



**Giant Sequoia
National Monument
Specialist Report**

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).

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 recreation. (See Appendix A in the final environmental impact statement [FEIS].)

The Forest Plan assigned recreation opportunity spectrum (ROS) classes (semi-primitive non-motorized, semi-primitive motorized, roaded natural, and rural) to all forest lands. Capacity

guidelines are assigned for both developed recreation and dispersed recreation.

Some direction pertains to specific management area prescriptions. Direction is provided to manage vegetation in developed recreation sites to maintain or improve recreation values, by perpetuating large tree cover, for example. The priority for recreation development is to rehabilitate existing sites, expand existing sites, and develop new sites, in that order. Most of the management area prescriptions have a statement regarding opportunities for public enjoyment that list various specific activities.

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.

Existing direction from the 1988 Forest Plan and 2001 SNFPA encourage diverse public access and use of the area in a safe manner. Management direction is in place to protect communities (including those within the Monument) from wildfires and to encourage economic opportunities for gateway communities and communities within the Monument.

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.

Human Use Desired Condition

The Monument provides wide and varied public use of Monument resources and opportunities while protecting sensitive resources and the objects of interest. Recreation use throughout the year is promoted. Visitors find a rich and varied range of sustainable recreational, educational, and social opportunities enhanced by giant sequoias and the surrounding ecosystems. Consistent and easy-to-read signs and informational materials are provided. Interpretation and conservation education reflect scientifically supported scholarship and research data, conveying clear messages about natural and cultural resources and multiple use. Partnerships are established, providing people with a connection to place and promoting a sense of stewardship. The Monument provides a wide variety of visually appealing landscapes, such as oak woodland, chaparral, a variety of mixed conifer forest, and giant sequoia groves, for the public to enjoy within the places they prefer to visit.

Strategies

- Provide visitors with opportunities to recreate in a variety of settings, from primitive to highly developed areas.
- Develop and manage opportunities for public enjoyment (opportunities emphasized will depend on location).
- Provide for wide and varied public use of Monument resources and opportunities, while protecting sensitive resources and the objects of interest.
- Use the Monument recreation niche settings in accordance with current recreation management direction: Rivers and Lakes, Scenic Routes, Great Western Divide, Lloyd Meadow, Hume High Elevation, Wildlands, Front Country, and Kings River Special Management Area OHV.

- Maintain the assigned ROS classes (semi-primitive non-motorized, semi-primitive motorized, roaded natural, and rural) (see ROS maps).
- Manage for new developed recreation facilities as visitor use increases.
- Accommodate the increasing demand for more specialized and diverse recreation opportunities, in order to provide flexibility to accommodate new and changing recreation activities as they emerge in the future.
- Balance diverse users and a wide variety of uses, accommodate uses through all seasons, and minimize conflicts among recreational users.
- Maintain or create scenic vistas as necessary to meet the needs of the public and improve scenery in areas of high public concern.
- Provide for the protection of resources, ecological restoration, and the development of stewardship under applicable law and policy, so that people care about the land and its resources.
- In accordance with the Sequoia National Forest Interpretive Plan (USDA Forest Service 2008a) and the Forest Service conservation education guidance, provide opportunities for interpretation that reflect scientifically-supported scholarship and research data.
- Convey clear messages regarding natural and cultural resources and multiple use. Use multi-media interpretation and educational programs to develop stewardship of resources, to ensure their present and future protection, and to enhance public enjoyment of this unique place.
- Promote and integrate awareness of Monument history, appreciation for biological processes, education about past and current human use of the Monument, and education about the distinctive yet interrelated disruptive forces involved with the use and protection of resources.
- Emphasize diverse public access, partnerships, and place-based recreation opportunities, focusing on connection to place and the recreation settings (Monument's recreation niche).
- Establish use fees that are compatible with cost and that reduce public competition with the private sector.
- Continue to support and participate in employment and training programs for youth, older Americans, and the disadvantaged, in response to national employment and training needs and opportunities existing in forest surroundings.
- Develop partnerships to provide a spectrum of recreation experiences through a variety of providers, including the Forest Service, associations, non-government organizations, permit holders, volunteers, and other community groups.
- Support the efforts of the Giant Sequoia National Monument Association, a non-profit, public benefit organization promoting conservation, education, and recreational enjoyment of the Monument and the surrounding southern Sierra Nevada region.
- Develop partnerships to increase interpretive materials and programs that reach larger segments of the general public and to foster stewardship.
- Enhance opportunities to connect people to the land, especially those in urban areas and of diverse cultures (connect people to place).
- Work with gateway communities and communities within the Monument to help foster economic opportunities.
- Develop bilingual communication tools, including publications, information boards, and radio spots.
- Encourage communities of color, focusing on youth, to increase involvement in environmental education programs to educate and develop the citizen steward.
- Designate and develop a Children's Forest in the Monument to provide a place where youth and families can participate in and explore forest-related projects.

Objectives

1. During project planning, actively engage communities of color in the central valley of California in management planning and conservation education projects.
2. During project planning, develop partnerships for project implementation.
3. Within five years, explore the designation and development of a Children's Forest in the Monument.

The Proposal

Public use in the Monument is defined as scientific research, interpretation, and conservation education regarding natural and cultural resources, activities authorized under special use permits, recreation activities, and current commodity uses (e.g., grazing, fuelwood cutting, etc.), under applicable laws, regulations, and policies regarding their administration.

The Forest Plan provided for a mix of developed and dispersed recreation opportunities, managed according to different management area prescriptions. The Proposed Action would replace the management area prescriptions with various recreation niche settings, which would be Rivers and Lakes, Scenic Routes, Great Western Divide, Lloyd Meadow, Hume High Elevation, Wildlands, Front Country, and Kings River Special Management Area OHV (see the Affected Environment section in this report for more information on the recreation niche settings).

The increasing demand for more specialized recreation opportunities would be accommodated by the Proposed Action, and the diversity of specialized recreation is increasing. This alternative would develop and manage opportunities for public enjoyment (opportunities emphasized would depend on location). Activities are not specified here, in order to provide flexibility to accommodate new and changing recreation activities as they emerge in the future. Services for activities such as mountain biking and rock climbing are often provided by outfitters and guides.

The Forest Plan assigned recreation opportunity spectrum (ROS) classes (semi-primitive non-motorized, semi-primitive motorized, roaded natural, and rural) to all forest lands. Some changes to the semi-primitive motorized ROS class would be made, because the proclamation (Clinton 2000) restricts the use of motorized vehicles to designated roads.

Forest Plan direction for both developed and dispersed recreation includes capacity guidelines for the ROS classes. All of these guidelines would be deleted in all of the action alternatives, as capacity is more appropriately determined through site-specific analysis.

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), removing specific reference to OHVs and making the direction more general. Although the proclamation (Clinton 2000) restriction on motorized vehicle use would require a change in the original Forest Plan wording, the MSA wording would carry forward in the Proposed Action as direction or general guidance (depending on the item) for dispersed recreation and other trail activities. The areas to which they apply would change due to the elimination of management emphasis areas in the Proposed Action.

The Sequoia Monument Recreation Council (SMRC), which represented diverse recreation interests, collaborated with Forest Service staff, regarding recreation in the Monument. Through this collaborative process, the group identified what is important to them for recreation in the Monument, which is included as part of this proposal.

Increasing enjoyment of the Monument is an overarching goal. The Proposed Action would balance diverse users and a wide variety of uses, accommodate uses through all seasons, and minimize conflicts among recreational users. This proposal would provide for access. People cannot play if they cannot reach their destination and, for some, the use of access routes is itself their desired form of recreation. Road access, trail access, good signs, and permission to use the roads and trails

are all needed for people to enjoy the Monument. The Proposed Action would address connections: connection of people to place, connection of people to people, developing stewardship to foster that connection to the land, and education. The Proposed Action would provide for the protection of people. Implementation of this proposal would be practical in providing opportunities that are easy to maintain and can be funded. The Proposed Action would provide for the protection of resources, consistent with protecting the objects of interest, restoration, and developing stewardship, so that people care about the land and its resources.

Throughout the Monument planning process, collaboration has been used to better communicate with the public and elicit suggestions for how the Monument should be managed. Through many collaborative efforts, several individuals and groups identified what is important to them for recreation in the Monument. In order to satisfy the requirements of the proclamation (Clinton 2000) and to create a healthy balance for both the Monument ecosystems and recreationists, SMRC emphasized the following considerations as important in developing the Monument management plan.

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. Partner with local and statewide organizations to promote tourism.

Day Use: Provide picnic facilities in areas that would have minimal effect on surrounding ecosystems. Place facilities where a range of recreational opportunities exist (such as near rivers, ponds, climbing rocks, views, giant sequoias). Provide and maintain adequate restroom facilities. Create informational and educational kiosks on specific areas' natural and social history, objects of interest, and the need for respect and care of these areas.

Camping: Provide and maintain campgrounds that create a sense of space, safety, privacy, and immersion in the forest experience, with minimal effect on the surrounding ecosystem. Design camping spaces for small individual use, large family gatherings, and larger organizational groups. Monitor ecosystem and human effects and the safety of the recreational users and wild animals. Situate campground facilities where recreational activities can be enjoyed close at hand. Provide and maintain adequate water, restroom, food storage, and garbage disposal facilities. Provide interpretive programs that impart historic and environmental information. Develop kiosks and bulletin boards that provide information on regulations, appropriate user practices, and maps of the surrounding area. In addition, provide and maintain backcountry camping areas with toilet facilities and food storage for use in popular wilderness areas.

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.

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.

Parking and Toilets: Provide appropriate toilet and parking facilities.

Signage: Provide and maintain dependable and accurate signs at roadheads, trailheads, road and trail junctions, lakes, and other points of interest. Provide for 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.

Concessionaires and Private Resorts: Provide for, regulate, and cooperate with concessions, resorts, and private organizations that enhance the recreation experience. These providers may include summer and winter backcountry guides, stock packing outfits, commercial tours, lodges, campgrounds, restaurants, health spas, and other commercial recreation providers.

Permittees, Organizational Camps, and Private Communities in and Adjacent to the Monument: Develop cooperative programs that enhance the Monument experience, while protecting its objects, history, and health. Address the current needs of private and public interests through understanding of past and future concerns. Create cooperative management structures to encourage dialogue, transparency, and trust. Educate private interests on the needs for ecological balance and stewardship.

Public Outreach Programs: Encourage public and permittee input throughout the development and implementation of the Monument management plan. Create memoranda of understanding with outside agencies, organizations, and inholders. Develop cooperative interpretation and stewardship programs involving communities within and adjacent to the Monument. Develop partnerships with Monument advocacy groups to acquire marketing, financial, and public resources. Involve gateway communities in decision-making forums and marketing of Monument opportunities.

Education Programs: Develop programs in schools, communities, and in the Monument to promote a strong sense of public and personal ownership and responsibility for the Monument. Promote responsible use, conservation practices for environmental and human resources, fire safety, and social and environmental safety. Create awareness through the media and

Monument publications of the importance of wildland systems, the importance of human actions to wildland health and welfare, and the importance of historical perspectives to help guide us toward a balanced future.

Under the Proposed Action, scenic vistas would be maintained or created, as necessary, to meet the intent of the Scenic Routes recreation setting. The 1990 MSA recommended a number of changes to the Visual Quality Objectives, which would be considered as part of the Scenery Management System (SMS).

Like all of the action alternatives, the Proposed Action would not carry forward two proposals from the Forest Plan within the Monument: creation of downhill ski areas at Peppermint in the Western Divide Ranger District or at Mitchell-Maddox in the Hume Lake Ranger District.

The Proposed Action would provide opportunities for interpretation, according to the interpretive plan for the Sequoia National Forest and Giant Sequoia National Monument, and conservation education that reflects scientifically-supported scholarship and research data. It would convey clear messages regarding natural and cultural resources and multiple use. Multi-media interpretation and educational programs would be used to develop stewardship of resources, to ensure their present and future protection, and to enhance public enjoyment of this unique place. Opportunities would promote and integrate awareness of the history of the Monument, appreciation for its biological processes, education about the people who used and continue to use the Monument, and education about disruptive forces that are distinctive yet interrelated pieces in the overall approach to use of resources.

One of the main focuses of the Proposed Action would be partnerships. Within the Monument, emphasis would be placed on establishing new links with organizations, providing people with a connection to place and promoting a sense of stewardship. These partnerships would provide a wide spectrum of recreation experiences through a wide variety of providers, including the Forest Service, partners, permit holders, volunteers, and other community entities. The Forest Service

would also work with the gateway communities and communities within the Monument to help foster economic opportunities for them. Partnerships would be developed to increase interpretive materials and programs for reaching larger segments of the general public and for educating the “citizen steward.” Management partnerships would continue with those tribes whose ecosystems and watersheds are affected by activities that occur on National Forest System lands, as well as with those Native Americans without a land base who have the need, through the practice of their culture, for National Forest System lands.

The Proposed Action proposes to increase and diversify partnerships, in part by creating a Children’s Forest, based on the model used in the San Bernardino National Forest. The mission of a Children’s Forest is to provide a place where: (1) youth can participate in stewardship, research, and education projects to develop skills in communications, leadership, and problem solving; and (2) youth and families can participate in programs to learn how to explore a forest setting. A Children’s Forest provides young people with opportunities to participate in projects that integrate social, economic, educational, and environmental dimensions in order to prepare them to be the future stewards and decision makers for the earth’s shared resources.

Affected Environment

The Sequoia National Forest (forest) and Giant Sequoia National Monument (Monument) are unique in their juxtaposition to Los Angeles, San Bernardino, San Francisco, and San Diego, and the metropolitan areas of Fresno, Sacramento, Bakersfield, and Las Vegas, Nevada. Over 28 million people live within a half-day’s drive of this forest and the Monument; the San Francisco bay area, Sacramento, San Diego, and Las Vegas are all located within a half-day’s drive. More than two million people live within an hour’s drive from the forest (USDA Forest Service 2004a, 2006a, 2008a, 2008c). While all of these people are potential visitors to the Monument, numerous

other recreation opportunities in these areas may also attract this population base.

The Monument is located both north and south of Sequoia and Kings Canyon National Parks. Visitors to the Hume Lake District of the Sequoia National Forest and Giant Sequoia National Monument must drive through the national parks, in order to access much of the district and Monument. People frequently do not realize if they are in the park or the forest and are confused when confronted with the different policies and types of facilities found in each place. Some people are attracted to the park, but camp in the forest, because they prefer the forest’s facilities (USDA Forest Service 2008a).

The forest/Monument sees a great deal of diversity in its visitors, although the majority of users continue to be from White/Euro-American cultures. Use by other culturally diverse user groups is prevalent and growing (although still underrepresented, compared to the overall population) (USDA Forest Service 2006a, 2008c). The forest’s large numbers of visitors are multicultural, especially Hispanic and Southeast Asian, many of whom are locally based. International visitors, who are drawn to the giant sequoia groves, frequently tour the forest. Recent school studies found that people in this area speak more than 26 languages. A few of the cultures within the forest’s area of influence (see the socioeconomic affected environment section in Chapter 3) include Native American, Hmong, Laotian, Filipino, Japanese, Chinese, and numerous cultures related to Spanish-speaking countries, ranging from Mexico to South America (USDA Forest Service 2004a, 2008a). Each of these cultures has unique demands for and values toward the use and management of the forest and Monument (USDA Forest Service 2004a).

Managers have observed that visitor use patterns vary tremendously from the north end of the forest to the south. More people from the San Francisco bay area and international visitors tend to visit the Hume Lake District than other parts of the forest. People from the Los Angeles basin visit the forest’s southern portions, especially the Kern Canyon, Lake Isabella, and the Kern Plateau. The

Kern Valley is marketing itself as a gateway to the Monument, which will increase the likelihood of more Monument visitation from the Los Angeles basin. Local residents tend to visit portions of the forest and Monument that are closest to their residences.

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 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 (except in the Kings River Special Management Area), and the use of non-motorized mechanized vehicles (mountain bikes) was restricted to designated roads and trails.

The proclamation (Clinton 2000) also placed limitations on when land exchanges can be pursued; disposing of public land can only occur to further the protective purposes of the Monument. In addition, Monument lands have been withdrawn from new mineral extraction in accordance with the proclamation (Clinton 2000):

All Federal lands and interests in lands within the boundaries of this monument are hereby appropriated and withdrawn from entry, location, selection, sale, leasing, or other disposition under the public land laws including, but not limited to, withdrawal from locating, entry, and patent under the mining laws and from disposition under all laws relating to mineral and geothermal leasing, other than by exchange that furthers the protective purposes of the monument.

The Small Tracts Act of 1983 (16 U.S.C. 521c-521i) is precluded from use in national monuments. This law authorizes the disposal of small parcels of land under certain circumstances. The law is useful to resolve innocent encroachments, where a private landowner places improvements on National Forest System land, but in good faith relied on an erroneous survey, title search, or other land description that indicated

an encroachment would not occur. In that circumstance, the law allows the small parcel of land with the improvement to be sold to the private landowner. Without that law, the only resolution for such a situation is to remove the improvement that is encroaching on National Forest System land within the Monument.

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. A sustainable recreation program aligns recreation opportunities with visitors' desires, expectations, and use. Sustainability recognizes that the interconnections between the environmental, economic, and social conditions underlie all program decisions. In order to sustain the benefits of outdoor recreation for present and future generations, the recreation program must address and work within all three of those areas.

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. Conservation education is an important part of addressing this need. All project planning must consider resource sustainability; the resource legacy that will be left to the next generation needs to be considered. Recreation use needs to be integrated so as to harmonize with, protect, enhance, and sustain natural and cultural resources, including the objects of interest. Potential environmental effects need to be minimized and mitigated. Recreation facilities, including campgrounds, day use facilities, and trails, need to have minimal effect on the surrounding ecosystem, including the objects of interest (NARRP 2009).

