles (OHVs) are used on designated roads.

Within the Monument, 196 miles of system trails, including 12 miles of the Summit National Recreation Trail, are available for trail users. Twelve developed trailheads offer parking, information, and restrooms; 10 other trailheads only have parking for trail users. Two pack stations provide outfitter-guide services.

Some trail facilities are located within the current administrative boundaries of giant sequoia groves. Two interpretive trails (Indian Basin Trail and Trail of 100 Giants), about 23 miles of trail, and seven trailheads (Chicago Stump, Boole Tree, Cherry Gap, Evans, Little Boulder, Freeman Creek, and Needles) are located in groves.

Trails within the Kings River Special Management Area and designated roads in the rest of the Monument offer OHV riding experiences. A total of approximately 265 miles of roads are designated for OHV use in the northern portion of the Monument, including about 3.8 miles of motorcycle routes, 25 miles of challenging 4-wheel-drive roads that are also available for motorcycles and all-terrain vehicles, and high-clearance unpaved roads. The southern portion has OHV recreation opportunities that offer approximately 250 miles of high-clearance unpaved, designated roads.

Northern Portion

The Hume Lake Ranger District forms the northern portion of the Monument. In the Stony Creek area, trail activities include hiking and horseback riding. A trailhead to the Jennie Lakes Wilderness is adjacent to Upper Stony Creek Campground. A lakeside trail accessible to persons with disabilities is located at Hume Lake, and Grizzly Falls Picnic Area has a short interpretive trail.

About 24,000 acres of the Kings River Special Management Area are located within the northern portion of the Monument, adjacent to the Kings River. This special management area was created by Public Law 100-150 in 1987, which permits OHV use on trails to the same extent and in the same location as was permitted before enactment. This statute takes precedence over the presidential

proclamation (Clinton 2000) that created the Monument, which prohibits OHVs from driving off of designated roads. Therefore, within that portion of the special management area located within the Monument, OHV use may still occur on about 3.8 miles of trails.

The National Scenic Byway Program showcases outstanding national forest scenery and increases public awareness and understanding of all national forest activities. The Kings Canyon Scenic Byway, which is 50 miles long, is the only national forest scenic byway in the Monument (and forest) and is an eligible state scenic highway. The scenic byway nomination report states that this travel corridor is internationally significant with two extraordinary features: towering giant sequoia trees and Kings Canyon.

Winter recreation activities are primarily snowmobiling, cross-country skiing, snow play, and some snowshoeing. In the northern portion of the Monument, 39 miles of marked roads are available for over-snow vehicles, 21 miles of which are groomed; and an additional 50 miles of unmarked roadbeds are open to snowmobiles. These roads offer opportunities for all levels of riding experience, from easy, groomed routes to very difficult, deep-powder routes. Existing facilities include four winter trailheads with parking; two have restrooms. Snow conditions in the Big Meadows area make it the center for winter use, with Quail Flat and Woodward as popular take-off points for both snowmobile users and skiers. In better snow years, the Cherry Gap site provides opportunities for both snowmobilers and skiers. Montecito Lake Resort, authorized under special use permit, offers 20 miles of groomed trails used exclusively by cross-country skiers. Snow play typically occurs near winter trailheads and road turnouts opened by plows.

Southern Portion

The Western Divide Ranger District forms the southern portion of the Monument. Major trail activities include hiking, mountain biking, and cross-country skiing. Snowmobiling is popular on designated roads. The Middle Fork Tule River and North Fork Middle Fork Tule River, a major

attraction with year-round flow, draws hikers, especially during the fall, winter, and spring.

Winter recreation activities are primarily snowmobiling, cross-country skiing, snow play, and some snowshoeing. The southern portion of the Monument features approximately 114 miles of primary groomed and marked roads, 68 miles of secondary groomed and marked roads, a warming hut located north of the junction of state highway 190 and the Western Divide Highway, and three trailheads. Cross-country skiing commonly occurs along the groomed snowmobile routes with some adventure trail-breaking occurring off-road. Volunteers commonly mark approximately four miles of ungroomed ski trails in the Quaking Aspen/Ponderosa area and the Parker Pass area. Snow play typically occurs wherever winter trailheads are located and road turnouts are opened by plows.

Partnerships

The Sequoia National Forest and Monument maintain numerous and diverse partnerships for the mutual benefit of the forest and its partners. The Forest Service relies heavily on all its partners, without whom the forest would not be able to function. Not all these partnerships involve money; some provide in-kind contributions--such as labor, equipment, supplies, or services--while others involve collaboration toward a mutual goal. Without partnerships, the forest would not be able to provide nearly the variety or quality of trail and motorized recreation opportunities that these partnerships enable.

Environmental Effects

Legal and Regulatory Compliance

Several authorities guide the provision of recreation opportunities. In addition, the Forest Service Manual (FSM) provides policy direction, primarily in FSM 2300 for recreation and FSM 2700 for special uses, which provides direction

for both recreation special uses and non-recreation special uses.

The primary management authorities for recreation and related resources are the Multiple Use Sustained-Yield Act of 1960 (74 Stat. 215, as amended; 16 U.S.C. 528-531), the Wilderness Act of 1964 (16 U.S.C. 1131-1136), the National Historic Preservation Act of 1966 (Pub. L. 89-665; 80 Stat. 915; 16 U.S.C. 470 et seq.); the Federal Lands Recreation Enhancement Act, Title VIII, Div. J., of the Consolidated Appropriations Act for 2005, Pub. L. 108-447; the Architectural Barriers Act of 1968, as amended (42 U.S.C. 4151 et seq.); the Rehabilitation Act of 1973, as amended, sections 504 and 508 (29 U.S.C. 794 and 794d); and Title V, section 507c of the Americans with Disabilities Act of 1990 (ADA) (42 U.S.C. 12101 et seq.). In addition, the Organic Act of 1897, as amended (FSM 1021.11a), instructs the Secretary of Agriculture to preserve and to regulate occupancy and use of the national forests (16 U.S.C. 473-478, 479-482, 551); prohibitions on the use of national forest lands are contained in 36 CFR 261 (FSM 1023.4).

Numerous statutory authorities govern the issuance and administration of special use authorizations on National Forest System lands. Some of those laws are the Organic Administration Act of 1897 (16 U.S.C. 477-482, 551); the Wilderness Act of 1964 (16 U.S.C. 1131-1136); the Land and Water Conservation Fund Act of 1964, as amended (16 U.S.C. 4601-6a(c)); the National Forest Roads and Trails Act of 1964 (16 U.S.C. 532-38); Title V of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1761-1771); and the Alaska National Interest Lands Conservation Act of 1980 (16 U.S.C. 3210). Special use regulations are in 36 CFR 251.

A number of changes to Forest Plan standards and guidelines are proposed for the action alternatives (B, C, D, E, F) (see table in this section). A number of Forest Plan standards and guidelines are proposed to be deleted; some of them are not needed, because they are a matter of law, regulation, or policy, and some of them conflict with current national policy or the proclamation (Clinton 2000). Some of the actions noted in

particular Forest Plan standards and guidelines have been completed, and a need for the standard no longer exists. Some of the standards are time sensitive, and the time frame to which they apply has long passed.