Conservation Education and Interpretation

Interpretation, by definition, is recreational and voluntary, having the goal of enhancing the audience's experience of the subject. Traditionally, the interpretive audience consists of the recreating

public visiting the forest. With the internet and new digital media, the interpretive program may be expanded to reach new, underrepresented groups and virtual visitors that will never set foot in the forest (USDA Forest Service 2008a).

Most people who benefit from resources originating in the forest and Monument, such as water and electrical power, may never visit. All are potential advocates, however. Interpretive products and services that outreach to these audiences need to be developed, in order to reveal the connection between their lives, their personal decisions, and the forest's natural resources. Especially important is the need to reach children in urban areas, to create future advocates for national forest resources (USDA Forest Service 2008a).

Some recent studies document that children are gravitating away from outdoor experiences and toward a virtual indoor reality. Interpretive products and services need to be researched and developed to rebuild the connection between children and the Sequoia's natural and cultural resources (USDA Forest Service 2008a).

Visitors to the Sequoia are more active than the regional average, which suggests that visitors stay long enough and are likely to seek out and participate in interpretive experiences, such as guided and self-guided interpretive tours, programs, and interpretive trails (USDA Forest Service 2006a, 2008a).

Investments in interpretive products and services geared toward the activity-oriented adventure seekers (see user group descriptions in the following Connection to Place section) could be most effective in developing lifelong advocates. Some of their activities have a higher potential for affecting resources; conservation and low-impact use messages could be especially effective delivered through interpretive products (USDA Forest Service 2008a).

Partnerships with long-term community residents and agencies, in order to provide information-rich interpretive programs and materials, could help residents become aware of important resource conservation issues. Agency neighbors include the Tule River Indian Reservation, Bureau

of Land Management, Mountain Home State Demonstration Forest, and Sequoia-Kings Canyon National Parks (USDA Forest Service 2008a).

A large number of children under the age of 16 visit the Sequoia with parents and grandparents. Interpretive products and services designed for children need to be incorporated into the overall program. Activity oriented interpretation that provides for adult interaction could be especially effective (USDA Forest Service 2006a, 2008a).

The Hume Lake Ranger District in the northern part of the Monument has been actively involved in both indirect and direct, face-to-face interpretation and conservation education for over a decade. Through a partnership with the National Park Service, Forest Service employees work at the Kings Canyon Visitor Center each summer. Boyden Cavern, operated under special use permit, offers guided tours through the cave. Montecito Lake Resort, which is also operated under permit, has naturalists on staff during the summer season and focuses many activities on education and respect for the natural environment. These recreation service partners, as well as others, serve over 40,000 visitors each year.

For several years, the Forest Service hosted the Celebrate Sequoias Festival. This event offered a variety of interpretive hikes through several giant sequoia groves, along with entertainment, children's activities, and vendors.

Interpreters are trained each summer to provide traditional campfire interpretive programs, as well as guided hikes, children's activities, and living histories. Forest Service programs directly reach an average of 7,000 visitors each year. Forest Service personnel also offer conservation education programs to schools and service organizations at local schools, fairs, and other gatherings in surrounding communities.

In the southern part of the Monument, ongoing education and interpretation opportunities include trails at Wishon Campground and the Trail of 100 Giants and programs at Quaking Aspen Campground. Beginning in 2010, the Giant Sequoia National Monument Association has been providing docent tours at Trail of 100 Giants.

Recreation Report

All Forest Service offices offer written guides to the public at no cost, covering a wide range of topics, including hiking and camping opportunities, safety messages, ecological education, outdoor ethics, visiting giant sequoia groves, hunting and fishing rules, and fire safety. A Sequoia visitor guide, which provides information on campgrounds, popular activities, and safety messages, regarding the entire forest, is produced in partnership with the Three Forests Interpretive Association (3FIA).

The *Interpretive Plan for the Sequoia National Forest and Giant Sequoia National Monument* (USDA Forest Service 2008a) establishes a strategy and makes recommendations for the forest's interpretive program. The interpretive plan proposes actions for a coordinated forestwide program, interpretive opportunities for visitors, and program expansion to new audiences. According to that document, the mission statement is:

The Sequoia interpretive program will provide customer-focused products and services that build public appreciation of forest resources and support for management within the Sequoia National Forest and Giant Sequoia National Monument.

The interpretive plan establishes forestwide interpretive goals (USDA Forest Service 2008a). The Sequoia program will provide interpretive products and services that:

- Promote public understanding of their responsibility in protecting forest ecosystems, cultural resources, and public facilities while visiting the forest;
- Stimulate local economies of communities that depend on tourism, through increased visitation, return visits, and longer visitor stays in or near the Sequoia;
- Increase public support for forest stewardship of all forest resources;
- Increase visitor/public satisfaction by enhancing their visitor experiences;
- Inform and interpret to the public the objects of interest within and the management of the Giant Sequoia National Monument;
- Reach out to underrepresented populations and youth to reestablish the relevance of national forests and grasslands to all Americans, especially urban populations, so that the Forest Service can continue “to provide great memories to this and future generations.”

This interpretive plan establishes management objectives (USDA Forest Service 2008a), by outlining a coordinated forest program and interpretive strategy to:

- Incorporate current agency messages and emerging emphasis areas into interpretive products and services;
- Ensure the delivery of Forest Service messages to target markets through a variety of high quality venues and products;
- Identify priorities to ensure that limited funds for interpretation are used in the most cost effective way;
- Build a forestwide, interdisciplinary team to support the development of high quality interpretive services and products.

According to the interpretive objectives (USDA Forest Service 2008a), visitors/the public will understand:

- The living things and elements of the forest ecosystem are interconnected;
- Humans are members of the ecosystem, and they have personal responsibility for conservation of natural resources;
- Disturbances, such as fire and flood, are essential to forest ecosystem health;
- Many valid demands for forest resources exist;
- Landscape management practices are based on scientific study, congressional perception of people's needs and desires, and judicial rulings, and, therefore, change over time.

Visitors/the public will feel:

- Inspired by the power, beauty, and complexity of natural ecosystems;
- Appreciation and respect for the Sequoia's resources and its ecosystems;

- Support and trust for Forest Service management of resources and ecosystems;
- Responsible for contributing to the conservation of public lands.

Visitors/the public will:

- Behave in an environmentally responsible manner while visiting the forest;
- Return to the forest for another visit and participate in other interpretive programs;
- Share with their family, friends, and neighbors the importance of conservation of natural resources and stewardship of public lands;
- Contribute time and support funding opportunities for forest projects and/or participate in forest activities and programs.

The interpretive plan (USDA Forest Service 2008a) establishes a central forest theme and sub-themes, around which all interpretive efforts should be structured.

Theme: The Sequoia National Forest, a public treasure, cared for and enjoyed by people, sustains and enriches lives today and in the future. A magnificent landscape, the Sequoia is a beautiful, living tapestry, woven with high mountain peaks and meadows, cut by steep river canyons, carved from roaring whitewater, glaciers, and earthquakes, and accented by granite monoliths and forests rich in diverse and unique species.

Sub-theme: Giant sequoias are a world renowned, public treasure to be protected and enjoyed. The giant sequoia rise above the rest of the forest as one of the largest and most ancient living things on this planet, providing witness and record to ecological and cultural change, continually evoking public emotion, opinion, and action.

Sub-theme: Water is a valued resource enjoyed by the public through recreation opportunities and then collected and harnessed to provide drinking water, irrigation, and power to the central valley and desert communities. Rivers run wild from high mountains, ripple and tumble through mid-elevation conifer forests

and meadows, rage through steep-walled canyons, and are contained and diverted at lower elevations.

Sub-theme: A remarkable mix of habitats supports a wide variety of plants, animals, and people, creating interwoven communities of life. Multiple bioregions from alpine to desert converge within the boundaries, making the Sequoia unique.

Sub-theme: Ecosystems in the Sequoia are dynamic and shaped by disturbance processes, such as fire, flood, and geologic forces. Landforms, fossils, fire scars, and tree rings provide clues to the story of ecological and cultural change.

The interpretive plan will help focus interpretation efforts, and implementation of this plan (USDA Forest Service 2008a) is just beginning. The interpretive plan recommends projects. Site-specific environmental analysis would need to be completed, as appropriate, before project implementation. The interpretive plan is expected to evolve over time and be supplemented, as circumstances change.

Connection to Place

People have a strong connection to place (Cordell 1999, Hill et al. 2009). This connection may come from a person's experience. Use of particular areas may be multi-generational. For example, a person may have visited a place for years, perhaps with their parents or grandparents, and want to pass along that tradition of use to their children and grandchildren. The connection may be vicarious. A person might have seen a picture of a location or read about it and consequently formed a strong attachment to that place, even though they might never actually visit it. A connection to place may be shared by cultures. For example, Native Americans often have strong attachment to particular areas for practical purposes, such as gathering basketry materials, or for spiritual reasons.

Whatever the reason, places have particular meaning for individuals, and each person can have that attachment for a different place or multiple

locations. What places those are may vary with the activity, such as a favorite camping spot, or a favorite trail, or a favorite vista point. No one place can satisfy that connection for all people. The place and the reason for the attachment are as individual as the person (Cordell 1999, Hill et al. 2009).

The Giant Sequoia National Monument is a unique place, highly valued by its neighbors, visitors, and distant admirers. Giant sequoias are a symbolic vestige of the wild Sierra, evoking a deep emotional response, even from people who have never experienced their grandeur firsthand (USDA Forest Service 2008a, 2008c).

Recreation Niche

The Sequoia National Forest is best known for particular attributes or settings, which is the forest's niche (NARRP 2009) for recreation (USDA Forest Service 2008c). Giant sequoias are a key attribute of this forest and Monument. Indeed the Sequoia is the only national forest in the nation that is named for a tree.

The Sequoia's landscape is as spectacular as its trees. Soaring granite monoliths, glacier-carved canyons, caves, roaring world-class whitewater, and scenic lakes and reservoirs await visitors' discovery at the Sierra Nevada's southern reach. Elevations range from 1,000 feet in the lower canyons to peaks over 10,000 feet in the Monument, with views to higher peaks on the Sierra crest, providing visitors with spectacular views in a dramatic range of settings. These mountains stand in contrast to California's San Joaquin Valley, providing cool relief for families from the scorching heat of summer and welcome blue skies and sun during the cold fog of winter. From the dramatic Kings Canyon, through the ancient giant sequoias, down to the mighty Kern River, the Sequoia National Forest, including the Giant Sequoia National Monument, features diverse settings and special places (USDA Forest Service 2008a, 2008c).

How well those settings fit with what the forest is known for is called niche conformance. However, just because a setting is noted as having low or moderate niche conformance does not mean that

those settings are not important to individuals; their own connection to place may be strongest for some of those locations.

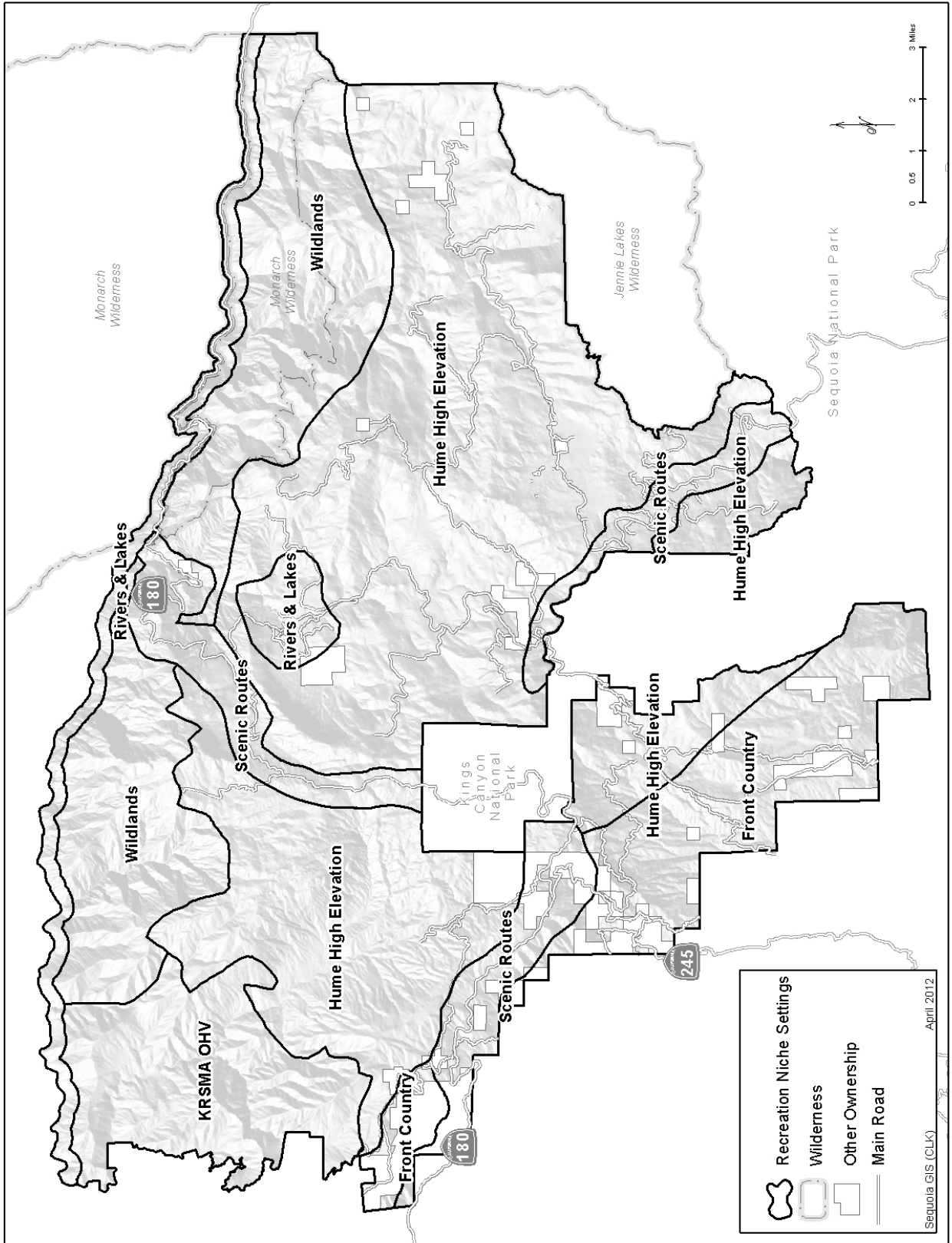
The following settings (USDA Forest Service 2008c) can be found within the Giant Sequoia National Monument:

- Rivers and Lakes: Water is the magnet, featuring world-class whitewater and attracting family use at Hume Lake and the Kern, Kings, and Tule rivers (high niche conformance);
- Scenic Routes: These routes offer great views through a range of life zones, providing access to adventure and discovery (high niche conformance);
- Great Western Divide: Giant sequoias and dispersed recreation (high niche conformance);
- Lloyd Meadow: Spectacular Kern Canyon views; rock climbing on granite formations; dispersed recreation; giant sequoias (high niche conformance);
- Hume High Elevation: Overnight destination with giant sequoia logging history; wilderness access; intertwined with national parks (high niche conformance);
- Wildlands: Includes parts of two wildernesses in the Monument and a few other areas, offering solitude and scenic backdrop (moderate niche conformance);
- Front Country: Year-round access; desirable in spring (wildflowers) and fall (hunting); very hot in summer; chaparral, oak to mixed conifer (low niche conformance);
- Kings River Special Management Area OHV: Off-highway vehicle (OHV) use in the Monument, authorized by law; this steep canyon offers motorized trails with solitude (low niche conformance).

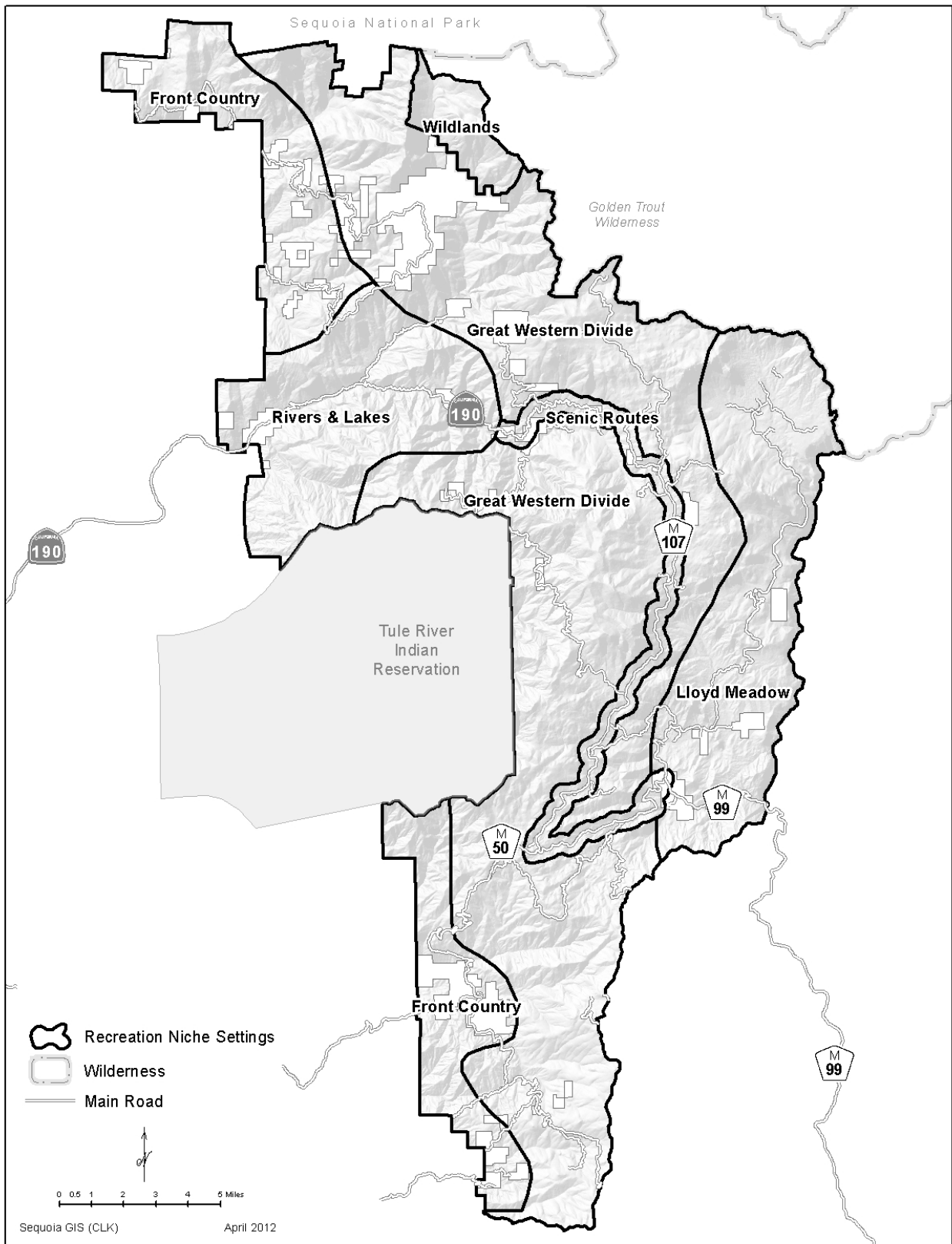
The following settings are not within the Monument: Kern Plateau, Greenhorn, Breckenridge, and Piutes.

The settings are displayed on the following maps.

Map 1 Recreation Niche Settings for the Northern Portion of the Monument



Map 2 Recreation Niche Settings for the Southern Portion of the Monument



The diverse settings offer a wide range of opportunities for visitors year-round. Water is a magnet, attracting people to recreate; areas with water attract more visitors than areas without it. This forest is an overnight destination for visitors, whether they come from nearby or far away. Family-oriented overnight activities are most popular and in highest demand, with higher than average participation by children and elderly people. During their stays, visitors pursue a

variety of activities; viewing scenery and driving for pleasure, hiking, hunting, group camping and picnicking, boating, fishing, and whitewater rafting are popular (USDA Forest Service 2006a, 2008a, 2008b, 2008c).

The following table contains more information about each of the settings that are located within the Monument.

Table 1 Recreation Niche Settings

Name of Setting	Niche Conformance ⁽¹⁾	Function/Theme	Key Example Activities	Example Site Types
Rivers and Lakes	High	Water is the magnet. Escape the heat.	Sustainable water related activities	Water access, campgrounds, day use, rental cabins.
Scenic Routes	High	Access, touring, great views with range of life zones	Driving for pleasure, scenery, hiking, viewing giant sequoia.	Observation, campgrounds, day use, trailheads (includes winter).
Great Western Divide	High	Giant sequoia and heat escape.	Hands-on giant sequoia experience; dispersed use.	Trailheads, rental cabins, campgrounds.
Lloyd Meadow	High	Spectacular Kern Canyon views.	Rock climbing, dispersed use.	Campgrounds, trailheads.
Hume High Elevation	High	Giant sequoia story, national park connection.	Overnight destination.	Campgrounds, horse camps, trailheads, rental cabins.
Wildlands	Moderate	Wilderness and other remote, isolated areas; some giant sequoia.	Hiking, backpacking, stock use.	No developed sites.
Front Country	Low	Year-round access; wildflower viewing.	Overnight camping, dog running, backyard access.	Campgrounds, day use, rental cabins.
Kings River Special Management Area OHV	Low	OHV routes with steep canyon views; remote, isolated.	Sustain/protect Native American values.	No developed sites.

1. Niche conformance indicates which settings best support the recreation niche.

In developing the niche, each of the forest’s 12 settings was evaluated by forest personnel against a combination of criteria, reflecting physical characteristics, visitor use, and market data (USDA Forest Service 2006a). These criteria were viewed by forest personnel as the essence of what makes the Sequoia the special place that it is. Each

setting was examined to see how well it met the following five criteria:

- Whether or not giant sequoias exist;
- Whether or not water exists (streams or lakes);
- Whether or not the setting is popular or attractive for family use;

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- Whether or not the setting offers opportunities for overnight use; and
- Whether or not viewing scenery is a reason people visit the setting.

These settings are further divided into places, which are described in the scenery resources affected environment section in Chapter 3 of the final EIS.

User Groups

One way that visitors pick their destinations is according to the activities they prefer. The Sequoia National Forest's prevalent user groups could be classified according to the following descriptions (USDA Forest Service 2008a).

Water Players: This user group crosses a wide variety of ethnic, age, income groups, and skill levels, sharing their attraction to water. They are drawn to the Rivers and Lakes recreation niche setting. Their toys (equipment) or preferred activity dictate which water body they visit.

Forest Experience Seekers: Generally attracted to the higher elevations to escape the heat of summer, the congestion of the city, or the complexities of daily life, this user group is looking for a forest setting to relax and unwind. They are attracted to developed sites, as well as dispersed camping areas.

Sightseeing Tourists: Kings Canyon, the giant sequoia groves, scenery, and wildlife associated with natural areas attract this user group. These visitors are often overflow from the national parks and come with higher expectations for services and facilities.

Activity Oriented Adventure Seekers: These adventuresome recreationists include mountaineers, backpackers, stock users, OHV users, over snow vehicle (OSV) users, rock climbers, whitewater rafters, kayakers, cross-country skiers, snow trekkers, and geocachers looking for new and challenging experiences. These visitors usually have higher disposable incomes, are well educated, and tend to value and be in good health and physical condition. Outfitters and guides provide services to many of these visitors for backcountry pack

trips, whitewater rafting, fishing, and hunting excursions. These experiences can be once or twice in a lifetime adventures and are potentially life or attitude changing.

Most wilderness use is overnight by either stock users or backpackers. Backpackers are generally physically fit, younger, have enough income to acquire equipment, and are fairly well educated. Wilderness stock users generally have high disposable incomes. Some may ride horses as their preferred mode of travel. Others may have been backpackers in their youth, but as they age, are no longer able or willing to access their favorite wilderness destinations on foot. Although the Sequoia has six designated wildernesses (portions of two, the Monarch and Golden Trout, are in the Monument), visitor demand is not high (compared to recreation at developed sites) and not a large focus of the recreation program.

Social Gatherers: Attracted to areas and facilities large enough to support group activity, many are attracted to the Rivers and Lakes setting, with developed group sites that are easily accessible from the highway or dispersed camping opportunities. These people visit the forest to have a good time with friends or family. Church groups, fraternities, family reunions, informal social groups, and clubs are among this user group. Some of these groups have a long tradition of using particular sites and a strong attachment to them.

Hunter/Gatherers: This user group includes anglers, hunters, and those visiting to collect forest products, such as berries, foliage, rocks, or gold. Some of these groups have a long tradition of use at particular sites (e.g., traditional hunting camps) and a strong attachment to them.

Students/Enthusiasts: They often come in groups, when visiting the forest, from elder hostels, special interest organizations, and schools. These groups are looking for information and education rich experiences.

Virtual Visitor: As the Sequoia is steward of the largest concentration of giant sequoia groves in the world, the forest has a great number of

committed admirers and interest groups, some of whom want to learn more about these awe-inspiring trees. Books, television, websites, and school programs are all avenues for these persons to experience the resources of the Sequoia. The internet introduces many persons to the Sequoia, turning many non-visitors into virtual visitors. Many of these people may visit the forest after viewing the forest website, and others use the website to get information to plan their visits.

Neighbors: Neighbors include residents of small communities, such as Kernville, Lake Isabella, Pinehurst, and Camp Nelson, who live within or adjacent to the forest boundary. Some depend on the national forest for their livelihoods. These communities are increasing in size, as retirees escape urban life and seek lower costs of living by moving into these rural areas. Many of these new residents have little or no experience with more natural landscapes.

Traditional Users: This user group includes people who belong to groups or families with a long history of using a particular area of the forest. Some of these uses began prior to the establishment of the Forest Service. These people care deeply about the area and about maintaining access rights to continue their use of these areas. Many are older and request vehicle access to areas they may have previously accessed by foot. This group includes generational use by Native Americans, ranchers with grazing allotments, recreation residence permittees, and people with family traditions in hunting, fishing, and other activities.

Underrepresented Populations: Only a small portion of the population within a 2½-hour drive of the Sequoia visits the forest each year. The portion that does visit is not really representative of the diverse population in that area. Underrepresented ethnic groups are Hispanic, African American, and Asian, with the greatest disparity in the groups claiming to be Hispanic or Latino and African American. Lower income groups, especially children from inner city or urban populations, are also underrepresented among forest visitors. Barriers to visiting the Sequoia for underrepresented groups include:

No tradition of use: Populations new to the United States or lacking social traditions in wildland settings are less likely to be aware of the recreation opportunities and benefits offered on national forest lands.

Language and communication styles: The Forest Service traditionally uses static, written formats to communicate with the public, in the form of brochures and signs. In many homes, English is not the primary language. However, most groups traveling to the forest will have at least one child or member who speaks English and serves as interpreter for the group. In the case of the Hmong culture, their language has not been a written language until recently.

Travel distances: Travel costs for lower income groups limit their ability to visit the forest. Most trips to the Sequoia involve at least one overnight stay, because of the time needed to travel to a forest destination. Developed recreation sites and dispersed recreation areas, especially those with a source of water (lake or stream) close to population centers, are popular with lower income groups.

Facilities and services outdated/designed for traditional visitors/in poor repair: Areas that provide an opportunity for larger social gatherings for extended families are in demand with many nontraditional forest users. The typical family campground that was developed in the 1960s, with individual campsites designed to accommodate six people in tents or small camper trailers, no longer suits the style of recreation that many people seek to experience.

Recreation Opportunities

This section describes existing recreation opportunities (supply) and attractions in both the northern and southern portions of the Monument.

The Forest Plan assigned recreation opportunity spectrum (ROS) classes to all lands within the Sequoia National Forest. In the Monument, 11 percent (35,857 acres) is in the semi-primitive non-motorized class; 12 percent (39,573 acres) is in the semi-primitive motorized class; 76 percent

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(249,830 acres) is in the roaded natural class; and 1 percent (3,055 acres) is in the rural class. No areas in the primitive or urban classes are located in the Monument.

In the Monument, many developed campgrounds and areas with little development, known as concentrated use areas or dispersed areas, provide the full range of camping experiences. Trails offer hiking, backpacking, horseback riding, and mountain biking. The rivers, lakes, and reservoirs offer boating, fishing, swimming, whitewater rafting, and kayaking. In the winter, high elevations accommodate snow play, cross-country skiing, snowshoeing, and snowmobiling.

Developed recreation facilities in the Monument encompass 660 acres and provide a variety of opportunities for the recreating public. The Monument has 21 family campgrounds, with approximately 500 campsites, and seven group campgrounds. The total capacity (also called persons at one time, or PAOT) of the family sites is 2,806, while the group sites have a PAOT of 565. Six picnic areas have 53 sites.

A number of recreation facilities are located within the current administrative boundaries of giant sequoia groves. These include four family campgrounds (Belknap, Redwood Meadow, Eshom, and Princess) with 144 campsites; two interpretive trails, Indian Basin Trail and Trail of 100 Giants (with five picnic sites and 15 parking spaces); and about 23 miles of trail. Also located in groves are seven trailheads (Chicago Stump, Boole Tree, Cherry Gap, Evans, Little Boulder, Freeman Creek, and Needles); two recreation residence tracts (McIntyre and Soda Springs); one organizational camp (Quaker Meadow Camp); and one recreation rental cabin (Mountain Home). One old administrative site, the Sequoia Guard Station, is located within the Redwood Mountain Grove.

Concentrated use areas are scattered throughout the Monument. These are areas of various sizes, with little or no development, that visitors primarily use to recreate in a forest environment, often near streams, without the amenities of a campground. The northern portion of the Monument has 43 concentrated use areas, with an

estimated 8,900 use days. The southern portion has 80 concentrated use areas, with about 17,700 use days.

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.

Trails in 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 road are designated for OHV use in the northern portion of the Monument, including 3.8 miles of motorcycle routes, 25 miles of challenging 4-wheel drive road 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.

Boating, primarily whitewater rafting and/or kayaking, occurs mostly on the Kern and Kings rivers. Skilled kayakers also float Dry Meadow Creek. The Kings and Kern rivers are also popular fisheries.

Several congressionally designated areas are found entirely or partially within the Monument: the Monarch Wilderness, the Golden Trout Wilderness, the Kings Wild and Scenic River, the South Fork Kings Wild and Scenic River, the North Fork Kern Wild and Scenic River, and the Kings River Special Management Area.

Part or all of three giant sequoia groves are in the Monarch Wilderness and Agnew Roadless Area: Agnew, Monarch, and Evans Complex. The Golden Trout Wilderness contains part or all of three other groves: Maggie Mountain, Upper Tule, and Middle Tule.

Typically, recreation facilities within the Monument were built 40 to 50 years ago. Many are outdated and are not equipped to handle today's visitors or their equipment. Although an effort is being made to upgrade facilities,

reconstruction has been limited, due to funding availability. The result is that many facilities cannot accommodate today's larger vehicles or larger family groups, nor can they meet the growing demands for universal accessibility to accommodate people of all abilities.

Group and family campground occupancy rates (percent of sites occupied) average 75 percent to 85 percent on peak weekends and about 25 percent to 30 percent on summer weekdays. For day use sites, percentages range from about 30 percent to 85 percent. For the northern portion of the Monument, most facilities have 100 percent occupancy on peak use days, which is partially a reflection of their proximity to Sequoia and Kings Canyon National Parks. Once occupancy reaches 60 percent, campers are likely to find that adjacent campsites are occupied, and some people will begin to feel crowded.

Within the Monument, three resorts and nine organizational camps, authorized under special use permits, offer additional opportunities for visitors. One hundred forty-eight recreation residences are authorized in the Monument under special use permit. Numerous temporary permits authorize recreation events, such as hiking and climbing programs, snowmobile festivals, horseback riding and rodeo events, youth camping, running events, and Native American gatherings. Five recreation rental cabins, owned by the Forest Service, are available for use by the public; three additional cabins, recently acquired by the Forest Service, will also soon be available for rent. Sequoia and Kings Canyon National Parks border the northern portion of the Monument, and visitors to these parks often use Monument facilities.

Northern Portion

The Hume Lake Ranger District forms the northern portion of the Monument. The entire district is very heavily used, with most campsites being fully occupied during the heavy use season from mid-June through early September. Users come from many parts of the country, with a substantial number of them interested in visiting the adjacent Sequoia and Kings Canyon National Parks. However, the majority of visitors come from central and southern California. Eshom

Campground, in particular, has an established clientele that has used the area for decades.

In the Stony Creek and Big Meadows areas at the higher elevations on the Hume Lake District, activities include fishing, hiking, horseback riding, and sightseeing. Trailheads lead into the Jennie Lakes Wilderness and Monarch Wilderness, as well as the backcountry of Kings Canyon National Park. A portion of the Monarch Wilderness is located in the Monument.

Activities in the Hume Lake area include camping, picnicking, sightseeing, fishing, swimming, and boating. The major attractions for this area are giant sequoia groves and Hume Lake, which is an 87-acre lake that is heavily used by swimmers, anglers, and boaters. Hume Lake Christian Conference is privately owned, adjacent to Hume Lake, and is the largest Christian camp in the United States. The Christian Conference rents canoes, paddleboats, and rowboats to the general public.

The greatest amount of water-oriented recreation occurs at Hume Lake. Non-motorized boating, fishing, and swimming are the primary uses. Recreation development around the lake includes campgrounds, a lakeside trail accessible to persons with disabilities, two beach areas, a picnic area, a boat launch, and two fishing piers. Hume Lake, which permits only non-motorized boats, is the only lake within the Monument that can be accessed by vehicle.

A number of campgrounds in the northern portion of the Monument are located near streams and provide opportunities for water-oriented recreation. These include Ten Mile, Landslide, and Logger Flat campgrounds along Tenmile Creek; Eshom Campground along Eshom Creek; Upper Stony Creek and Stony Creek campgrounds along Stony Creek; and Big Meadow Campground along Big Meadow Creek. Recreation facilities along the Main Fork and South Fork of the Kings River are Boyden Cavern with guided tours, Grizzly Falls Picnic Area with an interpretive trail, Mill Flat and Convict Flat campgrounds, and several vista points. Cedarbrook Picnic Area is along Mill Creek near Pinehurst.

About 24,000 acres of the Kings River Special Management Area (KRSMA) 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 to provide for public outdoor recreation use and enjoyment; for protection of the natural, archaeological, and scenic resources; and for fish and wildlife management. This public law permits off-highway vehicle (OHV) use on trails to the same extent and in the same location as was permitted before enactment. This statute takes precedence over the Clinton proclamation 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 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 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 Giant Sequoia National Monument. The Middle Fork Tule River and North Fork Middle Fork Tule River are major attractions with year-round flow. The river draws recreationists interested in many activities during the high use season and primarily sightseers, hikers, and anglers during the remainder of the year. Visual observation indicates that a very large percentage of visitors to the Tule River Canyon are Hispanic and Southeast Asian.