Many of the changes proposed for the action alternatives (B, C, D, F) are because the information included as standards and guidelines in the Forest Plan would be more appropriate as strategies to guide future actions or as general guidance, rather than as requirements that must be complied with, per current Forest Plan direction.

Alternative E includes the trail plan considerations discussed in the MSA (pp. 102-104). One concern was the imbalance of 4-wheel drive trails compared to trails available to other users. Opportunities to develop more 4-wheel drive trails were to be analyzed in the trail plan, in order to create a better balance among all users. As the proclamation (Clinton 2000) restricts the use of motorized vehicles to designated roads only and 4-wheel drive trails are not allowed, this MSA item is no longer relevant in the Monument.

Another MSA concern (pp. 102-103) was that the forest not take credit for the amount of trails closed when shifting from open riding areas to the use of designated roads and trails only. In the trail plan, “compensation credit” was to be assigned, as trails or trail sections are closed.

“Compensation credit” represents the net benefit or value gained from the closure. One action can provide credit for another action. The credits can be held in check until needed. The banking of credits, in and of itself, does not drive the Sequoia National Forest to seek additional opportunities. The goal is to keep track of gains and losses.

By the end of 2000, all motorized trail opportunities were eliminated in the Monument, per the proclamation (Clinton 2000), and motorized vehicles are allowed on designated roads only (except in the Kings River Special Management Area). Non-motorized mechanized vehicles (mountain bikes) are allowed only on designated roads and trails in the Monument. This MSA item is no longer relevant in the Monument.

Other MSA concerns (pp. 103-104) were that trail users cooperate and be involved in the development of the trail plan and in site specific trail projects and for long term cooperation among various user groups in identifying trail uses and opportunities, locating OHV routes in some areas and hiking and equestrian trails in others. The Travel Management Rule requires collaboration, and public involvement is part of the project planning process; these requirements address the MSA concern, and no additional direction is needed. The proclamation (Clinton 2000) requires a transportation plan, dealing with both roads and trails; this transportation plan is expected to take the place of a trail plan for Alternative E, as well as all of the other action alternatives. No site specific decisions will be made in the transportation plan.

Alternative E also includes an item from the MSA (p. 107), which says that minor changes to ROS class boundaries could occur in other planning documents. This item would not be included as a standard and guideline for Alternatives B, C, D, E, or F, because the ability exists to make changes to the Forest Plan through “spot” plan amendments in project level environmental analysis decisions; no standard or guideline is needed. Another item on page 107 of the MSA refers to a table (average annual outputs and costs) in the Forest Plan to add, “References to trail mileage such as: miles open to OHV use, miles closed to OHV use, miles with seasonal closures, miles to be constructed/

reconstructed/relocated are estimates. Final mileage shall be determined in the Trail Plan being developed by the Forest.” OHV trails are not allowed in the Monument, per the proclamation (Clinton 2000).

Changes to the recreation opportunity spectrum (ROS) classes assigned in the Forest Plan are proposed for most alternatives (B, C, D, F). Areas classified as semi-primitive motorized (SPM) (39,573 acres) would mostly be reclassified, except in the Kings River Special Management Area (KRSMA) (10,049 acres of SPM). Because the proclamation (Clinton 2000) restricts motorized vehicles, including snowmobiles, to designated roads only, no purpose is served by utilizing the SPM class. The law that established KRSMA allows motorized use on trails to the same extent and in the same location as was permitted before enactment, which takes precedence over the proclamation (Clinton 2000) restriction; consequently, the current SPM designation in KRSMA would remain. (See the recreation report or Appendix A of the final EIS for maps showing the proposed ROS changes.)

Standards and guidelines, such as those dealing with wilderness, wild and scenic rivers, OHVs, and uses/areas outside the Monument, that are not mentioned in the following tables are not addressed in the Monument plan and are deferred to Forest Plan revision.

Table 1 New Recreation Standards and Guidelines

Forest Plan Category	Standard/Guideline	Proposal/Rationale
Non-motorized (e.g., horses, hikers—non-mechanized)	Cross-country travel may be restricted to prevent resource damage. (MSA p. 107)	This is from the MSA and would apply Monument-wide.

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Table 2 Revised Standards and Guidelines

Forest Plan Category	Standard/Guideline	Proposal/Rationale
Wheeled off-highway vehicles (OHVs) (including mountain bikes); winter snow dispersed recreation	<p>For Alternatives B, D, E, F: Motorized vehicles are allowed on designated roads only, per the Motor Vehicle Use Map (MVUM). Non-motorized mechanized vehicles (mountain bikes) are allowed only on designated roads and trails. Motorized over snow vehicles are allowed on designated roads only.</p> <p>For Alternative C: Motorized vehicles are allowed on designated roads only, per the Motor Vehicle Use Map (MVUM). Non-motorized mechanized vehicles (mountain bikes) are allowed only on designated roads.</p> <p>(See LRMP pp. 4-18, 4-19, 4-20 for original wording.)</p>	This is changed from LRMP pp. 4-18, 4-19, and 4-20, but is the same as current direction, as required by the proclamation (Clinton 2000). In Alternative C, public use of motorized over snow vehicles is not allowed. In Alternative D, only paved roads would be designated for public use by motorized over snow vehicles.

Table 3 Forest Plan Standards and Guidelines to be Changed to General Guidance

Forest Plan Category	Standard/Guideline	Proposal/Rationale
Wheeled off-highway vehicles (OHVs) (including mountain bikes)	Study use and develop monitoring plan to identify and resolve conflicts between mountain bikes and other users. (LRMP p. 4-18)	This is useful guidance when conflicts arise.
Winter snow dispersed recreation	Explore development of commercial opportunities such as overnight/hut system for winter activities. (LRMP p. 4-20)	Incorporate in strategies dealing with commercial development.
Non-motorized (e.g., horses, hikers–non-mechanized)	Establish and maintain public pastures to enhance overnight camping opportunities. (LRMP p. 4-20)	This may be useful guidance for some locations, depending on use and demand.
Trails (non-motorized)	Develop and maintain trail/transportation system that emphasizes loop trails. (LRMP p. 4-24)	This is useful guidance to enhance visitor experience by not having to travel over the same route both out and back.
Trails (non-motorized)	Enhance present opportunities by emphasizing management actions which will link campground and other sites to existing trails, tie trails together to create loops and multi-day	This information would be useful to help guide trail development, but need not be required.

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Forest Plan Category	Standard/Guideline	Proposal/Rationale
	opportunities, and resolve user conflicts (through designation or design to serve the needs of different trail users). Accessing new (not currently accessed) areas will be lower in priority than the above actions. (LRMP p. 4-24)	
Trails (non-motorized)	Implement mitigation measures in all projects posing an impact on the long-term forest trail system. Measures will include such items as signing, protection, or scenery values, rehabilitation of trails following project completion and/or relocation of trails around areas where impacts dictate. Timing will be such that user inconvenience is minimized. (LRMP p. 4-24)	This information would be useful to help guide trail management, but need not be required. (The wording shown is slightly changed from LRMP p. 4-24.)
Trails (non-motorized)	Create and/or maintain a vegetative buffer strip along trails to reduce impacts on wildlife. (MSA p. 106)	This applies to management area CF5 in Alternative E and would apply Monument-wide for Alternatives B, C, D, F; would be more appropriate as guidance, rather than a requirement, as a vegetative buffer strip may not always be possible.