The major attractions within the Western Divide District include giant sequoia groves, the Needles, Dome Rock, trails, including the Trail of 100 Giants in the Long Meadow Grove of giant sequoias, and Tobias and Mule Peak lookouts. The Middle Fork Tule River, Peppermint Creek, White River, and the other small streams in the area are stocked by the California Department of Fish and Game during the spring and early summer months, depending on stream conditions and temperatures. Major attractions near this area include the privately owned California Hot Springs Resort, the North Fork of the Kern Wild and Scenic River, and the Golden Trout Wilderness, a small portion of which is located in the Monument.

Major activities within the Western Divide District include camping, hiking, viewing scenery and wildlife, driving for pleasure, mountain biking, rock climbing, nature study, fishing, and hunting in the fall. Winter activities include snow play, snowmobiling, and cross-country skiing.

Many campgrounds and picnic sites are located near streams that provide opportunities for water-oriented recreation. They include Upper and Lower Coffee Camp picnic areas along the Tule River, Wishon Campground along the North Fork of the Tule River, Belknap Campground at the confluence of Belknap Creek and the Middle Fork of the Tule River, Redwood Meadow and Long Meadow campgrounds along Long Meadow Creek, Leavis Flat Campground along Deer Creek, White River Campground along White River, and

Peppermint and Lower Peppermint campgrounds along Peppermint Creek. As proposed through the recreation facility analysis process, Redwood Meadow Campground is proposed to be converted to day use to accommodate the need for more parking and access to the Trail of 100 Giants, and Leavis Flat Campground is proposed to be decommissioned.

Winter recreation in 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 national forest and Monument maintain numerous and diverse partnerships for the mutual benefit of the forest and its partners and will work to expand these partnerships and to develop new ones. The Forest Service is extremely grateful to all its partners, without whom the forest would not be able to function. Not all of these partnerships involve money. Some provide in-kind contributions, such as labor, equipment, supplies, or services; others involve collaboration toward a mutual goal. Without partnerships, the forest would not be able to provide nearly the variety or quality of recreation opportunities that these partnerships enable (USDA Forest Service 2004a).

Recreation Demand Analysis Summary

A recreation demand analysis was prepared for the Monument for use in this planning process and is included as Appendix A in this report; the surveys and references cited are noted in that appendix. Various sources of information

(listed in the literature cited section and further described in the appendix) are examined in that analysis. 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 (although research [Chavez] was recently completed, which provides information on six day use sites in the Monument; research on a seventh site is being conducted in summer 2011). 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 recreation demand in the Monument. Despite what the science indicates, predicting the future is uncertain.

This recreation demand analysis is not a needs assessment that compares recreation demand with the existing Monument supply of recreation opportunities and use patterns. A gap analysis (demand minus supply equals needs) was not performed, because such an analysis yields simplistic results that are not reflective of the complexities inherent in predicting human behavior or the uncertainties associated with predicting changing circumstances in the future.

A summary of the recreation demand analysis appears here.

The Monument is an overnight destination, rather than a day use destination. Even visitors from local origins tend to stay overnight (Tierney et al. 2002). For many visitors (except for those who live in communities within or adjacent to the forest), the Monument does not provide a quick, out-the-back-door day use experience. Overnight visitors are camping more in developed sites than they are primitive camping (USDA Forest Service 2006a, 2008a, 2008b, 2008c) (although dispersed camping in concentrated use areas, which is not really primitive, is also popular, based on visual observation).

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. Water is a magnet, attracting people to recreate; areas with water attract more visitors than areas without it. In the Monument, water provides an additional escape from the heat, and water-related activities are popular (USDA Forest Service 2006a, 2008a, 2008b, 2008c).

The Sequoia is a very family-oriented forest, with a higher percentage of use by both young people and persons over the age of 61 than the regional average. Use by culturally diverse user groups, especially Hispanics and Asian, is prevalent and growing, although not well represented compared to the population base (USDA Forest Service 2006a, 2008a, 2008b, 2008c).

In the next 25 years, the population in the Sequoia's market area is projected to increase 38 percent, and this increase will place more demands on the Monument's 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 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).

Future changes in the state's population will affect outdoor recreation more than anything else. The population is growing rapidly, becoming more culturally and racially diverse, and aging (Cordell 1999, Sheffield 2005). 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). Families with children, youth, and seniors are large markets for outdoor recreation and will grow (Sheffield 2005, USDA Forest Service 2006a, 2008c), particularly in southern and central California urban areas (Sheffield 2005). 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). Most Californians believe that outdoor recreation areas and facilities are "important" or "very important" to their quality of life (California State Parks 1998, 2003). The result will be increasing recreation demand.

The diversity of recreationists will continue to increase, as the American population becomes more diverse and international visitors increase (Cordell 1999). 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. Interpretation methods 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).

Hispanic recreation participation patterns are somewhat different from predominantly Anglo populations (California State Parks 1998, 2003, Sheffield 2005). One example is in picnicking; Hispanics tend to participate with larger groups, arrive earlier in the day, and spend quite a bit of time in food preparation (Sheffield 2005).

Group facilities for both camping and day use are important and will become even more important in the future, as larger "families" want to recreate together (California State Parks 1998, 2003, 2009,

Sheffield 2005, USDA Forest Service 2006a). What constitutes a family has changed over the years because of changing demographics. Where, in the past, a family was viewed as a mother, father, and their children, today a family may be multi-generational and may or may not be related by blood or marriage (Sheffield 2005). Research (California State Parks 1998, 2003, 2009, Sheffield 2005, USDA Forest Service 2006a) has shown that people often want to recreate in groups (one study showed an average of 11 people).

As the baby boom generation ages, the proportion of the population that is elderly will increase. The attitude is generally that leisure time is not a privilege, but a right earned by years of hard work, and seniors have more free time available for activities. Improved health care, greater emphasis on maintaining lifelong physical fitness, and a changing image of what “old” people can or cannot do are also factors that contribute to greater participation in outdoor recreation and leisure activities than previous generations (California State Parks 2002, 2009, Cordell 1999, USDA Forest Service 2006a).

Baby boomers are a diverse group. Some people are interested in continuing education and have a strong desire to learn about nature, wildlife viewing, and history and culture, for example. They will also be drawn to be active in conservation and heritage causes. Some are interested in high-risk activities, and a number of people over the age of 40 are beginning such activities as rock climbing (California State Parks 1998, 2002, Sheffield 2005, USDA Forest Service 2006a). Not all older people will increase their recreation participation, however, as health concerns and mobility problems will affect their ability and desire to participate.

Baby boomers and older adults want more amenities and improved access, while younger adults want more immediate and lively information and access, drawn by opportunities for excitement, such as extreme sports and adventure recreation (Sheffield 2005). 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).

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. Americans see outdoor recreation as a potent tool in attacking societal problems. Most people feel that recreation helps improve people’s health, helps reduce crime and juvenile delinquency, and creates jobs and helps the economy. Those who participate in outdoor recreation are markedly more content with their lives, in general, their families, their jobs, and their physical well-being (California State Parks 1998, 2002, 2003, 2009, Cordell 1999, Hill et al. 2009, Sheffield 2005, 2008).

People will continue to have an increasing number of choices on how to spend their leisure time. The Monument faces competition from a myriad of leisure opportunities, both at home and away. At the same time, the public is developing higher expectations for quality and service. Convenient products and services that give people more time will continue to proliferate. The importance of convenience will extend to all areas of life, even recreation, as close-to-home recreation will increase in importance. Visitors will be interested in a diversity of activities and conveniences/amenities (APPL 2004, Hill et al. 2009, Sheffield 2005).

Income can affect participation (California State Parks 2009, Cordell 1999). An example is activities that have a high cost investment in recreation equipment. Some researchers have also noticed that participation is lower in households with very low or very high incomes (California State Parks 1998). Economic recession or prosperity also affects participation patterns, as equipment sales, travel distance, travel frequency, and activity choices can all be affected by the amount of disposable income available (Cordell et al. 2009b). Whether by choice or economic necessity, two income households with or without

children have become the rule, although with the current recession, many people are unemployed.

The recession in the economy is a prime driver of what is currently occurring (Cordell et al. 2009b). High rates of unemployment continue. Personal income is down. Although the cost of gasoline has gone down significantly since 2008 (the price has been creeping up again), the unprecedented high gas prices of 2008 drastically affected the way that people drove. Gasoline costs may have negative or positive effects on Monument visitation; some people visit as a closer-to-home travel option than what they would normally choose, while others choose not to visit or visit less often. Gas prices also affect the activities that people choose. Although people are not driving more miles, overall, the average time spent in transit has increased, indicating an increase in congestion.

Crowding can affect how and when people visit an area (Cordell 1999). Some people do not mind crowds and, in fact, crowds can positively influence their recreation experiences. Many others, however, 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). Within the Monument, some areas are filled to capacity, at times, especially on holiday weekends.

Recreation is a prime lure for attracting visitors from overseas, and it is a growing factor in travel and residency patterns (California State Parks 2002, Hill et al. 2009). Natural resources and outdoor recreation play an important role in tourism, as they provide the settings for travel activities and experiences (California State Parks 2002, Cordell 1999, Hill et al. 2009). The availability and proximity of recreation opportunities affect how much people recreate, as well as their choice of activities. The multinational forest users have different expectations for their recreation experiences than those of the traditional forest user. Multinational visitors also provide a

challenge in effective communications (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.

Participation in some already popular activities will continue to increase, along with the state's population. The number of people at the lower end of the income scale is increasing disproportionately as the state's population grows. People with lower income rely more on public recreation facilities (California State Parks 2009). Many of these popular activities can be done without much equipment, are relatively low cost, and can be enjoyed by people with a variety of skill levels, without a great deal of physical exertion (California State Parks 1998, 2003, 2009, Sheffield 2005). Most of these activity types remain popular with Americans past the age of 60 (California State Parks 1998, Cordell 1999, Cordell and Betz 2005 [cited in Sheffield 2008]). Many activities have a strong social component, drawing families to participate (Sheffield 2005), and are especially fitting for the Monument with its family orientation (USDA Forest Service 2006a, 2008c).

Many activities with the largest growth rates (although participation is quite small, compared to the most popular activities) are physically demanding and may require specialized equipment and/or skills, such as kayaking, snowboarding, backpacking, and mountain climbing. These growth rates indicate a shift in the mix of activities that may be occurring (Cordell 2004, Cordell et al. 2009b, 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 interest in adventure activities, such as mountain biking, backpacking, rock climbing, and hang gliding. High-tech activities, such as geocaching, are continuing, and technological advances continue to be made in recreation equipment for various activities, such

as skiing, snow shoeing, and mountain biking (California State Parks 2002, 2009, Sheffield 2005).

Climate change is evident, as the number of frost-free days is increasing (Cordell et al. 2009b). The snow pack is expected to melt earlier in the season, particularly affecting where and when winter recreation activities occur (Morris and Walls 2009). (For a more detailed description of climate change, see the Effects on Air Resources section in Chapter 4 of the final EIS.)

Recreation facilities and services need to be made more relevant for the state's rapidly changing population segments, including the elderly, youth, single-parent families, ethnic groups, new immigrants, and persons with disabilities (California State Parks 2002). To meet these needs, more group picnic areas and camping opportunities are needed (California State Parks 1998, 2003, 2009, USDA Forest Service 2006a). In addition, camping alternatives, such as cabins, tent cabins, yurts, and other affordable lodging should be provided (California State Parks 2009).

The following activities are expected to be primary in the next 10 years for the Monument (not in priority order): relaxing/escaping heat; hiking; viewing/photographing natural features/wildlife; driving for pleasure/sightseeing/driving through natural scenery; fishing and hunting (although many studies show the demand for hunting to be decreasing [California State Parks 1998, 2002, Cordell 1999]); snowmobiling; biking; family gatherings; picnicking/group picnicking; developed camping/group developed camping; motorized and non-motorized water travel; swimming/water play; horseback riding; rock climbing; walking; nature center/nature study; and visiting historic/prehistoric sites. A range of camping opportunities is desired, from more developed campgrounds with flush toilets, hot showers, and food lockers, to more basic campgrounds with picnic tables, cold water, and vault toilets. The list of activities was primarily drawn from Sequoia National Forest market data (USDA Forest Service 2006a), supplemented by other sources examined in the recreation demand analysis (California State Parks 1998, 2002, 2003,

2009, Cordell 1999, 2004, Cordell et al. 2004, 2009b, 2009c, Kocis et al. 2004, Sheffield 2005, 2008).

Various studies have found that recreationists are generally satisfied with their available recreation opportunities (California State Parks 1998, 2002, 2003, 2009, Kocis et al. 2004, USDA Forest Service 2006a). However, they continue to be concerned with the availability of clean restrooms, safe drinking water, and information (directional signs, information on conditions and hazards, and interpretive information). Safety and security are of more concern in some areas and among some populations (Cordell 1999, Sheffield 2005).

Just as people have a variety of reasons for visiting, they also have numerous reasons for not visiting. Time constraints, lack of interest, lack of transportation, health or physical limitations, family needs, no one to go with, distance, and lack of money, as well as fear of the unknown or perceived crowding, are some of the factors that could affect a person's recreation participation (California State Parks 1998, 2002, 2003, 2009, Cordell 1999, Crano et al. n.d., Sheffield 2005). A lack of information about recreation opportunities has often been cited as one of the reasons, more frequently by people of color. Using media that are more likely to be effective with particular groups and emphasizing activities that are more likely to be of interest to those groups may more effectively reach culturally diverse people (Crano et al. n.d.). Many recent immigrants have limited outdoor recreation experience on public lands (Sheffield 2005).

New methods of interpretation, including multilingual materials, and efforts to outreach to underrepresented groups need to be developed with careful attention to their special needs. 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. In other cases, for those who do visit, services need to be developed that meet their needs (USDA Forest Service 2008a).

Regarding ways to receive information about recreation areas, the majority of people seem to prefer word of mouth from family and friends, the internet, and brochures (California State Parks 2003). Family and friends and computers/the internet were most frequently reported as the most trusted information sources across all ethnic groups, according to one study (Crano et al. n.d.). Whites seem to rely more on newspapers for recreation information than members of other ethnic groups. Asians may rely more frequently on computers than other groups. Both Latinos and African Americans seem to rely most on television for recreation information (Crano et al. n.d.).

Public Involvement

The recreation demand analysis includes information gathered through the public involvement conducted for this Monument planning process. 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. During this process, the public helped to develop and refine a decision framework using the Multi-Criteria Decision Support (MCDS) model (for more information on MCDS, see the 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.” The public identified what is important to them for recreation in the Monument that should be addressed in the Monument management plan, as described below.

Increasing enjoyment of the Monument is an overarching goal. The plan needs to balance diverse users, a wide variety of uses, accommodate uses through the variety of seasons, and minimize conflicts. The plan needs to provide for access; people cannot play if they cannot get to their destination, and for some, use of those access routes is their desired form of recreation. Road access, trail access, good signage, and permission to use the roads/trails are needed for people to enjoy the Monument. The plan needs to address connections: connection of people to place, peoples to peoples, developing stewardship to

foster that connection to the land, and education. The plan needs to provide for protection of people. The plan needs to be practical, in providing for opportunities that are easy to maintain and can be funded. The plan 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.

In addition to MCDS, in order to satisfy the requirements of the Clinton proclamation (Clinton 2000) and to create a healthy balance for both the Monument ecosystems and recreationists, the public emphasized the following considerations (submitted during scoping) as important in developing the Monument management plan.

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. Partner with local and statewide organizations to promote tourism.

Day Use: Provide picnic facilities in areas that create minimal effect on surrounding ecosystems. Place facilities where a range of recreation opportunities exist (such as near rivers, ponds, climbing rocks, views, giant sequoias). Provide and maintain adequate restroom facilities. Create informational and educational kiosks on the specific area’s natural and social history, objects of interest, and need for respect and care of these areas.

Camping: Provide and maintain campgrounds that create a sense of space, safety, privacy, and immersion in the forest experience with minimal effect on the surrounding ecosystem. Design camping spaces for small individual use, large family gatherings, and larger organizational groups. Monitor ecosystem and human effects and the safety of the recreation users and wild animals. Situate the campground facilities where recreation activities can be enjoyed close at hand. Provide and maintain adequate water,

restroom, food storage, and garbage disposal facilities. Provide interpretive programs that impart historic and environmental information. Develop kiosks and bulletin boards that provide information regarding regulations, appropriate user practices, and maps of the surrounding area. In addition, provide and maintain backcountry camping areas with toilet facilities and food storage for use in popular wilderness areas.

Roads: Designate and maintain existing roads that are appropriate for ATV, four-wheel drive vehicles, and snowmobiles, providing for user safety and minimum effect on the environment. Post maps, regulations, and safety considerations, regarding front country usage, wood gathering, etc., on bulletin boards at the roadheads. Partner with state and local agencies to maintain roads for four season use.

Parking and Toilets: Provide for appropriate toilet and 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 signage 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; historic information; and maps of the area.

Concessionaires and Private Resorts: Provide for, regulate, and cooperate with concessions, resorts, and private organizations that enhance the recreation experience. These opportunity providers may include summer and winter

backcountry guides, stock packing outfits, commercial tours, lodges, campgrounds, restaurants, health spas, and other commercial recreation providers.

Permittees, Organizational Camps, and Private Communities in and Adjacent to the Monument: Develop cooperative programs that enhance the Monument experience, while protecting its objects, history, and health. Address the current needs of private and public interests through understanding of past and future concerns. Create cooperative management structures to encourage dialogue, transparency, and trust. Educate private interests to the needs of ecological balance and stewardship.

Public Outreach Programs: Provide for public and permittee input throughout the development and implementation of the Monument management plan. Create memoranda of understanding with outside agencies, organizations, and inholders. Develop cooperative interpretation and stewardship programs involving communities within and adjacent to the Monument. Develop partnerships with Monument advocacy groups to acquire marketing, financial, and public resources. Involve gateway communities in decision making forums and marketing of Monument opportunities.

Education Programs: Develop programs in schools, communities, and in the Monument to promote a strong sense of public and personal ownership and responsibility for the Monument. Promote responsible usage; conservation practices for environmental and human resources; fire safety; and social and environmental safety. Create awareness through the media and Monument publications of the importance of wildland systems; the importance of human actions to wildland health and welfare; and the importance of historic perspectives to help guide us to a balanced future.

The analysis in the effects on recreation section of Chapter 4 is based on how well the alternatives would meet future recreation demand and protect the objects of interest. The discussion addresses

both a portion of the MCDS framework and these considerations which the public identified as important to them.

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 Term Permit Act of 1915 (38 Stat. 1101, as amended; 16 U.S.C. 497), 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 Act of March 4, 1915, as amended in 1956 (16 U.S.C. 497), which authorizes term permits; Section 7

of the Granger-Thye Act of 1950 (16 U.S.C. 490, 504, 504a, 555, 557, 571c, 572, 579a, 580c-5801, 581i-1); the Independent Offices Appropriation Act of 1952, as amended (31 U.S.C. 9701) (Office of Management and Budget Circular No. A-25 further defines this authority); 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); the Alaska National Interest Lands Conservation Act of 1980 (16 U.S.C. 3210); the National Forest Ski Area Permit Act of 1986 (16 U.S.C. 497b); the Omnibus Parks and Public Lands Management Act of 1996 (16 U.S.C. 497c); the Act of May 26, 2000 (16 U.S.C. 4061-6d), which supplements the authority to regulate commercial filming and still photography; the Cabin User Fee Fairness Act of 2000 (16 U.S.C. 6201-6213); and the National Forest Organizational Camp Fee Improvement Act of 2003 (16 U.S.C. 6231 et seq.). 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.

In a few cases, where the MSA proposed wording changes for particular standards and guidelines in particular management emphasis areas, those

standards and guidelines would apply to those management emphasis areas in Alternative E, as specified in the MSA. However, these particular standards and guidelines would apply Monument-wide in Alternatives B, C, D, and F, as these items make sense in any location, although one of these standards and guidelines would be changed to a strategy (see table in this section).

Standards and guidelines that established ROS capacity for developed recreation and dispersed recreation are proposed to be deleted for all of the action alternatives (B, C, D, E, F). For developed sites, capacity is more appropriately determined through site specific analysis. The standards and guidelines for dispersed recreation ROS capacity are impractical to administer. For dispersed recreation activities, people will go where they want to go to pursue their desired activity. No one will check to see if more than 0.055 people per acre, for example, are recreating in a given location at any given time. The intent behind these standards and guidelines is to limit effects to resources and/or to control the social experience. These impacts are more appropriately dealt with at the site specific level.

The Forest Plan contained standards and guidelines regarding potential ski area development at Peppermint on the Western Divide Ranger District and Mitchell-Maddox on the Hume Lake Ranger District. Neither project is expected to be pursued in the Monument, as ski area development is neither expected to be economically feasible, nor environmentally desirable.

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;

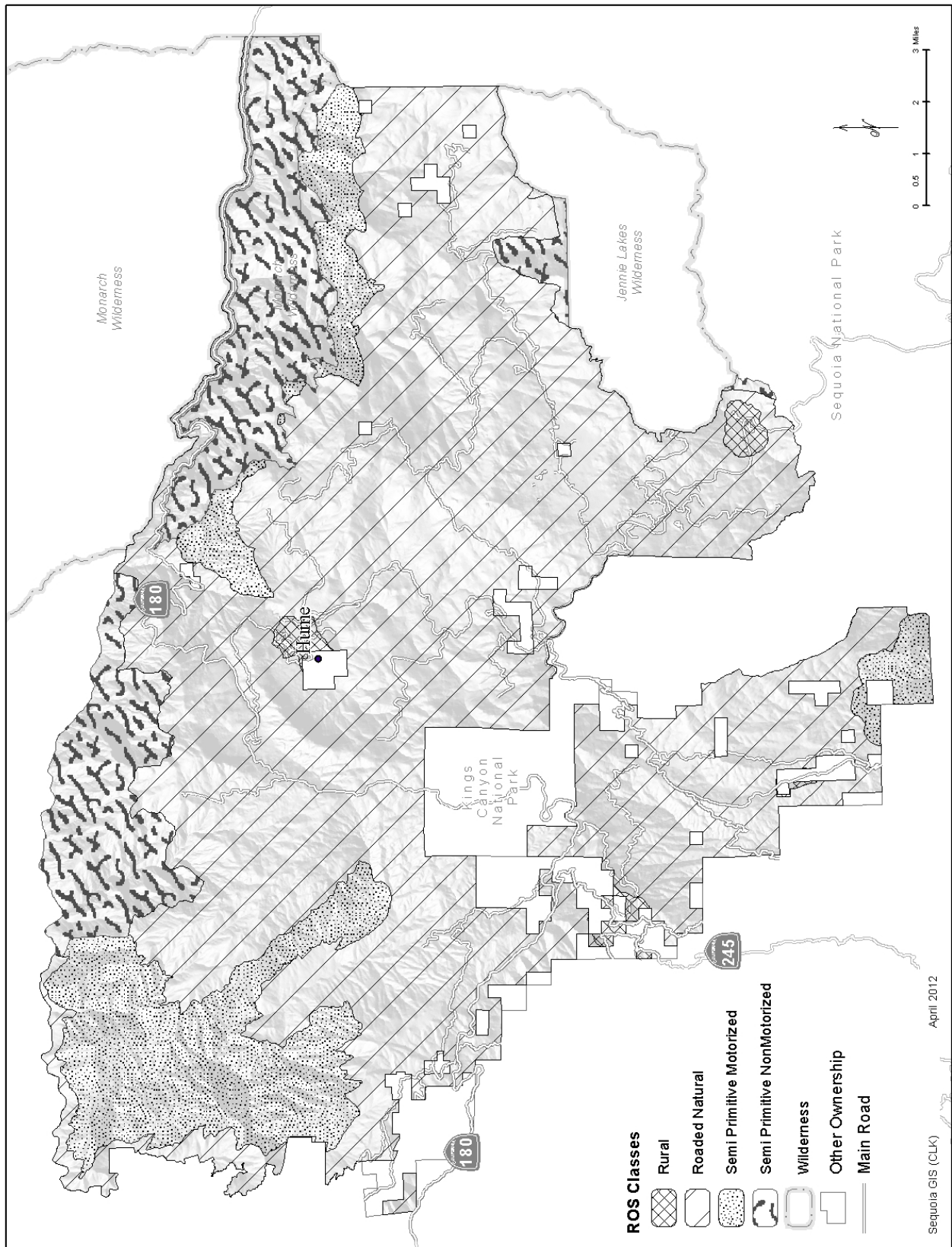
no standard or guideline is needed. Another item on page 107 of the MSA refers to a table (average annual outputs and costs) in the Forest Plan to add, “References to trail mileage such as: miles open to OHV use, miles closed to OHV use, miles with seasonal closures, miles to be constructed/reconstructed/relocated 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.

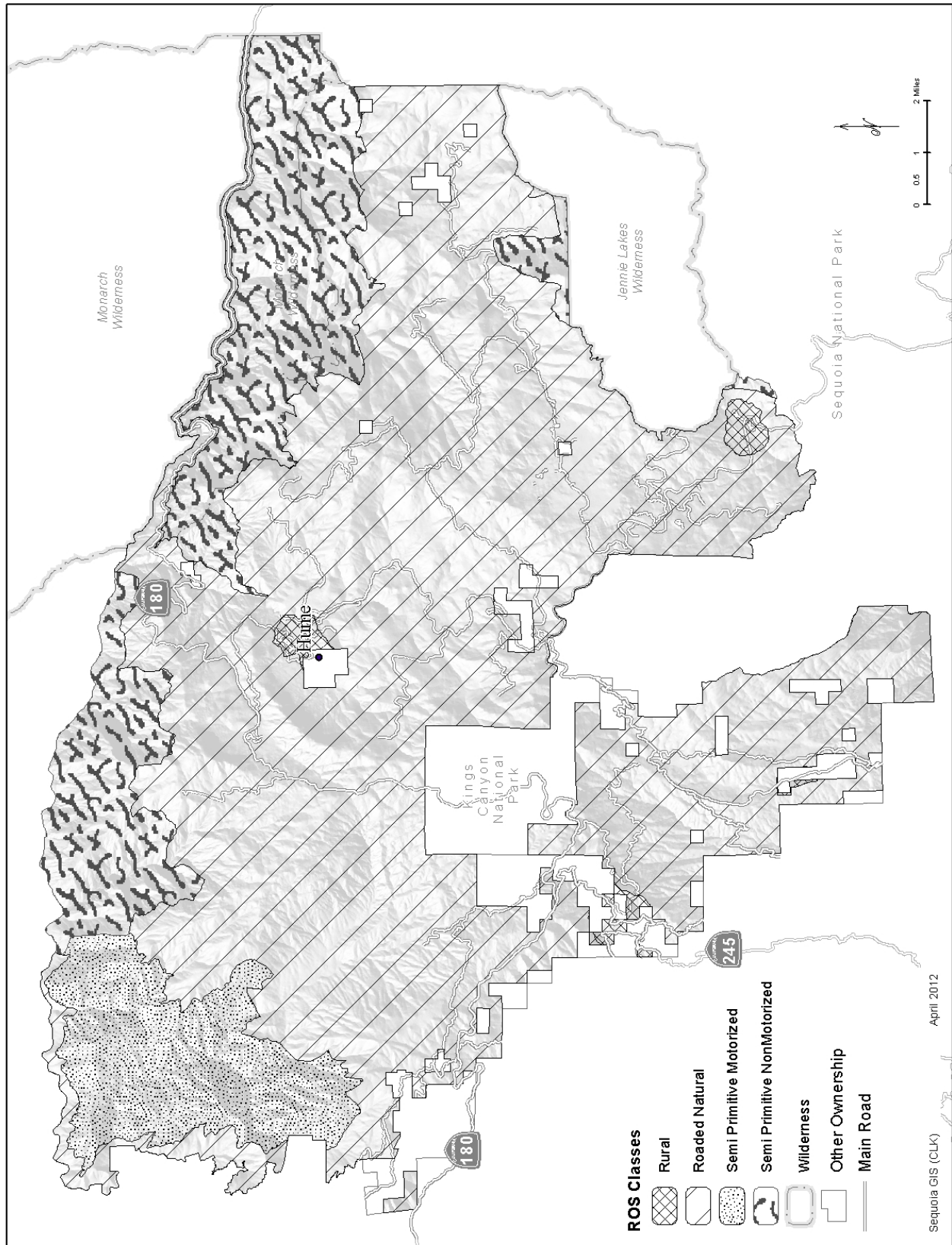
Most of the SPM areas (approximately 30,000 acres) outside of KRSMA are surrounded by or border roaded natural (RN) areas, and most of that acreage (approximately 26,000 acres) would be

reclassified as RN for most alternatives (B, C, D, F; 275,761 total RN acres for these alternatives). This forest and Monument have a developed recreation focus, according to the market data (see recreation demand analysis in this report), with more people participating in recreation activities in a developed setting than in other locations. Demand for more developed recreation opportunities, and, in particular, more group opportunities is expected. The RN class would better accommodate projected recreation demand, as RN allows for more flexibility in development and management than the semi-primitive non-motorized (SPNM) class. Just because an area is designated as RN, however, does not necessarily mean that it would be developed; site specific analysis would be needed before any development project could occur. Many factors, such as topography and potential effects to threatened and endangered species, cultural resources, and the objects of interest, would affect whether or not development in any given location would occur. The SPM area that abuts the SPNM area by the South Fork of the Kings River and is within the Agnew Roadless Area would be reclassified as SPNM (approximately 4,000 acres; 39,451 total SPNM acreage for Alternatives B, C, D, and F). No changes in ROS classes would be proposed for Alternative E, as the MSA uses the ROS classes that are in the Forest Plan, although the MSA does say that minor changes to ROS class boundaries could occur in other planning documents.

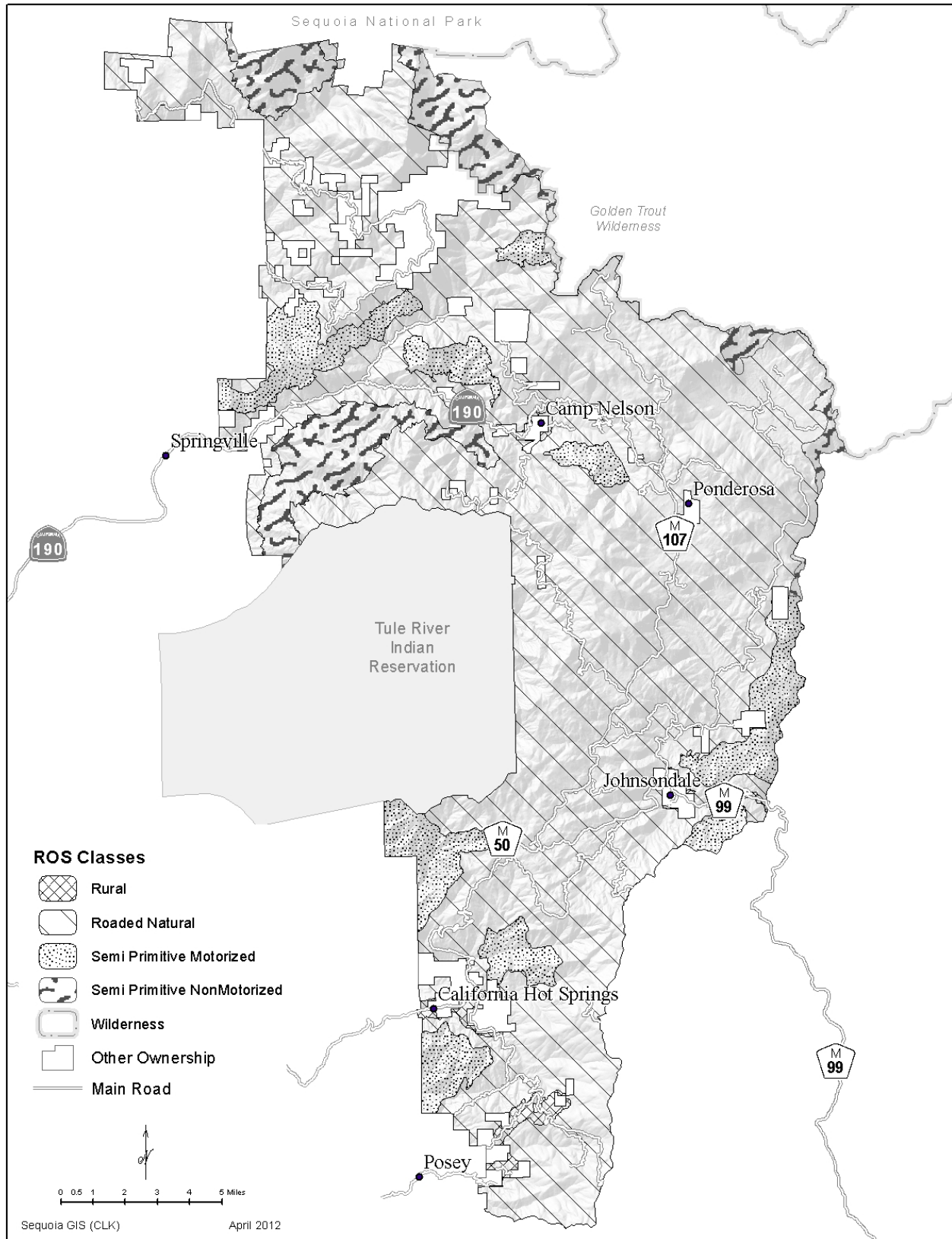
Map 3 Recreation Opportunity Spectrum Classes for Alternatives A and E in the Northern Portion of the Monument