Table 4 Deleted Forest Plan Standards and Guidelines

Forest Plan Category	Standard/Guideline	Rationale
General	Projects will be started only after following and completing the NEPA requirements. (LRMP p. 4-16)	Not needed; matter of law/regulation/policy.
General	Contact public land agencies to coordinate management activities. (LRMP p. 4-16)	Not needed; matter of law/regulation/policy.
General	Contact will be made with organizations or groups where proposed actions could affect the management of private lands so that actions can be coordinated and mitigation provided if appropriate. (LRMP p. 4-16)	Not needed; matter of law/regulation/policy.

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Forest Plan Category	Standard/Guideline	Rationale
General developed recreation sites	Establish system trails which provide for access between developed facilities and water/ streamside. (LRMP pp. 4-54, 4-57, 4-59)	This appears in management areas BO2, OW2, and is similar in MC2. This is a matter of policy to direct traffic and concentrate pedestrian use where it would most naturally occur and best be accommodated, rather than allowing a proliferation of user created trails.
General developed recreation sites	Develop barrier free interpretive trails with emphasis at Indian Basin near Princess campground (Hume Lake District) and Redwood Campground (Hot Springs District) during the first decade. (LRMP p. 4-18)	Completed.
Dispersed recreation management	Develop opportunities including trails which increase public enjoyment and benefits. (LRMP p. 4-88)	This appears in management area CF7, which is superseded by the Sierra Nevada Forest Plan Amendment (2001) and is inconsistent with the proclamation (Clinton 2000).
Wheeled off-highway vehicles (OHVs) (including mountain bikes)	OHVs may be used on designated routes on the Sequoia National Forest except where closed by law (i.e. wilderness and Pacific Crest Trail) or by Forest Supervisor order to prevent: a) Resource damage (e.g. soil compaction, vegetation damage, wildlife disturbance, fire; b) Facility damage (e.g. roads, trails, signs, fences); and c) User conflicts (e.g. motorized and non-motorized use) to maintain specific recreation opportunities/ experiences. (LRMP p. 4-18)	Superseded by the proclamation (Clinton 2000) and travel management rule and is no longer current direction. The strategy is to designate and maintain existing roads appropriate for all-terrain vehicles (ATVs), four-wheel drive vehicles, and snowmobiles, providing for user safety and minimum impact on the environment. Design and maintain all trails and trail systems, for user safety, minimum impact on the environment, and for specific uses, such as biking, foot traffic, and pack and riding stock or other non-vehicular uses.
Wheeled off-highway vehicles (OHVs) (including mountain bikes)	OHVs are legitimate uses of the national forest. The forest will increase opportunities for OHV vehicles through development of OHV trail facilities. (See LRMP pp. 4-18, 4-19 for remainder of wording.)	Superseded by the proclamation (Clinton 2000) and travel management rule and is no longer current direction in the Monument, where OHV trails are not allowed.

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Forest Plan Category	Standard/Guideline	Rationale
Wheeled off-highway vehicles (OHVs) (including mountain bikes)	Following are vehicle use zones: Zone A Closed; Zone B Restricted: Wheeled vehicle use, including OHVs, is limited to designated routes only. (See LRMP p. 4-19 for remainder of wording.)	Superseded by the proclamation (Clinton 2000) and travel management rule and is no longer current direction.
Wheeled off-highway vehicles (OHVs) (including mountain bikes)	Use location and design criteria for OHV trails that will hold down the speed of vehicles. (LRMP p. 4-19)	OHV trails are not allowed by the proclamation (Clinton 2000).
Wheeled off-highway vehicles (OHVs) (including mountain bikes)	Obtain public involvement whenever changes to the OHV management action Plan are necessary based on trail standards and guidelines. (LRMP p. 4-19)	Not needed; public involvement is required by NEPA and the travel management rule.
Wheeled off-highway vehicles (OHVs) (including mountain bikes)	Enforce state laws for noise control the use of approved spark arresters and green sticker registration as part of overall OHV administration activities. (LRMP p. 4-19)	Not needed; matter of law.
Wheeled off-highway vehicles (OHVs) (including mountain bikes)	Consistent with the Forest Plan, identify (in cooperation with the state, other agencies, and user groups) opportunities to develop segments of trail that support the concept of a statewide trail system. An objective of this system is to connect use areas and provide opportunities for long distance trail touring. (LRMP p. 4-20)	Precluded by the proclamation (Clinton 2000) restriction to motorized use on roads only.
Wheeled off-highway vehicles (OHVs) (including mountain bikes)	Forest Trail Plan: a) 4WD trails; b) open riding and compensation credit; c) trail plan involvement; d) cooperation among user groups in identifying trail uses and opportunities. (MSA pp. 102-104)	Not applicable as standards/guidelines; see narrative discussion in this section of Appendix A.
Wheeled off-highway vehicles (OHVs) (including mountain bikes)	Item f refers to wording with a trail mileage table, that numbers are estimates and final would be in trail plan. (MSA p. 107)	No longer applicable, as the proclamation (Clinton 2000) requires that 0 miles of trail are open to OHV.
Wheeled off-highway vehicles (OHVs) (including mountain bikes)	Item g says that minor ROS boundary changes could occur in other planning documents. (MSA p. 107)	Not needed; if ROS changes are needed, a spot plan amendment can be done in environmental analysis documents without this standard/guideline.

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Forest Plan Category	Standard/Guideline	Rationale
Wheeled off-highway vehicles (OHVs) (including mountain bikes)	Emphasize providing and maintaining a comprehensive network of OHV trails in Roaded Natural ROS class areas. (LRMP p. 4-43)	This appears in management area OW1; OHV trails are not allowed by the proclamation (Clinton 2000).
Wheeled off-highway vehicles (OHVs) (including mountain bikes)	Emphasize providing and maintaining a comprehensive network of OHV trails. (LRMP p. 4-46)	This appears in management area MC1; OHV trails are not allowed by the proclamation (Clinton 2000).
Wheeled off-highway vehicles (OHVs) (including mountain bikes)	Direct OHV use to areas away from concentrations of people (e.g., campgrounds and other heavily used areas). (LRMP pp. 4-55, 4-57, 4-60, 4-62)	This appears in management areas LRMP in BO2, OW2, CF3, and is similar in MC2; the proclamation (Clinton 2000) requires that motorized vehicles be used on designated roads only.
Wheeled off-highway vehicles (OHVs) (including mountain bikes)	Enhancement of recreational opportunities will be considered in timber sale planning, where appropriate. (MSA p. 107) (This would have replaced language in LRMP p. 4-89: Provide OHV recreational opportunities when compatible with timber activities.)	This would apply to management area CF7, which is superseded by the Sierra Nevada Forest Plan Amendment (2001) and is inconsistent with the proclamation (Clinton 2000).
Winter snow dispersed recreation	Manage over snow vehicles and cross-country ski opportunities recognizing the need for segregating conflicting uses. (LRMP p. 4-20)	The proclamation (Clinton 2000) requires that motorized vehicles, including over snow vehicles, be used on designated roads only.
Winter snow dispersed recreation	Undertake planning effort to identify the specifics of winter recreation activities including motorized and non-motorized uses. (LRMP p. 4-20)	The proclamation (Clinton 2000) requires that motorized vehicles be used on designated roads only. For non-motorized uses, future trail development to be guided by recreation need and resource protection needs, to be addressed in site specific environmental analysis.
Non-motorized (e.g., horses, hikers—non-mechanized)	Keep open the entire planning area. (LRMP p. 4-20)	Not needed; future trail development to be guided by recreation need and resource protection needs, to be addressed in site specific environmental analysis.
Trails (non-motorized)	Allow changes and increases to the existing trail system on the forest (new trail construction). Project specific EAs will be used to determine if some new trails need to be constructed in	Not needed; policy.

Transportation—Trails and Motorized Recreation Report

Forest Plan Category	Standard/Guideline	Rationale
	popular areas; to possibly replace trails causing resource and facility damage and/or receiving low use (these types of trails will be abandoned); to prevent user conflicts; and/or to meet other needs. (LRMP p. 4-23, 4-24)	
Trails (non-motorized)	Maintain, relocate, or reconstruct 50 percent of the trail system during the first decade. Emphasize preventing resource damage, including signs to facilitate use. (LRMP p. 4-24)	Time frame has passed. Managing resource damage is addressed by policy.
Trails (non-motorized)	Maintain trails consistent with ROS concepts at levels determined by the trail system analysis procedures, with priority given to dispersing users and preventing further deterioration of the resources. (LRMP p. 4-24)	Not needed; policy.
Trails (non-motorized)	Relocate system trails out of meadows where unacceptable damage is occurring. (LRMP p. 4-24)	Not needed; covered by Sierra Nevada Forest Plan Amendment (2001).
Trails (non-motorized)	Maintain and develop trails to meet user needs and protect resource values. (LRMP pp. 4-24, 4-43, 4-46, 4-51, 4-54, 4-57, 4-59, 4-62, 4-66, 4-69, 4-74, 4-77, 4-79, 4-81, 4-86)	This appears (in some cases the wording is slightly different) on p. 4-24 and in management areas OW1, MC1, CF1, BO2, OW2, MC2, CF3, OW5, MC5, CF5; BO6, OW6, MC6, and CF6, which are superseded by the Sierra Nevada Forest Plan Amendment (2001); not needed; policy.
Trails (non-motorized)	Retain and maintain needed trails. Allow development of new trails where compatible with timber management activities. (LRMP p. 4-88)	This appears in management area CF7, which is superseded by the Sierra Nevada Forest Plan Amendment (2001) and is inconsistent with the proclamation (Clinton 2000).
Trails (non-motorized)	Remove trails from meadows, wherever necessary to protect meadow resources. (Management area CF6) (MSA p. 106)	Superseded by the Sierra Nevada Forest Plan Amendment (2001).

Assumptions and Methodology

The analysis of effects is based on how well the alternatives would meet future recreation demand and protect the objects of interest (qualitative unit of measure). Included within that analysis for each alternative is an assessment of the relative extent of road and trail opportunities. Rather than identifying specific road and trail mileages, this programmatic level analysis compares possible/probable/likely recreation opportunities allowed by each alternative, with specific numbers deferred to site-specific analysis when projects are proposed in the future.

The alternatives for managing recreation resources in the Monument are designed to follow the intent and spirit of the Clinton proclamation (2000). Because recreation opportunities exist to serve people who have individual desires and needs, no one solution can adequately serve everyone; the “average” or “typical” recreationist does not exist (NARRP 2009), so that maintaining a spectrum of diverse recreation opportunities is important (Cordell 1999). Furthermore, people’s recreation needs and desires change over time, in response to changing technology, changing societal lifestyles and demographic trends, and changing recreation activities (Cordell 1999, Sheffield 2005, USDA Forest Service 2006a). How those desires will change in the future is unknown at this time. Predicting the future is uncertain, because people are unpredictable; what is popular and in demand today may change several times through future years. Consequently, this plan strives to be flexible in order to accommodate future recreation demand while still protecting the objects of interest (sustainable recreation).

A recreation demand analysis was prepared for the Monument for use in this planning process and is included as Appendix D; the surveys and references cited are noted in that appendix. Useful information includes lifestyle, demographic, and economic trends, all of which can affect how or if people recreate, as well as where and when (Cordell 1999, Sheffield 2005, USDA Forest Service 2006a); race, ethnicity, and gender also

affect recreation participation (Cordell 1999). Recreation activity and participation trends are examined. Studies at various scales, covering the nation, California, or portions of the state, are reviewed for their applicability to the Monument. Some survey information is specific to the Sequoia National Forest, as a whole, and others provide insight to particular aspects of the Monument, such as visitor information. No one information source provides recreation participation information for the entire Monument. Consequently, information must be extrapolated from these other sources and applied to the Monument; the results are inherently uncertain.

The various surveys cited provide a snapshot in time. The results are not directly comparable, because the surveys were conducted at different times, different sampling techniques were used, and different questions were asked. Yet, even though the surveys yield different results, they do provide insight to help determine future needs for recreation opportunities in the Monument. Despite what the science indicates, predicting the future is uncertain.

The analysis of effects uses the following assumptions, drawn from the recreation demand analysis (see Appendix D or the summary in the recreation affected environment section in Chapter 3).

- Recreation demand will increase in the future.
 - The state’s population is growing rapidly, becoming more culturally and racially diverse, and aging, which will affect outdoor recreation more than anything else (Cordell 1999, Sheffield 2005).
 - Families with children, youth, and seniors are large markets for outdoor recreation and will grow (Sheffield 2005, USDA Forest Service 2006a, 2008c).
 - This area of the Sierra Nevada will experience the largest population growth in nearby urban areas, particularly Bakersfield and Fresno, during the next few decades (Duane 1996).

- Even if outdoor recreation participation rates are static or decline, the sheer numbers of people participating will increase, due to the increase in population (Sheffield 2005).
- People with lower income rely more on public recreation facilities, and the number of people at the lower end of the income scale is increasing disproportionately as the state's population grows (California State Parks 2009).
- High gasoline costs may have negative or positive effects on Monument visitation; some people may visit as a closer-to-home travel option than what they would normally choose, while others may choose not to visit or visit less often. Gas prices also affect the activities that people choose (Cordell et al. 2009b).
- Although people are not driving more miles, overall, the average time spent in transit has increased, indicating an increase in congestion (Cordell et al. 2009b).
- The public is developing higher expectations for quality and service; visitors will be interested in a diversity of conveniences/amenities (APPL 2004, Hill et al. 2009, Sheffield 2005).
- With an increase in the diversity of users comes an increase in the diversity of recreation experiences they desire, both in activities and types of facilities desired (California State Parks 2002, Cordell 1999, Sheffield 2005).
- The following trail-related and motorized recreation activities are expected to be primary in the next 10 years for the Giant Sequoia National Monument (not in priority order): hiking, viewing/photographing natural features/wildlife, driving for pleasure/sightseeing/driving through natural scenery, snowmobiling, biking, horseback riding, rock climbing, and walking (California State Parks 1998, 2002, 2003, 2009, Cordell 1999, 2004, Cordell et al. 2004, 2009b, 2009c, Kocis et al. 2004, Sheffield 2005, 2008, USDA Forest Service 2006a).