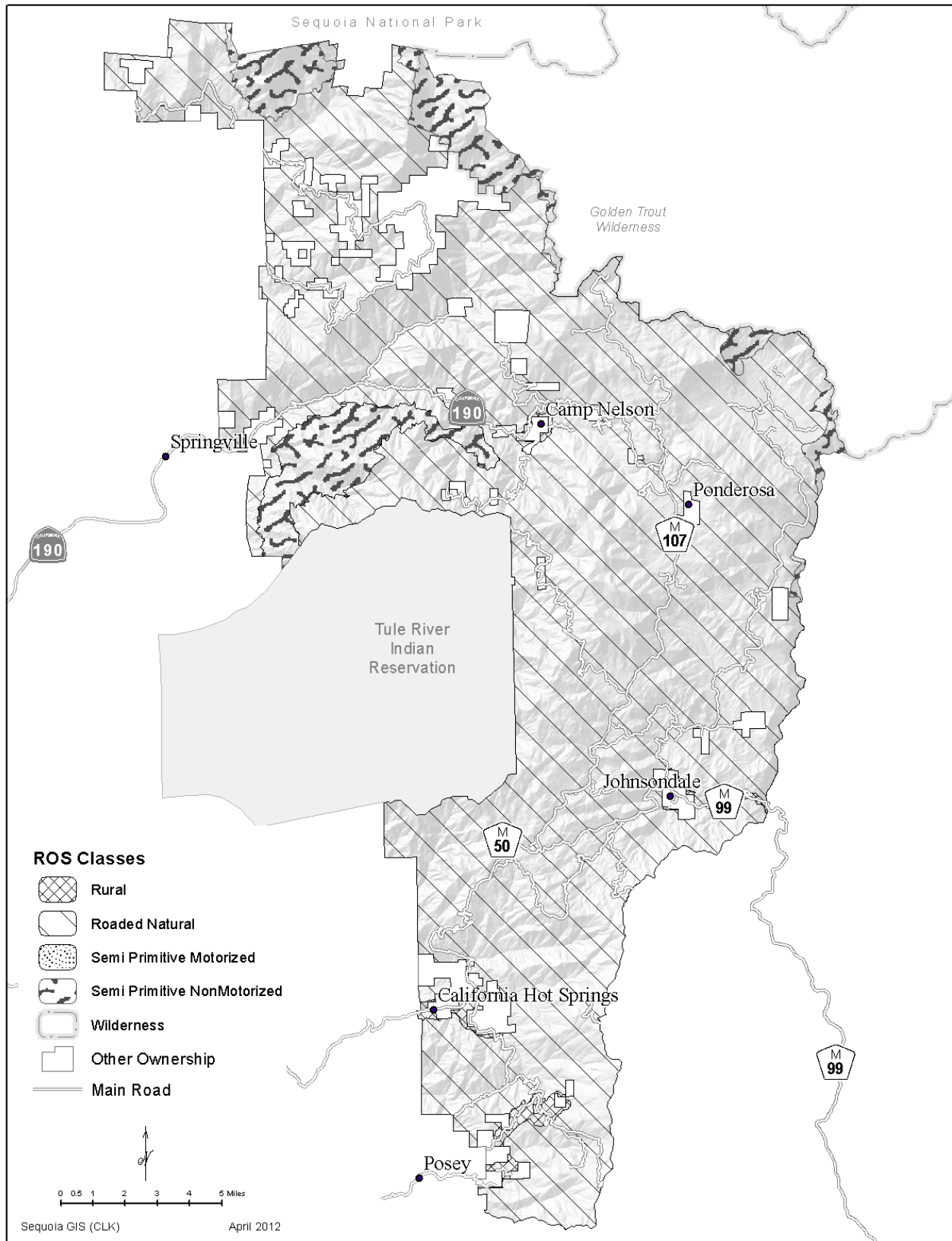
Map 4 Recreation Opportunity Spectrum Classes for Alternatives B, C, D, and F in the Northern Portion of the Monument



Map 5 Recreation Opportunity Spectrum Classes for Alternatives A and E in the Southern Portion of the Monument



Map 6 Recreation Opportunity Spectrum Classes for Alternatives B, C, D, and F in the Southern Portion of the Monument



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.

In addition to standards/guidelines and strategies, the following paragraphs contain some considerations in planning for recreation opportunities in the future. These considerations would apply to site specific planning in all of the alternatives. Much of the information comes from the National Association of Recreation Resource Planners' "Principles of Recreation Resource Planning" (2009).

- Not all types and amounts of people or activities can be accommodated in a particular setting at one time. Recreation niche settings, which focus on the special values and resources of a setting within the larger spectrum of recreation opportunities, would help guide what kinds of opportunities are provided where. ROS settings would guide the type of development provided (amount of development, construction materials, type of access, concentration of use/social encounters, remoteness).
- Some recreation uses are not compatible with other uses. In determining what activities to provide and where, existing activities need to be considered. Strong preferences for specific recreation settings lead to competition for recreation resources among different user groups. Conflict may also be generated by how each user group perceives the others' actions and values. Potential social impacts need to be minimized and mitigated.
- Site specific plans need to determine visitor capacity for the proposed use. Visitor capacity is the prescribed number or supply of available visitor opportunities to be accommodated in a specific location and specific time.
- Consider resource sustainability in recreation project planning. Recreation use needs to be integrated so as to harmonize with, protect, enhance, and sustain natural and cultural resources, including the objects of interest. Potential environmental effects need to be minimized and mitigated. Consider the kind of resource legacy that will be left to the next generation.
- Consider recreation stewardship opportunities in project planning. Site restoration projects are a form of recreation for some people. Opportunities should be designed, managed, and interpreted so as to foster public appreciation, understanding, respect, behaviors, and partnerships that contribute to the stewardship of an area's natural and cultural resources and special values.
- Ensure that all people have an opportunity to enjoy the Monument without prejudice of race, ethnicity, age, wealth, gender, beliefs, or abilities.
- Ensure that the recreation opportunities which are provided are what the public truly wants, while also ensuring that the natural and cultural resources can support/sustain the use. Do not take the attitude of "if we build it, they will come," because they might not; resources are too scarce to waste them on developing recreation opportunities that will not be used or that will be used in a manner not intended (misused).
- Promote the environmental, human, and community wellness benefits that accrue from recreation participation, such as improved physical and mental health, child development, family cohesion, civility, social integration, economic stimulation, work productivity, resource stewardship, and a conservation ethic.

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Table 2 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.

Table 3 Revised Recreation and Energy Standards and Guidelines

Forest Plan Category	Standard/Guideline	Proposal/Rationale
Dispersed recreation management	For Alternative E only in management areas OW5, MC5, and CF5: Increase opportunities for increasing public enjoyment and benefits. (MSA p. 105)	Alternative E retains MSA language and only applies in particular management areas. For the other alternatives (B, C, D, F), this would be a useful strategy to guide recreation management Monument-wide and be flexible to respond to changing recreation demand in the future.
Dispersed recreation management	<p>Alternatives B, C, D, F: Manage dispersed recreation activities by location and period of use based on wildlife needs (e.g., excluding incompatible use from key areas during fawning and nesting). (See LRMP pp. 4-67, 4-69, 4-75 for original wording.)</p> <p>For Alternative E only in management areas OW5, MC5, and CF5: Manage recreation activities by location and period of use based on wildlife needs (e.g., excluding incompatible use from key areas during fawning and nesting). (MSA p. 105)</p>	The changed wording would apply Monument-wide in Alternatives B, C, D, F for dispersed recreation. Alternative E retains MSA language and only applies in particular management areas.
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.

Forest Plan Category	Standard/Guideline	Proposal/Rationale
Energy	Encourage energy development, when sources are available, as long as the development is consistent with other standards and guidelines. (LRMP p. 4-37) Does not apply in Alternative D.	The proclamation (Clinton 2000) withdraws Monument lands from mineral entry and geothermal leasing, but other kinds of energy, such as solar, wind, or other utilities, would be possible, except in Alternative D.

Table 4 Forest Plan Standards and Guidelines to be Changed to Strategies for Recreation and Human Use

Forest Plan Category	Standard/Guideline	Proposal/Rationale
Dispersed recreation management	Alternatives B, C, D, F: Develop and manage opportunities for public enjoyment (opportunities emphasized will depend on location). (See LRMP pp. 4-43, 4-46, 4-51, 4-54, 4-57, 4-59, 4-62, 4-77, 4-79, 4-81, 4-86 for original wording.) In Chapter 2, the strategy for all alternatives is worded as: Develop and manage opportunities for public enjoyment (opportunities emphasized will depend on location and other criteria).	This would be a useful strategy to guide recreation management. The wording is changed from the wording in management areas OW1, MC1, CF1, BO2, OW2, MC2, CF3, BO6, OW6, MC6, and CF6, which specified particular activities; the changed wording would apply Monument-wide and be more flexible to respond to changing recreation demand in the future.
Recreation	Recreation opportunity spectrum ROS: Manage the forest to provide recreation opportunities within the parameters established by each ROS class. Follow the “Recreation Opportunity Spectrum User’s Guide” to determine the applicable activities, physical settings, and recreation experiences for each ROS class. ROS classes are displayed on the accompanying map. The ROS classes are: P–Primitive, SPNM–semi-primitive non-motorized; SPM–semi-primitive motorized; RN - roaded natural; R–Rural; U–Urban (LRMP p. 4-16) In Chapter 2, the strategy for all alternatives is worded as: Maintain the assigned ROS classes (semi-primitive non-motorized, semi-primitive motorized, roaded natural, and rural).	This information would be useful to guide recreation development, along with the recreation niche settings, but need not be required. Changes to the mapped ROS class area locations would occur for Alternatives B, C, D, F.

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Forest Plan Category	Standard/Guideline	Proposal/Rationale
<p>General recreation; general developed recreation sites; office of information and interpretive services</p>	<p>Follow forest interpretive plan. (Replace interpretation direction; see LRMP pp. 4-16, 4-22, 4-54, 4-59 for specific wording.)</p> <p>In Chapter 2, the strategy for all alternatives is worded as:</p> <p>In accordance with the Sequoia National Forest Interpretive Plan and the Forest Service conservation education guidance, provide opportunities for interpretation that reflect scientifically-supported scholarship and research data.</p> <ol style="list-style-type: none"> 1. Convey clear messages regarding natural and cultural resources and multiple use. Use multi-media interpretation and educational programs to develop stewardship of resources, to ensure their present and future protection, and to enhance public enjoyment of this unique place. 2. Promote and integrate awareness of Monument history, appreciation for biological processes, education about past and current human use of the Monument, and education about the distinctive yet interrelated disruptive forces involved with the use and protection of resources. 	<p>Rather than specifying the types of interpretive services, methods, facilities, and purposes, the forest interpretive plan would be followed, which is expected to evolve over time, in response to evolving technologies, visitor needs and demands, and available resources.</p>
<p>Rural community and human resources</p>	<p>Meet human and community needs where feasible by providing employment and training opportunities particularly for the elderly, disadvantaged and minority communities. Volunteers and other human resource programs will help accomplish planned work while meeting budget constraints. (LRMP p. 4-36)</p> <p>In Chapter 2, the strategy for all alternatives is worded as:</p> <p>Continue to support and participate in employment and training programs for youths, older Americans, and the disadvantaged in response to national employment and training needs and opportunities existing in forest surroundings.</p>	<p>This would be incorporated into the strategy for partnerships and collaboration.</p>

Table 5 Forest Plan Standards and Guidelines to be Changed to General Guidance for Recreation

Forest Plan Category	Standard/Guideline	Proposal/Rationale
General developed recreation sites	Increase occupancy through extended seasons. (LRMP p. 4-17)	This is useful guidance for better utilization of existing recreation opportunities; reduces congestion; avoids the need for new development that would only be used during peak times. (The parenthetical sentence on p. 4-17 refers to RVDs, which are no longer used.)
General developed recreation sites	Emphasize day use opportunities (e.g., overlooks, interpretive signing) to complement existing facilities. (LRMP p. 4-17)	This would be useful to guide recreation site management, but may need to evolve over time, as recreation demand changes in the future.
General developed recreation sites	Manage existing destination sites to complement dispersed activities. (LRMP p. 4-17)	This would be useful to guide recreation site management, but may need to evolve over time, as recreation demand changes in the future.
General developed recreation sites	Manage vegetation to maintain or improve recreation values. (LRMP p. 4-17)	This information would be useful to guide recreation site management.
General developed recreation sites	Perpetuate large tree cover and revegetate openings when any developed recreation site is capable of growing trees. (LRMP pp. 4-43, 4-45, 4-51, 4-54, 4-56, 4-59, 4-61, 4-66, 4-74, 4-86)	Some version of this appears in management areas OW1, MC1, CF1, BO2, OW2, MC2, CF3, OW5, CF5, and CF6. This information would be useful to guide recreation site management Monument-wide. In addition, add: Reduce exotics and promote native species.
General developed recreation sites	Develop picnic grounds and campgrounds when need increases in the priority listed. a. Rehabilitate existing b. Expand existing c. Develop new facilities. (LRMP pp. 4-54, 4-56, 4-59, 4-61, 4-85)	Some version of this priority listing appears in management areas BO2, OW2, MC2, CF3, and CF6. This information would be useful to guide recreation site development Monument-wide.
General developed recreation sites	Manage developed sites to increase dispersed recreation opportunities. (LRMP pp. 4-54, 4-57, 4-59)	This appears in management areas BO2, OW2, and MC2 and would be changed to apply Monument-wide to guide recreation management; visitors like to engage in a number of activities during their stays, rather than just sitting in a campground, for example.
Dispersed recreation management	Provide for a variety of dispersed uses (including both summer and winter activities) consistent with resource protection and maintaining recreation opportunities. (LRMP p. 4-18)	This is useful to accommodate diverse visitor preferences and to help respond to changing recreation demand in the future.

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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.
Recreation management (private permitted uses)	Prepare future use determinations needs assessments for resorts, recreation residence tracts, and organization camps with permits due to expire during the planning period (attempt three year lead time) when potential use conflicts are identified when the public need for the use has diminished; when unacceptable resource damage is occurring; or when an alternate use is proposed or has evolved without Forest Service approval. (LRMP p. 4-20)	This could be useful guidance for special uses, depending on the circumstances.
Water-oriented use	Hume Lake area: a) Emphasize development of facilities to enhance dispersed day use recreation. Expand no overnight facilities. (LRMP p. 4-21)	This is currently useful guidance, but would not be required, in order to provide flexibility to respond to changing recreation activities and future 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 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)	This information would be useful to help guide trail development, but need not be required.
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,	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.)

Forest Plan Category	Standard/Guideline	Proposal/Rationale
	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)	
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 6 Deleted Forest Plan Standards and Guidelines for Recreation, Human Use, and Lands

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.
General recreation	Review and participate in the preparation or state recreation plans. (LRMP p. 4-16)	Not needed; required.
General recreation	Develop special management direction to deal with exceptionally heavy recreation use in areas such as Hume Lake, the lower Tule River canyon, and the Lloyd Meadow area. (LRMP p. 4-16)	Not needed; policy describes how to manage recreation use.
General recreation	Continue coordination with the NPS to help facilitate users and management activities for the benefit of park resources (e.g., permit issuance for park backcountry users where access begins on the national forest. (LRMP p. 4-17)	Not needed. Useful advice to coordinate with the neighboring agency, regarding facilities, personnel, etc., and develop partnerships.

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Forest Plan Category	Standard/Guideline	Rationale
General developed recreation sites; dispersed recreation management	Continue Pack-in, Pack-out policy in lightly used recreation areas. (LRMP pp. 4-17, 4-18)	A version of this appears in both Forest Plan categories. The Leave No Trace program should be emphasized. Pack-in, pack-out may be appropriate in some locations, depending on use levels and services provided.
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	Pursue development of the Peppermint Mountain Resort as detailed in the Final Environmental Impact Statement. (LRMP p. 4-17)	The project is not expected to be pursued, as ski area development is neither expected to be economically feasible, nor environmentally desirable.
General developed recreation sites	Study the feasibility of constructing either Mitchell-Maddox or Sherman Pass ski areas, with potential development of one in decade two with expansion in decade three. Manage these areas to maintain options for future development. (LRMP p. 4-17)	Delete Mitchell-Maddox (Sherman Pass outside the Monument). The project is not expected to be pursued, as ski area development is neither expected to be economically feasible, nor environmentally desirable.
General developed recreation sites	Consider elderly and handicapped standards during construction, rehabilitation, and reconstruction of facilities. (LRMP p. 4-17)	Not needed; matter of law/regulation.
General developed recreation sites	Rehabilitate developed sites (on an average 20-year cycle) using established forest priority lists. (LRMP p. 4-17)	Process has changed; timeline impractical.
General developed recreation sites	Maintain fee sites at standard level and non-fee sites at the less than standard level. Over time, move the non-fee sites toward standard level with an objective to obtain about 50 percent shift during the first decade. (LRMP p. 4-17)	Conflicts with national direction to maintain all sites to standard.
General developed recreation sites	Evaluate potentials and take opportunities to convert small, underutilized camp and picnic sites to undeveloped occupancy spots. (LRMP p. 4-17)	Conflicts with public recreation demand preference for developed sites.
General developed recreation sites	Emphasize expansion of existing water-oriented sites where use dictates resource protection and average	Unnecessarily constricts development and ability to respond to recreation demand. Capacity should be

Forest Plan Category	Standard/Guideline	Rationale
	utilization exceeds 40 percent of theoretical capacity. (Apply maximum 10 percent increase or 600 Persons-at-One-Time (PAOT) each decade). (LRMP p. 4-17)	determined through site specific analysis.
General developed recreation sites	Develop new sites during first and second decade only where new water developments and/or licensing actions occur or to facilitate wilderness access. (An objective is an estimated five percent or 300 PAOT increase). (LRMP p. 4-17)	Time frame has passed.
General developed recreation sites	Manage potential developed sites during the first decade to maintain values for future development. (LRMP p. 4-17)	Time frame has passed.
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.
General developed recreation sites	Build and manage new facilities to enhance dispersed recreation opportunities. (LRMP pp. 4-46, 4-50, 4-66, 4-68)	This appears in management areas OW1, OW5, and similar in CF1 and MC5; should not be the reason to construct new facilities; development needed for many purposes to serve the public.
General developed recreation sites	ROS capacity guidelines for developed sites. (See LRMP pp. 4-43, 4-46, 4-51, 4-54, 4-57, 4-59, 4-62, 4-66, 4-69, 4-74, 4-86 for specific wording.)	Some version of this appears in management areas OW1, MC1, CF1, BO2, OW2, MC2, CF3, OW5, MC5, CF5; and CF6, which is superseded by the Sierra Nevada Forest Plan Amendment (2001). Not needed; policy is to determine capacity through site specific analysis.
General developed recreation sites	Design new constructed or reconstructed facilities to a standard conducive to recreational type vehicles. (LRMP pp. 4-54, 4-59)	This appears in management areas BO2 and MC2. Recreation demand and site specific analysis should guide development at any particular location.
General developed recreation sites	Manage developed recreation facilities to minimize dispersed use impacts within the MIZs. (LRMP p. 4-62)	This appears in management area CF3; not needed; policy.
General developed recreation sites	Do not locate new recreation sites where fish habitat cannot be adequately protected. (LRMP p. 4-62)	This appears in management area CF3; not needed; covered by the Sierra Nevada Forest Plan Amendment (2001).