Although the Clinton proclamation (2000) limits the use of motorized vehicles, including snowmobiles, to designated roads and the use of non-motorized mechanized vehicles (mountain bikes) to designated roads and trails, persons with disabilities are exempted from these limitations. However, this exemption does not mean that persons with disabilities are allowed to travel whenever or wherever they desire with whatever mode of transportation they desire. Persons with disabilities are not allowed to access areas that are not otherwise available to the public; for example, a road closed to public use would not be available for use by a person with a disability. A person with a disability would be able to use a wheelchair, either mechanical or electric, on roads or trails that are open to the public. Using an off-highway vehicle or all-terrain vehicle off of designated roads would not be allowed. A wheelchair is defined as a device that is designed solely for use by a mobility-impaired individual for locomotion that is suitable for use in an indoor pedestrian area (Americans with Disabilities Act 1990). A device powered by an internal combustion engine (such as an ATV or OHV) would not fit that definition.

Scientific Advisory Board (SAB) Advisories

One advisory issued by the SAB continues to apply to trail use in the Monument.

XVI. Equestrian—Shall the Forest Service continue to allow equestrian recreational use?

This Advisory is reflected in all of the alternatives, as they all allow recreational stock use of the Monument. Social conflicts and resource effects that arise during plan implementation will be dealt with on a site-specific basis. A standard and guideline is included in the management plan which says that cross-country travel by non-mechanized users (e.g., horses, hikers) may be restricted to prevent resource damage.

Ecological Restoration and Trails and Motorized Recreation

Ecological restoration and trails and motorized recreation are linked through the concept of sustainable recreation. Providing for the long-term

sustainability of National Forest System lands and resources is essential to maintaining the quality of the recreation experience for all users. Monument management needs to provide for protection of resources, through consistency with protecting the objects of interest, restoration, and developing stewardship, so that people care about the land and its resources. All project planning must consider resource sustainability. Potential environmental effects need to be minimized and mitigated. Site restoration is needed for already affected sites.

Alternative A, the Baseline

Trails and motorized recreation opportunities that are currently available and occurring are described in Chapter 3, Transportation System. The effects resulting from these uses will continue to occur, such as soil compaction and erosion; threats to plants, wildlife species, riparian areas, and water quality; littering; sanitation issues; the potential for wildfire starts from vehicle exhaust systems; damage to cultural resources; and the spread of undesirable plants. Effects are particularly heightened in areas that are overused or abused and by limited resources available for maintenance. Social effects also occur, due to overcrowding and user conflicts between users who have different expectations than other users for their recreation experiences.

The effects from existing activities represent a baseline and are carried forward through the range of alternatives. These activities have been approved in prior environmental analyses, including the existing forest plan. The programmatic effects described for each of the other alternatives include the effects of ongoing activities.

Indirect Effects

During the public involvement process for this Monument Plan, the public⁽¹⁾ helped to develop and refine a decision framework using the Multi-Criteria Decision Support (MCDS) model (for more information on MCDS, see the

1. People involved in this process were people who are interested in the Monument; they were not selected through a scientific sampling process that would yield statistically valid results through analysis.

socioeconomic affected environment section in Chapter 3 of the final EIS). A portion of that MCDS framework addressed recreation in “Increase Enjoyment of the Monument,” which includes: enjoy the objects of interest; promotes diversity of users; promotes diversity of uses; provides access; connects people to others and across generations; and connects people to the land (places).

The public also emphasized the following items (submitted during scoping): day use; camping; tourism; concessionaires and private resorts; roads; trails; signage; parking and toilets; permittees, organizational camps, and private communities in and adjacent to the Monument; public outreach programs; and education programs. (See the recreation affected environment section in Chapter 3 or the recreation demand analysis in Appendix D of the final EIS for more information on these topics.)

Within the context of how well the alternatives are expected to meet future recreation demand and protect the objects of interest, the analysis of effects addresses both this portion of the MCDS framework and these items that the public identified as important to them (in addition to information summarized from the recreation demand analysis). The analysis appears under the following headings and subheadings:

- Increasing Numbers of Recreationists
 - Protects Resources
- Enjoy the Objects of Interest
- Promotes Diversity of Users
- Promotes Diversity of Uses
 - Concessionaires and Private Resorts
- Provides Access
 - Roads
 - Trails
 - Signage
 - Parking and Toilets
- Connects People to Others and Across Generations

- Permittees
- Public Outreach Programs (Partnerships)
- Connects People to the Land (Places)
 - Effects on Trails and Motorized Recreation from Management Activities

Increasing Numbers of Recreationists

In the next 25 years, the population in the Sequoia’s market zone is projected to increase 38 percent, and visitation is predicted to increase at a rate similar to the population rate increase (USDA Forest Service 2006a, 2008a, 2008c). Over the years 2005–2025, a 37 percent increase in visitation could be expected in the Monument. This increase will place more demands on the Monument’s resources. All of the alternatives have the ability to accommodate increasing numbers of recreationists, although where, how much, and what type of development is allowed varies between alternatives; the differences are explored throughout the effects on recreation section in this chapter.

With more visitation comes an increased potential for crowding. Crowding can affect how and when people visit an area (Cordell 1999). Although some people do not mind crowds, many others find that crowding adversely affects their recreation experiences. Consequently, they may avoid visiting areas when they perceive the areas will be more crowded and shift their visits to other areas, other times of the week, or seasons of the year. If people perceive that areas are always crowded, they may simply avoid visiting them altogether (California State Parks 1998, 2002, 2003). All of the alternatives have the ability to provide for additional recreation opportunities, with Alternatives C and D being the most restrictive for new recreation development.

Protects Resources

Conservation and resource stewardship will be increasingly important for sustainable recreation, especially for more environmentally sensitive areas. Unmanaged recreation has the potential to damage forest resources when careless or uninformed visitors do not follow regulations for

responsible use. Effective interpretive techniques and public information services, including multilingual materials, can help to inform and motivate the public, both visitors and non-visitors, into becoming stewards of the forest (California State Parks 2002, NARRP 2009, USDA Forest Service 2006a, 2008a, 2008c).

The alternatives are all designed to minimize the effect of new trail development on the surrounding ecosystem, including the objects of interest (sustainable recreation). The standards and guidelines included in Appendix A are designed to minimize that effect. During site-specific project planning in the future, mitigations (including best management practices) would be identified for project implementation. Examples of mitigation would include actions such as avoiding meadows and riparian areas or avoiding cultural resources. Restoration for already affected sites is expected to occur in all of the alternatives. Involving the public in site restoration activities provides an opportunity to teach stewardship to them so that they will care about the environment and its responsible use (NARRP 2009).

Volunteerism is a form of recreation for some people (APPL 2004, Cordell 1999, Sheffield 2008). Trail restoration and trail maintenance are examples of activities pursued by the citizen steward. All of the alternatives would offer opportunities for this type of activity, whether people are experienced volunteers or are just learning about stewardship.

Enjoy the Objects of Interest

Although the Clinton proclamation (2000) requires that the Forest Service protect the objects of interest, people have a strong desire to enjoy those objects. People want to enjoy the Monument, including the objects of interest that make the Monument the special place that it is. People need to have opportunities to enjoy the objects, whether on-site or virtually. Part of that enjoyment means knowing about the objects, where they are, their history, and their characteristics. All of the alternatives have the ability to provide for some enjoyment off site, through methods such as interpretive programs and virtual tours on the internet, for example.

The ability for visitors to enjoy the objects of interest on-site varies by alternative, as the type of access and activities allowed vary. As no single kind of access to the objects of interest will satisfy all users, individuals will be better served or lesser served by whichever alternatives cater to their particular interests. Site-specific analysis may further limit what kind of development and/or activities would be allowed. Alternatives B and F would have the greatest ability to provide for the most diverse types of access and activities to enable visitors to enjoy the objects of interest. Alternatives A and E are somewhat more limited in what can occur where, according to the forest plan management emphasis area direction. Alternative C would allow for the enjoyment of the objects in certain ways, but, for example, if people want to mountain bike on a trail to view the objects, their ability to do their desired activity or use their desired mode of transportation would be restricted under Alternative C. Alternative D would allow more road access than Alternative C. But in Alternative D, visitors would find different restrictions, as, for example, a mountain bike might no longer be able to be used on a particular trail (if it is not designated) that accesses their favorite object.

Promotes Diversity of Users

The diversity of recreationists will continue to increase as the American population becomes more diverse, and international visitors will increase (Cordell 1999). The Monument already sees a substantial number of international visitors (USDA Forest Service 2008a), and they are expected to increase in the future. The greatest growth is projected to be in Hispanic and Asian populations (California State Parks 2009, Sheffield 2005), and their use is projected to increase dramatically in the next 25 years. Use of the Monument by culturally diverse user groups, especially Hispanics and Asians, is prevalent and growing (USDA Forest Service 2006a, 2008a, 2008b, 2008c).

Multinational visitors provide a challenge in effective communications (Cordell 1999), and many recent immigrants have limited outdoor recreation experience on public lands (Sheffield 2005). Interpretation methods, including

multilingual materials, designed to reach these culturally diverse users need to communicate important resource issues, solicit commitment to conservation, and encourage appropriate behaviors (APPL 2004, California State Parks 2009, USDA Forest Service 2008a). In many cases, developing products and services to reach out into the communities where underrepresented groups live, in order to raise their awareness of opportunities available (Crano et al. n.d.) or to bring the resource to them, may be needed. All of the alternatives have the ability to provide needed information.

People expect instantaneous information, thanks to the internet, so that they can customize their recreation experiences, as well as have virtual experiences (APPL 2004, Cordell 1999, Sheffield 2005, USDA Forest Service 2008a). All of the alternatives have the ability to accommodate the need for information and to provide virtual experiences.

Older adults and baby boomers want more amenities and improved access, while younger adults want more immediate, lively information and access, drawn by opportunities for excitement (Sheffield 2005). Not all older people will increase their recreation participation, however, as health concerns and mobility problems will affect their ability and desire to participate. Alternative D, with its prohibition on new road development, would have the least ability to accommodate future recreation development to serve people with limited mobility, including many persons with disabilities. In addition, roads not needed to provide access for popular dispersed recreation areas, existing recreation development, or forest management are expected to be decommissioned under Alternative D. Alternative C may also affect people with limited mobility, but in a different way. In Alternative C, if roads that are maintained for high clearance vehicles are not needed for forest management or are not needed to serve existing or proposed recreation development, they are expected to be decommissioned, thereby affecting the access available to some areas. Some decommissioned roads may be converted to trails in all of the alternatives, providing for a different type of access to some areas. Because the

potential for decommissioning roads is greatest in Alternative C (and somewhat less in Alternative D), the potential for conversion to trails is also greatest in Alternative C (and somewhat less in Alternative D).

Promotes Diversity of Uses

With an increase in the diversity of users comes an increase in the diversity of recreation experiences they desire, both in activities and types of facilities desired (California State Parks 2002, Cordell 1999, Sheffield 2005). The variety of activities is expected to continue to grow (Cordell 1999, Sheffield 2005). Some will be determined to be appropriate for the Monument, and some will not. As more recreation uses occur, they must compete with existing uses for a limited land base (Cordell 1999, NARRP 2009, Sheffield 2005).

People have a continuing desire to get away from the stress of everyday life and to enjoy the outdoors (California State Parks 1998, 2002, 2003, 2009). Being able to relax is the most important motivation for outdoor recreation participation for most people. Viewing scenic beauty is important to people's enjoyment of their favorite activities (California State Parks 1998, 2002, 2003, 2009, Cordell 1999, Hill et al. 2009, Sheffield 2005, 2008). With the Monument's spectacular scenery, viewing it is very popular, resulting in a higher percentage of visitors participating in this activity on the forest than the regional average. Escape from the heat is a primary motivation of many visitors to the Monument, so that higher elevations are popular (USDA Forest Service 2006a, 2008a, 2008b, 2008c). All of the alternatives would serve the desire to view scenery, including the ability to create and/or maintain vista points with overlooks. When vegetation management improves scenery and scenic vistas are created and maintained, the quality of the recreation experience would be improved.

Concessionaires and Private Resorts

Outfitter-guides would continue to have opportunities to serve visitors in all alternatives, although limitations may be placed on where they can provide services and what kinds of activities they can offer. For example, mountain bike rentals

or guided trips would be limited in Alternative C, due to the prohibition of mountain bikes on trails. Alternative D is expected to have fewer trails designated for mountain bike use than Alternatives A, B, E, and F, which could also result in fewer opportunities for mountain bike outfitter-guides.

Provides Access

Access is needed for people to enjoy the Monument. The sheer existence of roads and trails is not enough for people to enjoy the Monument, as permission to use the access routes is necessary. Roads need to be designated for motorized vehicle use (including over-snow vehicles), and roads and trails need to be designated for non-motorized mechanized vehicle use (mountain bikes). People cannot play if they cannot get to their destination. For some people, the use of these access routes is their primary form of recreation (e.g., sightseeing, mountain biking, hiking, horseback riding, OHV use), with other facilities only being ancillary to their enjoyment (e.g., being able to camp after a day on the trail). For other people, the access only provides a means to get from one destination to another. The following sections describe the effects on road and trail access.

Although access may be allowed on designated routes, how well those routes are maintained would affect users' ability to use and enjoy the routes. Partnerships and funding sources to provide for road and trail maintenance would be important for all alternatives.

Roads

The alternatives vary in their treatment of roads and what kind of uses would be allowed. Alternatives C and D are the most restrictive, and visitors would find that they may not be able to use all of the roads they want with the type of vehicle they desire. Off-highway vehicles (OHVs) and over-snow vehicles (OSVs) would be allowed on designated roads in Alternatives A, B, E, and F. In Alternatives C and D, only street licensed vehicles would be allowed. Mountain bikes (non-motorized mechanized vehicles) would be allowed on designated roads (and trails) in Alternatives A, B, E, and F. Bicycles, including mountain bikes, would be allowed on designated roads only (no

trails) in Alternative C. In Alternative D, not all roads (and trails) are expected to be designated for mountain bikes. In Alternative C, OSVs would only be allowed to access private property, for administrative use, or for emergencies. In Alternative D, OSVs would be allowed on paved roads only. OHV loop opportunities may be provided on roads in Alternatives A, B, E, and F. No new roads would be constructed in Alternative D, but some new parking facilities may be developed to serve any new walk-in campgrounds and walk-in picnic areas.