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Forest Plan Category	Standard/Guideline	Rationale
General developed recreation sites	Limit new development to RN areas where key wildlife habitat will not be impacted. (LRMP p. 4-74)	This appears in management area CF5; would be determined through site specific analysis.
General developed recreation sites	Develop new facilities which increase dispersed recreation opportunities and are located at least one-quarter mile from meadows. (LRMP p. 4-74)	This appears in management area CF5; would be determined through site specific analysis.
General developed recreation sites	Do not construct any new campgrounds or picnic sites. (LRMP pp. 4-77, 4-79, 4-81, 4-88)	This appears in management areas CF7, BO6, OW6, and MC6, which have been superseded by the Sierra Nevada Forest Plan Amendment (2001), and CF7 is also inconsistent with the proclamation (Clinton 2000); unnecessarily constricts development and ability to respond to recreation demand.
General developed recreation sites	Fence all developed campgrounds and picnic sites. (LRMP p. 4-86)	This appears in management area CF6, which has been superseded by the Sierra Nevada Forest Plan Amendment (2001); may be appropriate in some locations, depending on site specific analysis.
General developed recreation sites	Treat existing recreation facilities as inclusions. Maintain and rehabilitate where compatible with recreation demands and objectives. Silvicultural prescriptions will be designed to protect recreation visual needs of existing recreation facilities. (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).
Dispersed recreation management	Emphasize opportunities for increasing dispersed recreation. (LRMP p. 4-18)	Not needed; public recreation demand preference is for developed sites, but dispersed recreation can still be accommodated.
Dispersed recreation management	Identify and respond to potential problems created by target shooting with the objective to minimize user conflicts. (LRMP p. 4-18)	Not needed; policy.
Dispersed recreation management	Utilize less than standard level management in lightly used areas including wilderness. (LRMP p. 4-18)	Conflicts with national direction to maintain all sites to standard.
Dispersed recreation management	Provide sanitation facilities in the areas of or during periods of concentrated use, where either increased management presence or resource protection is necessary and/or potential development exists for which a specific site plan is prepared. (LRMP p. 4-18)	Not needed; policy.

Forest Plan Category	Standard/Guideline	Rationale
Dispersed recreation management	ROS capacity guidelines for all activities. (See LRMP pp. 4-43, 4-46, 4-52, 4-55, 4-57, 4-60, 4-62, 4-67, 4-69, 4-75, 4-77, 4-79, 4-81, 4-86, 4-88 for specific wording.)	Some version of this appears in management areas OW1, MC1, CF1, BO2, OW2, MC2, CF3, OW5, MC5, CF5; BO6, OW6, MC6, CF6, which are superseded by the Sierra Nevada Forest Plan Amendment (2001); CF7, which is superseded by the Sierra Nevada Forest Plan Amendment (2001) and is inconsistent with the proclamation (Clinton 2000); impractical to administer; impacts are more appropriately dealt with at the site specific level, according to policy.
Dispersed recreation management	Restrict or reduce recreation use seasonally to mitigate significant conflicts with grazing. (Management areas BO6, OW6, MC6, and CF6) (MSA p. 106) (See LRMP pp. 4-77, 4-79, 4-82, 4-86 for original wording.)	Management areas BO6, OW6, MC6, and CF6 are superseded by the Sierra Nevada Forest Plan Amendment (2001), and the proclamation (Clinton 2000) encourages recreation use consistent with the purposes of the Monument.
Dispersed recreation management	Restrict activities during periods of high fire hazard. (LRMP p. 4-81)	This appears in management area MC6, which is superseded by the Sierra Nevada Forest Plan Amendment (2001); fire restrictions are in effect when needed, according to policy.
Dispersed recreation management	Maintain existing dispersed recreation opportunities within the MIZ. (LRMP p. 4-86)	This appears in management area CF6, which is superseded by the Sierra Nevada Forest Plan Amendment (2001).
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).
Dispersed recreation management	Provide limited facilities for dispersed camping. (LRMP p. 4-89)	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	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

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Forest Plan Category	Standard/Guideline	Rationale
	maintain specific recreation opportunities/experiences. (LRMP p. 4-18)	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.
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.

Forest Plan Category	Standard/Guideline	Rationale
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.
Wheeled off-highway vehicles (OHVs) (including mountain bikes)	Emphasize providing and maintaining a comprehensive network of OHV trails in Roded 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.
Recreation management (private permitted uses)	Prepare future use determination needs assessments for resorts and organization sites prior to issuing new permits, when existing facilities are sold, and new termination dates are requested and the criteria listed above is applicable. (LRMP p. 4-20)	Not needed; policy.

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Forest Plan Category	Standard/Guideline	Rationale
Recreation management (private permitted uses)	Encourage development of recreation uses on private lands. Permit uses and/or activities on National Forest System lands only after full consideration of the opportunities provided by others, both public and private. (LRMP p. 4-20)	Not needed; regulation/policy.
Water-oriented use	North Fork Kern River: a) Lloyd Meadow Road: designate and manage sites for day and overnight use including regulated parking during the managed season throughout the first decade. (LRMP p. 4-21)	Time frame has passed; being implemented.
Water-oriented use	Maintain current mix of dispersed/developed, night/day use along the Tule River. (LRMP p. 4-21)	Need more flexibility to respond to changing recreation demand in the future.
Water-oriented use	Hume Lake area: b) Complete recreation action plan for the Hume Lake basin during the first decade. (LRMP p. 4-21)	Time frame has passed.
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 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)	Not needed; policy.
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,

Forest Plan Category	Standard/Guideline	Rationale
		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).
Rural community and human resources	Provide where feasible an environment that promotes the active participation of all segments of the public in the management of the forest. a) Promote the use of symbol signing for the hearing impaired. b) Utilize bilingual personnel, brochures and signing in areas heavily used by the Hispanic community. (LRMP pp. 4-36, 4-37)	Not needed; item "a" is a matter of law/regulation; item "b" would be addressed in the civil rights impact analysis.
Rural community and human resources	Ensure over time that forest service facilities are responsive to the design needs of the physically challenged. (LRMP p. 4-37)	Not needed; matter of law/regulation.
Rural community and human resources	Ensure that federally conducted and assisted programs administered by the Forest Service (including contracting opportunities and special-use permits) are responsive to the needs of minority groups. (LRMP p. 4-37)	Not needed; matter of law/regulation.
Lands	Survey mark and post all property lines to Forest Service standards. Give priority to those lands needed for management activities and where high potential for encroachment exists. (LRMP p. 4-37)	Not needed; policy (FSM 7150).
Lands	Grant new non-recreation special-use permits or easements only when suitable private land is not available and they would not conflict with forest management objectives. (LRMP p. 4-37)	Not needed; policy/regulation (FSM 2700; 36 CFR 251).
Lands	Continue minimum level of administration of special uses that meet current direction except where higher levels are warranted on case-by-case basis. (LRMP p. 4-37)	Not needed; policy (FSM 2700) covers special uses administration.

Forest Plan Category	Standard/Guideline	Rationale
Lands	Acquire available private land and dispose of public land only where needed to reduce administrative costs, foster resource programs, or resolve administrative problems; and have a favorable benefit-cost ratio. (LRMP p. 4-37)	Not needed; acquiring available private land from willing sellers/donors is policy (FSM 5400); the proclamation (Clinton 2000) requires that disposing of public land can only occur to further the protective purposes of the monument; cost requirements are a matter of law/regulation.
Lands	Acquire rights-of-way needed for management activities and to provide public access to national forest system lands. (LRMP p. 4-37)	Not needed; policy (FSM 5400).
Lands	Respond to interagency transfer proposals, as needed. (LRMP p. 4-37)	Not needed; required process.
Lands	Review existing withdrawals to determine if they should be continued and for how long. (LRMP p. 4-37)	Not needed for the Monument, which has been withdrawn, as required by the proclamation (Clinton 2000).

Assumptions and Methodology

The following sections describe the probable consequences or effects of each alternative. No direct effects would occur from this programmatic level document; no site-specific decisions are being made. Two types of effects are discussed: indirect effects and cumulative effects. The description of effects is the analytic basis for comparing the alternatives.

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 to which people could be accommodated at developed sites, the relative extent of dispersed recreation opportunities, and the relative extent of road and trail opportunities. Rather than identifying specific numbers of people at one time, site capacity, or 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). The text refers to recreation opportunities, which include facilities, programs, and the lands that provide the settings for recreation activities. Managers provide recreation opportunities, which allow visitors to have recreation experiences. 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 emphasizes flexibility, 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 A in this report; 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 A or the summary in the recreation affected environment section in this report).

- 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).
- Although people have a variety of reasons for visiting, they also have numerous reasons for not visiting (California State Parks 1998, 2002, 2003, 2009, Cordell 1999, Crano et al. n.d., Sheffield 2005). A lack of information about recreation opportunities has often been cited as one of the reasons for not visiting, more frequently by people of color (Crano et al. n.d.).
- Using media that are more likely to be effective with particular groups and emphasizing activities that are more likely to be of interest to those groups may more effectively reach culturally diverse people (Crano et al. n.d.).
- The majority of people seem to prefer word of mouth from family and friends, the internet, and brochures (California State Parks 2003) as ways to receive information about recreation areas. Whites seem to rely more on newspapers for recreation information than members of other ethnic groups. Asians may rely more frequently on computers than other groups. Both Latinos and African Americans seem to rely most on television for recreation information (Crano et al. n.d.).
- 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).
- Recreation facilities and services need to be made more relevant for the state's rapidly changing population segments, including the elderly, youth, single-parent families, ethnic groups, new immigrants, and persons with disabilities (California State Parks 2002).
- The typical family campground that was developed in the 1960s, with individual campsites designed to accommodate six people in tents or small camper trailers, no longer suits the style of recreation that many people seek to experience (California State Parks 2002, Cordell 1999, USDA Forest Service 2008a). Fewer people use tents to camp (although non-white campers are more likely to use tents than white campers). Fewer camper trailers are seen, having been largely replaced by recreational vehicles (RVs), some of which are quite large and do not fit in small campsites (although gas prices may affect future RV use and size).
- People often want to camp in larger groups than can be accommodated in many campsites; more group picnic areas and camping opportunities are needed (California State Parks 1998, 2003, 2009, USDA Forest Service 2006a).
- A range of camping opportunities is desired, from more developed campgrounds with

flush toilets, hot showers, and food lockers, to more basic campgrounds with picnic tables, cold water, and vault toilets (Sheffield 2005).

- Camping alternatives, such as cabins, tent cabins, yurts, and other affordable lodging should be provided (California State Parks 2009).
- The following activities are expected to be primary in the next 10 years for the Monument (not in priority order): relaxing/escaping heat; hiking; viewing/photographing natural features/wildlife; driving for pleasure/sightseeing/driving through natural scenery; fishing and hunting; snowmobiling; biking; family gatherings; picnicking/group picnicking; developed camping/group developed camping; motorized and non-motorized water travel; swimming/water play; horseback riding; rock climbing; walking; nature center/nature study; and visiting historic/prehistoric sites (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

Two advisories issued by the SAB continue to apply to recreation 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 recreation stock use in 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.

XIX. Visitor Data—How should the Forest improve its visitor use database for the Giant Sequoia National Monument?

This Advisory stated that the forest lacks adequate information on visitor use. This information is needed regardless of the alternative. The Forest Service currently uses National Visitor Use Monitoring (NVUM) as a method of assessing use. Due to the survey sample size, the information is only valid at the forest level and cannot be strictly applied to the Monument or a particular district or a particular site (Kocis et al. 2004, USDA Forest Service 2008b). In 2006, NVUM data were used, along with information from the National Survey on Recreation and the Environment (NSRE), the United States Census Bureau, the National Association of Counties, and local information, to develop market data, including recreation demand information, for the Sequoia National Forest (USDA Forest Service 2006a). The recreation demand analysis prepared for this Monument planning process examines additional information sources, including studies covering the nation, California, or portions of the state, for their applicability to the Monument. A March 2011 research report (Chavez) provides

specific information on six day use sites in the Monument, which will be useful in future site-specific planning; research on a seventh site is being conducted in summer 2011.

Ecological Restoration and Recreation

Ecological restoration and 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

Recreation opportunities that are currently available and occurring are described in Chapter 3, Recreation. 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 unattended/abandoned campfires and 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 noted effects are based on visual observation and monitoring.

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 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 or the recreation demand analysis in Appendix A in this report 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
 - Day Use and Camping

- Tourism
- Concessionaires and Private Resorts
- Provides Access
 - Roads
 - Trails
 - Signage
 - Parking and Toilets
- Connects People to Others and Across Generations
 - Permittees, Organizational Camps, and Private Communities in and Adjacent to the Monument
 - Public Outreach Programs (Partnerships)
 - Interpretation and Education Programs (Conservation Education)
- Connects People to the Land (Places)
 - Effects on 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 this analysis.

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,

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.

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). Within the Monument, some areas are filled to capacity at times, especially on holiday weekends, indicating a need for additional recreation opportunities in the future. 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. Alternative C focuses on recreation at developed sites and would encourage new development, but only in certain locations (recreation opportunity areas; for their location, see maps in the Promotes Diversity of Uses section). In Alternative D, new development would be limited to walk-in picnic areas and walk-in campgrounds, with most new development encouraged outside the Monument.

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 recreation 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 hardening sites to avoid erosion, avoiding meadows and riparian areas, or avoiding cultural resources. Site 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). Some people will even plan their vacations around an activity, such as cabin restoration. Recreation site restoration, trail restoration, trail maintenance, and site maintenance are all 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, facility development, and activities allowed vary. No one kind of access to the objects of interest or one kind of development to facilitate their enjoyment 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, facilities, 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 development of new facilities

to enhance enjoyment of the objects, but, for example, if people want to mountain bike on a trail to view the objects or camp under a giant sequoia outside of a developed campground, their ability to do their desired activities or use their desired modes 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, or they might find that their favorite campground in a giant sequoia grove is no longer there.

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, although the majority of users continue to be from White/Euro-American cultures (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). New methods of interpretation and efforts to outreach to underrepresented groups need to be developed with careful attention to their special needs. 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).

Multinational forest users have different expectations for their recreation experiences. For example, Hispanic recreation participation patterns are somewhat different from predominantly Anglo

populations (California State Parks 1998, 2003, Sheffield 2005), such as in picnicking; Hispanics tend to participate with larger groups, arrive earlier in the day, and spend quite a bit of time in food preparation (Sheffield 2005). Many ethnically diverse groups show a preference for recreation at developed sites; the ability to accommodate this preference would be more limited in Alternative D than in any of the other alternatives, because Alternative D would allow the least amount of new development. With the emphasis on developed recreation sites in Alternative C, at first glance, this alternative would seem to best accommodate the preference for recreation at developed sites. However, Alternatives B and F also have the potential for new development. Because of restrictions associated with development in some Forest Plan management emphasis areas, Alternatives A and E have slightly less potential than Alternatives B and F to accommodate the preference for recreation in developed sites.

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).