Some roads are expected to be decommissioned in all alternatives. Road decommissioning is emphasized in Alternative C and in Alternative D to a lesser extent. Dispersed camping along a roadside or at the end of roads is not included in Alternative C, resulting in less need for lower level maintenance roads (objective maintenance levels 1 and 2) and a greater potential for decommissioning, which is expected to result in decreased access for hunters. About 69 percent of the Monument road system is classified as objective maintenance levels 1 (313 miles) and 2 (255 miles), and this road mileage represents the extreme of what could be decommissioned in Alternative C. In reality, some of these roads would be needed for management activities or to access the objects of interest, and they would not be decommissioned. Some of these roads are expected to be upgraded to accommodate the development of new recreation facilities or to allow better access to the objects of interest. In Alternative D, some roads would also be decommissioned, but the mileage is expected to be less than in Alternative C, because Alternative D would continue dispersed camping (roadside, end of the road) opportunities. In addition, some of the roads would be needed to provide access to the objects of interest or for management activities, but those road needs would be more limited than in any of the other alternatives, because of the reliance on fire as the primary management tool in Alternative D. The Monument transportation plan establishes criteria for when roads may be decommissioned; decommissioned roads may be converted to trails in any of the alternatives.

Trails

Trails for specific uses (mountain biking, hiking, stock) could be provided in Alternatives A, B, D, E, and F. Bicycles, including mountain bikes, would not be allowed on trails (designated roads only) in Alternative C. In Alternative D, not all trails (and roads) are expected to be designated for mountain bikes. Loop trails could be provided in all alternatives to a certain extent, but not for bicycling in Alternative C, and not all trails in Alternative D are expected to be designated for mountain bikes, which would limit loop trail opportunities. Mountain bikes (non-motorized mechanized vehicles) would be allowed on designated trails (and roads) in Alternatives A, B, E, and F. Trail access in Alternative C would be provided through developed trailheads, rather than some of the undeveloped trailheads that currently exist. However, since all of the undeveloped trailheads are unlikely to be developed, fewer trailheads may be available in Alternative C. Some decommissioned roads may be converted to trails in all of the alternatives. Because the potential for decommissioning roads is greatest in Alternative C (and somewhat less in Alternative D), the potential for conversion to trails is also greatest in Alternative C (and somewhat less in Alternative D). All alternatives would allow the development of trails to provide access to the objects of interest. No new trail development would occur in the future until site-specific environmental analysis is completed for a proposed project.

Signage

Access includes not only roads and trails, but also good signage, maps, and other types of visitor information, including multilingual materials, to enable people to reach, understand, and appreciate the Monument. All alternatives have the ability to address the needs for information, although the ways of providing that information may differ, such as whether or not signs are provided on-site. In Alternative D, which would allow less new development and emphasizes allowing natural processes to operate, fewer signs may be provided on-site to lessen the visual effect.

Parking and Toilets

Parking and toilets would be provided, as appropriate, in all alternatives.

Connects People to Others and Across Generations

Permittees

Existing special uses authorized by permit would continue to exist in all alternatives. No new non-recreation special uses would be allowed in Alternative D, except that some types are nondiscretionary, meaning that the agency is required to authorize some uses, such as access to private inholdings (required by the Alaska National Interest Lands Conservation Act or ANILCA).

Public Outreach Programs (Partnerships)

Historically, funding for trails and recreation facilities, such as trailheads, has not kept pace with public demand or maintenance needs. Appropriated dollars alone would not likely ever be enough to fully fund the operation and maintenance of recreation opportunities, nor to fund the construction of desired new recreation development. Consequently, the need for partnerships to help provide sustainable recreation opportunities is crucial if future recreation demand is to be met in the Monument. Partnerships may provide various kinds of assistance, such as financial resources or volunteer labor, to aid in facility development, operation and maintenance, interpretation, or developing the “citizen steward.” Although the Sequoia National Forest and Giant Sequoia National Monument currently benefit from numerous partnerships (USDA Forest Service 2004a), the need to expand those partnerships, in number, diversity, and involvement, is great. Volunteerism is also a form of recreation for some people (APPL 2004, Cordell 1999, Sheffield 2008). The alternatives are all designed to encourage partnerships, although which entities would be attracted to engage in partnerships are likely to vary by alternative.

Alternative C would be more likely to attract the kinds of partnerships that national parks attract, while people who are more interested in multiple

use management may be less likely to engage in partnerships. Alternative D would also be likely to attract some of the kinds of partnerships that national parks attract, with those entities who are more interested in allowing natural processes to operate, rather than entities that favor recreation development or multiple use management. Alternatives B and F would be likely to attract more partnerships favoring recreation development and multiple use management, and, to a lesser degree, entities who prefer natural processes. Alternatives A and E would likely attract the same kinds of partnerships as currently exist, although if efforts to develop partnerships increase, the resulting partnerships would also be likely to increase. A time element is involved for developing new partnerships, particularly with entities that do not have an existing positive relationship with the Monument. Relationships take time to cultivate; partnerships emerge from relationships.

Connects People to the Land (Places)

People have a strong connection to place. The connection to place is strengthened when a person knows that he or she can visit that special place, either in person or vicariously. All of the alternatives have the ability to provide for vicarious visits, through methods such as virtual tours on the internet, for example. The alternatives provide for a range of recreation opportunities in the Monument, from more diverse uses (Alternatives B and F) to more limited choices (Alternatives C and D), and from a wide variety of access possibilities (Alternatives B and F) to more limited forms of access (Alternatives C and D). Because a person’s connection to place is so personal, individuals may find that no matter what alternative is selected that they still cannot access their special places in the way that they want or use them for the activities they want. Or they may find that they can use all of their favorite places the way that they want to use them, when they want to use them. However, the reality for most people would probably be somewhere in the middle, that some limitation may be placed on when (season, time of day, day of the week) they can use their favorite places, how they can get there (mode of transport), or what activities they can engage in

once they are there. Alternatives B and F would have the most flexibility to accommodate the widest diversity of opportunities, with Alternatives C and D having the most restrictions, although in different ways.

Effects on Trails and Motorized Recreation from Management Activities

Visitors to the Monument might experience the sights, sounds, and traffic associated with management activities, such as prescribed fire, hand treatment, or mechanical treatment. Visitors might experience smoke and views of burned vegetation from fires (both planned and unplanned ignitions); sounds, sights, and dust from mechanical equipment; views of cut or crushed vegetation following vegetation treatment; and traffic associated with management activities. The effect on visitors' experiences from management activities would be variable. When vegetation management improves scenery, the quality of the recreation experience would be improved. Creating and maintaining scenic vistas through vegetation management would also improve the quality of the recreation experience. Some people see signs of management activity as a positive experience, while others find that sights and sounds of management activity detract from their enjoyment of their recreation experiences. The potential effects on recreation from management activities would be temporary (with varying time frames, depending on the management activity and project) for all alternatives.

Cumulative Effects

In order to understand the contribution of past actions to the cumulative effects of the proposed action and alternatives, this analysis relies on current environmental conditions that are a result, in part, of past actions. This is because existing conditions reflect the aggregate impact of all prior human actions and natural events that have affected the environment and might contribute to cumulative effects.

This cumulative effects analysis does not attempt to quantify the effects of past human actions by adding up all prior actions on an action-by-action basis. Several reasons exist for not taking this

approach. First, a catalogue and analysis of all past actions would be impractical to compile and unduly costly to obtain. Current conditions have been impacted by innumerable actions over the last century (and beyond), and trying to isolate the individual actions that continue to have residual impacts would be nearly impossible. Second, providing the details of past actions on an individual basis would not be useful to predict the cumulative effects of the proposed action or alternatives. In fact, focusing on individual actions would be less accurate than looking at existing conditions, because information is limited on the environmental impacts of individual past actions, and one cannot reasonably identify each and every action over the last century that has contributed to current conditions. Additionally, focusing on the impacts of past human actions risks ignoring the important residual effects of past natural events, which may contribute to cumulative effects just as much as human actions. By looking at current conditions, we are sure to capture all the residual effects of past human actions and natural events, regardless of which particular action or event contributed those effects. Finally, the Council on Environmental Quality issued an interpretive memorandum on June 24, 2005, regarding analysis of past actions, which states, "agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions."

The cumulative effects analysis in this EIS is also consistent with Forest Service National Environmental Policy Act (NEPA) Regulations (36 CFR 220.4 (f)) (July 24, 2008), which state, in part:

CEQ regulations do not require the consideration of the individual effects of all past actions to determine the present effects of past actions. Once the agency has identified those present effects of past actions that warrant consideration, the agency assesses the extent that the effects of the proposal for agency action or its alternatives will add to, modify, or mitigate those effects. The final analysis documents an agency assessment of the cumulative effects of the actions considered (including past, present, and reasonable foreseeable future actions)

on the affected environment. With respect to past actions, during the scoping process and subsequent preparation of the analysis, the agency must determine what information regarding past actions is useful and relevant to the required analysis of cumulative effects. Cataloging past actions and specific information about the direct and indirect effects of their design and implementation could in some contexts be useful to predict the cumulative effects of the proposal. The CEQ regulations, however, do not require agencies to catalogue or exhaustively list and analyze all individual past actions. Simply because information about past actions may be available or obtained with reasonable effort does not mean that it is relevant and necessary to inform decision making. (40 CFR 1508.7)

For these reasons, the analysis of past actions in this section is based on current environmental conditions.

Cumulative Effects Analysis for Trails and Motorized Recreation

The cumulative effects analysis for trails and motorized recreation considers the effect of the alternatives when combined with the following past, present, and foreseeable future actions and events: management decisions; road and trail maintenance; road and trail construction/reconstruction; and population growth/societal changes. These actions were selected, because they have caused or have the potential to cause changes in trail and motorized recreation opportunities. The geographic scope of the cumulative effects analysis is the Monument and the gateway communities; this scope was selected, because the recreation opportunities in the monument would be affected by what occurs in the gateway communities and vice versa. The temporal scope is 10 years and was selected because effects to recreation and public access can continue over time.

Management Decisions

Management decisions are directly responsible for maintaining the current recreation opportunities, providing new opportunities through actions

such as allowing additional authorization of outfitter-guide activities, or eliminating recreation opportunities through actions such as road or trail closure, for example. Active management, involving education, maintenance, and volunteers, would be essential for providing recreation opportunities, preventing depreciative behavior, and protecting Monument resources, including the objects of interest.

Road and Trail Maintenance

Road and trail maintenance are essential for managing recreation opportunities. While use is expected to increase, appropriated dollars have been decreasing over the past several years. Appropriated dollars alone would likely never be enough to fully fund the operation and maintenance of roads or trails. Partnerships, including volunteers, would be essential for providing high quality recreation opportunities. The cumulative effect of increasing use and decreasing maintenance could be erosion and deterioration of roads and trails; closure, due to safety concerns and deferred maintenance needs; and subsequent loss of recreation opportunity and quality of the experience.

Road and Trail Construction/Reconstruction

Road and trail construction/reconstruction would be essential for providing additional recreation opportunities to help meet future recreation demand. Appropriated dollars for constructing new recreation facilities have not been available for several years. Rather, the emphasis for available construction dollars has been on reconstruction to eliminate deferred maintenance. (Annual maintenance that is not completed, when scheduled, becomes deferred maintenance the following year.) If funding for management remains at or near recent levels, deferred maintenance would continue to increase, the condition of roads and trails would deteriorate, and funds for new development would be limited. In order to provide additional recreation opportunities in the future, partnerships will be essential to obtain funding or other resources for new development. As new trails or roads are developed, the costs for operation and maintenance would increase above existing levels. To the extent

that new trails or roads are developed in any of the alternatives (except roads in Alternative D), visitors may experience less crowding and feel crowded for fewer days.

Population Growth/Societal Changes

The projected increase in population and societal changes would affect what trails and motorized recreation opportunities are provided, including what kinds of development would occur and what activities would be allowed. What new opportunities would be accommodated in the future is unknown at this time. Any proposals for new opportunities, including new development, changes to existing trails or roads, and special uses, would undergo site specific project analysis before they could occur.

Road traffic would increase as visitation increases, and people may experience more congestion, particularly for Alternative C and, to a lesser degree, Alternative D, where available road mileage would decrease. With the limitations on OHV use, OSV use, and mountain bike use in Alternatives C and D, some recreationists would be displaced, which could increase crowding in some areas of the Sequoia National Forest outside of the Monument, or the displaced recreationists may visit other areas entirely.

Alternative C would also be likely to draw a different type of clientele than currently visit, as people who are drawn to national parks would also be likely to be drawn to the Monument, and visitation patterns at the national parks and the Monument would likely become more similar. The result could be that some current visitors may be displaced, either because perhaps the Monument no longer offers the type of recreation opportunity they desire, or because of crowds.

The need for law enforcement and resource protection efforts would be likely to increase as use patterns change and the number of visitors increases. Effects on public safety and natural resources due to increased traffic and visitation are unknown, but would be likely to increase. As visitation increases, the potential for conflicts between people and conflicts between people and natural and cultural resources also increases (Cordell 1999, NARRP 2009, Sheffield 2005).

New business opportunities could become available for outfitter-guide services, attracting new businesses to the area or promoting the expansion of existing businesses. (For additional information on tourism related businesses, see the socioeconomic section in Chapter 4 of the final EIS.) Attracting new businesses could take time. Depending on the alternative, a loss in opportunities for outfitter-guides could occur for some activities. For example, mountain bike tours on trails would not be available under Alternative C, and mountain bike tours could be limited in Alternative D, depending on which roads and trails are designated for mountain bike use. As a result, the cumulative effect is that existing outfitter-guides might change what services they offer, or they might choose to relocate to where they could provide the services they desire. If outfitter-guides who choose not to operate in the Monument currently provide other services, such as rock climbing, which could continue in any alternative, recreationists could experience a lack of those outfitter-guide services unless or until another outfitter-guide proposes to fill the void.

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