The alternatives range in the diversity of recreation opportunities allowed. On one end of the scale (Alternatives B and F) would be a wide variety of uses to accommodate individuals' differing recreation preferences, with flexibility to respond to future recreation demand and new activities. On the other end of the scale (Alternatives C and D) would be a more limited choice of uses, with new development only allowed in certain areas or with limitations on the type of development, and the ability to respond to changing recreation demand and activities is more limited. Which recreation activities may occur in which locations are not specified for Alternatives B, C, D, and F in order to provide the greatest flexibility to accommodate

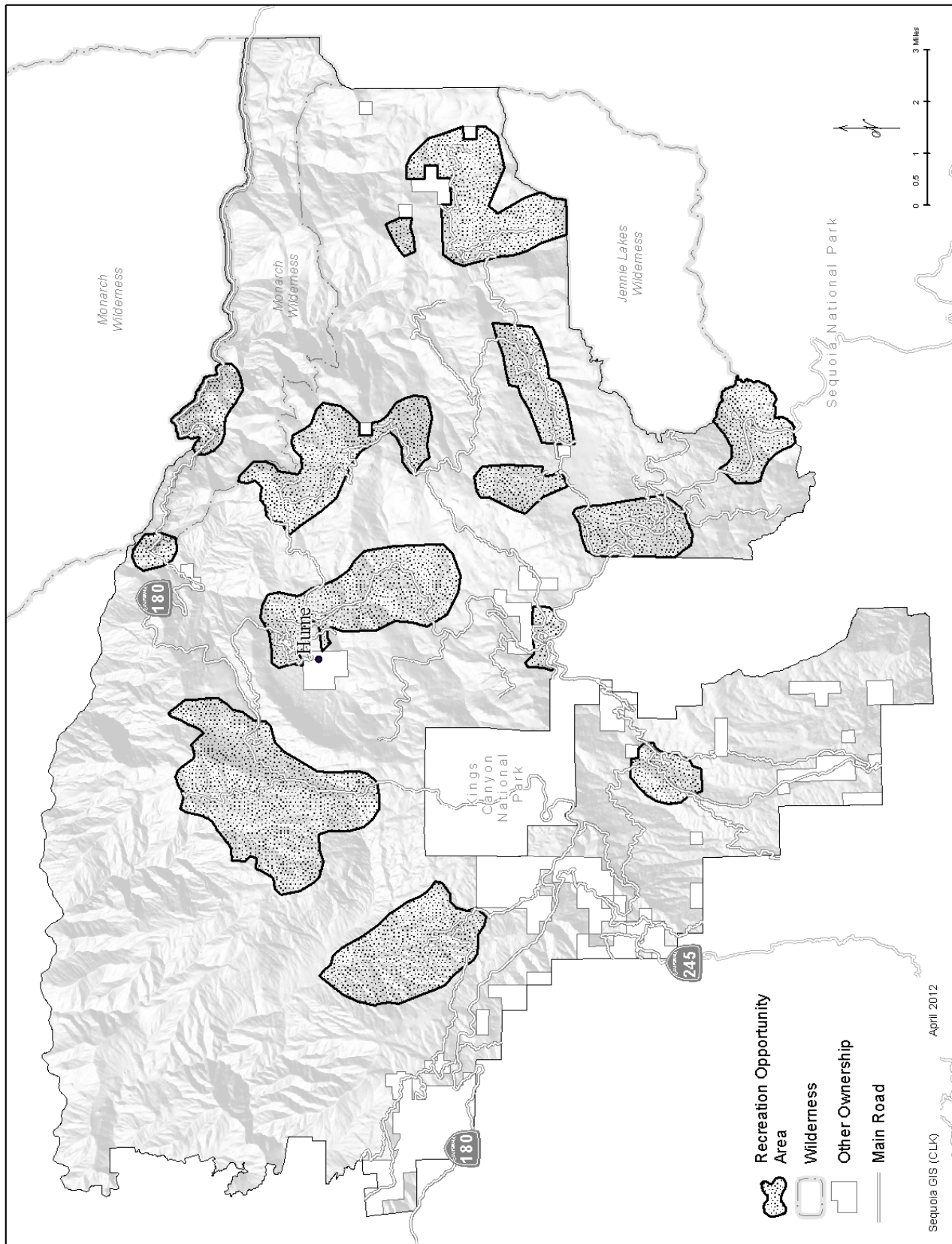
new and changing activities as they emerge in the future. However, Alternatives C and D do have some limitations on the kinds of activities that may be allowed. Alternative C emphasizes developed recreation opportunities, but only in certain locations (recreation opportunity areas; see the following maps for their location). Alternative D would limit the development of new recreation facilities—no new roads would be allowed, so new picnic areas or campgrounds would be walk-in only. Which activities are emphasized in Alternatives A and E are listed in Forest Plan management emphasis area direction, which is somewhat more limited than what would be allowed in Alternatives B and F.

Day Use and Camping

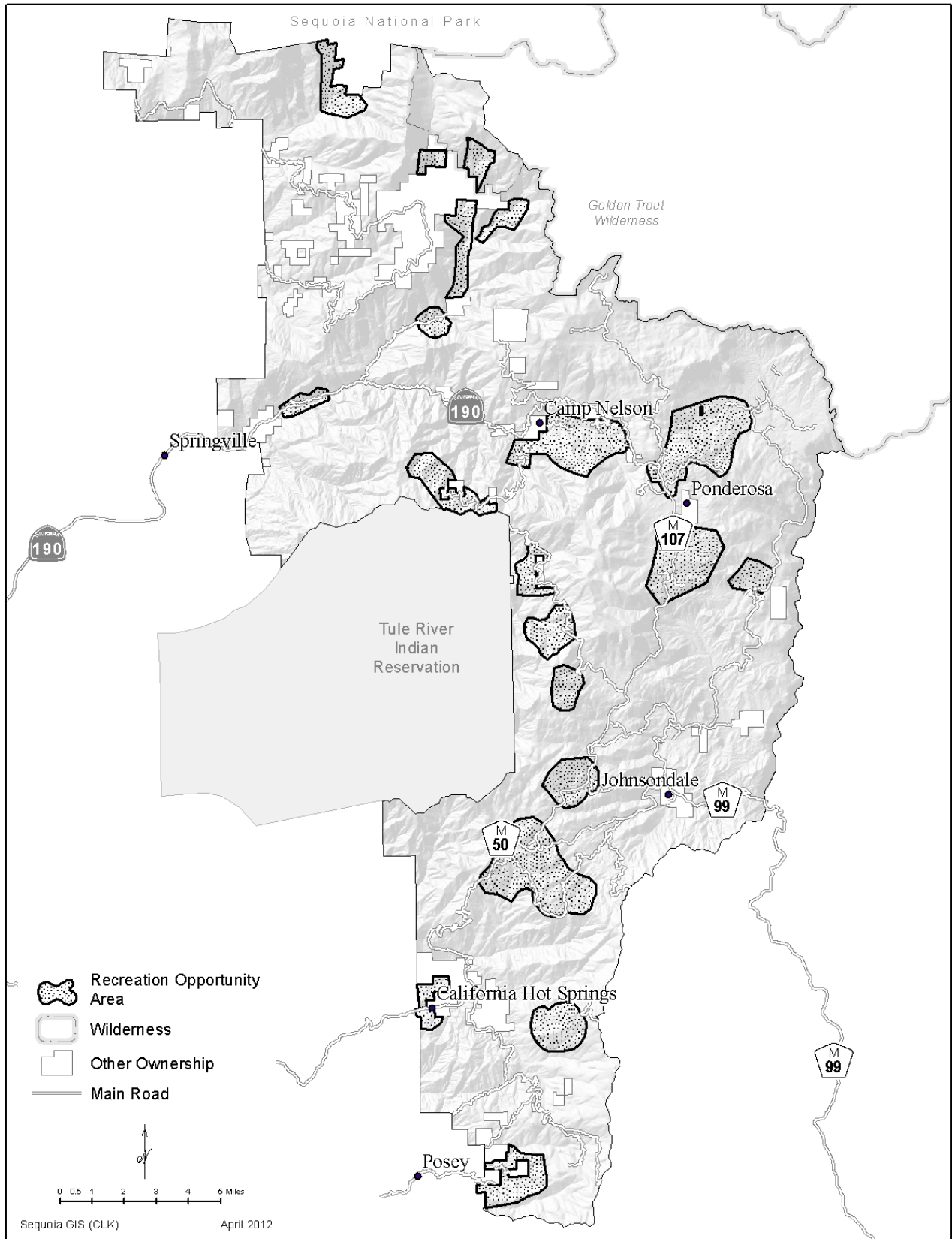
Alternative C would eliminate dispersed camping along roadsides or at the end of roads in concentrated use areas, which is very popular with some current Monument visitors. Dispersed camping in the Wildlands recreation niche setting, inventoried roadless areas, or portions of the Kings River Special Management Area would be allowed only by permit in Alternative C. Existing developed campgrounds are expected to remain in all of the alternatives, except in Alternative D, where, as opportunities arise, existing campgrounds within sequoia groves would be considered for relocation to areas outside of groves. The alternatives differ most for new development, as described in the following paragraphs.

Camping opportunities would be diverse in Alternatives A, B, E, and F. More highly developed campgrounds may be proposed in Alternatives B, C, and F than what currently exist, in order to better satisfy public demand. Alternative C would encourage new development, guided by the recreation niche settings, but only in certain locations (recreation opportunity areas); new campgrounds are expected to be at the higher end of the development scale (including amenities such as flush toilets and RV hookups), and lodges, cabins, or other overnight accommodations could also be developed. Alternatives A and E are less restrictive in the locations for new development, but sites where overnight opportunities would be developed would be guided by the Forest

Map 7 Recreation Opportunity Areas for Alternative C in the Northern Portion of the Monument



Map 8 Recreation Opportunity Areas for Alternative C in the Southern Portion of the Monument



Recreation Report

Plan management emphasis areas and the recreation niche settings. Alternatives B and F are least restrictive in where new overnight development could occur, but the kinds of recreation opportunities encouraged in any given location would be guided by the recreation niche settings (see the recreation affected environment section). Alternatives B and F would allow the widest spectrum of overnight development, from undeveloped dispersed camping to campgrounds with minimal amenities (e.g., vault toilets) to highly developed campgrounds (e.g., flush toilets, RV hookups) to lodges and cabins.

For day use, the alternatives vary, both in what activities/development would be allowed, as well as where. In Alternative C and, to a lesser degree, Alternative D, expected road reductions are also expected to result in decreased access for hunters. No target shooting would be allowed in Alternative C, although Alternative C would allow other forms of dispersed recreation, such as hiking, birdwatching, fishing, and picnicking.

Alternative D would allow the least amount of new development, and all new campgrounds or picnic areas would be walk-in only, as no new roads would be developed in that alternative. Consequently, Alternative D does not address recreation demand as well as the other alternatives. The Monument attracts groups who want to camp or picnic in developed sites, and the existing supply of facilities that meets that need is quite limited. Not all people are willing or able to walk to their campsites or picnic sites, which would limit the ability of Alternative D to accommodate groups and may affect people with disabilities. In addition, many ethnically diverse groups show a preference for recreation at developed sites; the ability to accommodate this preference would be more limited in Alternative D than in any of the other alternatives.

With the emphasis on developed recreation sites in Alternative C, at first glance, this alternative would seem to best accommodate the preference for recreation at developed campgrounds, developed picnic areas, or other developed day use sites. However, Alternatives B and F also have the potential to provide for new

campground development, in addition to allowing dispersed camping in undeveloped areas, which is also popular. Alternatives B and F would also have the potential to provide for additional day use development. Because of restrictions associated with development in some Forest Plan management emphasis areas, Alternatives A and E have slightly less potential than Alternatives B and F to accommodate the preference for camping or day use in developed sites with the development of new campgrounds, new picnic areas, or other day use sites.

Fees would continue to be charged for the use of most developed campgrounds that offer services such as water, toilets, fire pits, tables, and parking. Some day use sites that have the required amenities would also have fees. Some campsites or day use areas that offer limited facilities would be available at no charge. Various studies have found that recreationists are generally satisfied with their available recreation opportunities (California State Parks 1998, 2002, 2003, 2009, Kocis et al. 2004, USDA Forest Service 2006a). However, people continue to be concerned with the availability of clean restrooms, safe drinking water, and information (directional signs, information on conditions and hazards, and interpretive information). Safety and security are of more concern in some areas and among some populations (Cordell 1999, Sheffield 2005). The need for law enforcement and resource protection efforts would be likely to increase with more visitation. More people would be interested in visiting the groves, which might affect grove management objectives. These situations would exist for all of the alternatives.

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. Water is a magnet, attracting people to recreate; areas with water attract more visitors than areas without it. In the Monument, water provides an additional escape from the heat, and water-related activities 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. The continued enjoyment of water would also be accommodated by each alternative, although new access roads could not be developed under Alternative D.

Tourism

Natural resources and outdoor recreation play an important role in tourism, as they provide the settings for travel activities and experiences (California State Parks 2002, Cordell 1999, Hill et al. 2009). When vegetation management improves scenery, the quality of the recreation experience would also be improved. The availability and proximity of recreation opportunities affect how much people recreate, as well as their choice of activities. Climate change is evident, as the number of frost-free days is increasing (Cordell et al. 2009b). The snowpack is expected to melt earlier in the season, particularly affecting where and when winter recreation activities occur in the future (Morris and Walls 2009). (For a more detailed description of climate change, see the effects on air resources section in Chapter 4 of the final EIS.)

Although all of the alternatives are expected to promote tourism to some degree, Alternatives B, C, and F are particularly designed to promote tourism. With less development in the Monument, Alternative D is expected to attract a different type of tourist than the other alternatives, and most tourist services would be located outside the Monument. Alternatives B, C, D, and F would all encourage gateway community development that

could cater to tourists. (For additional information on gateway community development, see the socioeconomic section in Chapter 4 of the final EIS.)

Concessionaires and Private Resorts

Concessionaires, private resorts, and other commercial development would continue to have opportunities in the Monument to some degree, depending on the alternative. Potential new development is possible in Alternatives B, C, and F, in particular. No new development would occur until after site-specific project environmental analysis is completed. New lodges, restaurants, and visitor centers are examples of the kinds of new development that could occur. In Alternative C, new developed facilities would be located near existing roads. In Alternative D, no new lodges, resorts, or organizational camps would be authorized or constructed within the Monument; such development would be encouraged outside the Monument. Alternatives B, C, D, and F would all encourage business opportunities and gateway community development. (For additional information on business opportunities, see the socioeconomic section in Chapter 4 of the final EIS.)

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 would 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, mountainbiking, 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

More group facilities for both camping and day use are important and will become even more important in the future, as larger “families” want to recreate together (California State Parks 1998, 2003, 2009, Sheffield 2005, USDA Forest Service 2006a). What constitutes a family has changed over the years, due to changing demographics. Research (California State Parks 1998, 2003, 2009, Sheffield 2005, USDA Forest Service 2006a) has shown that people often want to recreate in groups, and the Sequoia is a very family-oriented forest (USDA Forest Service 2006a, 2008c).

Providing outdoor opportunities to accommodate larger social groups presents forest managers

with challenges, including effects from human waste, littering, soil compaction and erosion, and vegetation disturbance. Larger groups can mean concentrated resource effects, especially in riparian areas and other environmentally sensitive areas. Many of these users are urbanites, lower income groups, and culturally diverse user groups, unfamiliar or unconcerned with the dangers and vulnerabilities of the natural environment they have come to enjoy. This situation is especially true of lakes and rivers within a 1-hour drive of urban centers. Interpretive programs that increase agency presence, using peers to deliver the messages, and provide audience-valued resource information, incorporating low-impact use messages, could be effective ways to increase outreach to these users, while mitigating resource effects (USDA Forest Service 2008a); all of the alternatives can accommodate this need.

Permittees, Organizational Camps, and Private Communities in and Adjacent to the Monument

Existing organizational camps and other existing special uses authorized by permit would continue to exist in all alternatives. Although new opportunities for additional organizational camps are possible in most of the alternatives (except Alternative D), additional facilities of this type are not currently in demand. No new organizational camps are expected to be developed at this time in any alternative, although that situation could change as demand changes. No new non-recreation special uses, such as utilities or electronic sites, would be allowed in Alternative D, with exceptions for scientific research or administrative needs. In addition, some types of non-recreation special uses 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 recreation facilities, such as campgrounds, trailheads, or interpretive sites, 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.

Interpretation and Education Programs (Conservation Education)

All alternatives include conservation education programs and interpretation, specifying that the forest interpretive plan be followed. The Interpretive Plan for the Sequoia National Forest and Giant Sequoia National Monument (USDA Forest Service 2008a) established a strategy for the forest’s interpretive program, featuring the interpretation of the objects of interest, both natural and cultural. Interpretive services may be provided on-site or virtually. The specific interpretive products, services, and delivery methods are expected to evolve over time, in response to evolving technologies, visitor needs and demands, and available resources. Partnerships are important in the provision of interpretation, not only because of the extra resources they provide, but also because they help to enrich the information provided and help to develop a sense of stewardship in both the partners and recipients of interpretive services (APPL 2004, NARRP 2009).

Keeping history alive for future generations is important; historic perspectives help guide us into the future. The interpretation of history promotes a connection among people and across the generations who came before us. Restoration of historic sites, such as cabins, would be promoted, along with interpretation of their histories, either on-site or virtually. Sometimes off-site interpretation is most appropriate, in order to protect the resources being interpreted from damage by use or abuse.

Whether or not interpretive services are likely to be provided would not change between alternatives, but the location and method of delivery may vary. All alternatives would have the same potential for virtual interpretive opportunities. Alternatives B, F, and particularly C are likely to have a strong on-site component, through programs, guided tours, and displays at visitor centers, for example. As less new development is envisioned in the Monument in Alternative D, more virtual interpretive opportunities may be provided versus on-site;

on-site interpretation would be focused at existing developed sites and through guided tours or programs that are not facility-dependent.

All of the action alternatives include a Children's Forest, where children would be given the opportunity to take a leadership role in forest management, in order to spark a fascination with nature and develop them as "citizen stewards" with a life-long interest and commitment to the land. Formal education programs and volunteer projects would give children the opportunity to learn about natural and cultural resources and then put that knowledge into practice. Possible projects could include forest restoration work, including tree planting; trail design, construction, and maintenance; recreation site maintenance; providing interpretive programs; archaeology research; community outreach; and outdoor skill building. The existence of this Children's Forest would provide managers with another mechanism for completing desired work projects. However, when children are the people who plan and implement the projects, which work projects are completed or the methods for their completion could be very different from what the Forest Service would normally undertake.

Connects People to the Land (Places)

People have a strong connection to place. This connection may come from a person's experience, the connection may be vicarious, or a connection to place may be shared by cultures. Whatever the reason, places have particular meaning for individuals. And each person can have that attachment for a different place or multiple locations. What places those are may vary with the activity, and no one place can satisfy that connection for all people. The place and the reason for the attachment are as individual as the person (Cordell 1999, Hill et al. 2009).

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, 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), what activities they can engage in once they are there, or what kinds of facilities exist. 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.

Recreation niche settings, which focus on the special values and resources of a setting within the larger spectrum of recreation opportunities (NARRP 2009), would help guide what kinds of opportunities are provided where. Recreation opportunity spectrum (ROS) settings would guide the type of development provided (amount of development, construction materials, type of access, concentration of use/social encounters, remoteness). All alternatives include the recreation niche settings (see the recreation affected environment section in Chapter 3). In addition, Alternatives A and E also include the Forest Plan management emphasis areas, which further focus recreation direction. Alternatives B and F eliminate those management emphasis areas and only use the niche settings for recreation management, thereby providing the greatest flexibility to accommodate new and changing recreation activities as they emerge in the future. Alternatives C and D also eliminate the Forest Plan management emphasis areas in favor of the recreation niche settings, but Alternative C further limits new recreation development to recreation

opportunity areas, or nodes, within some of those niche settings. Creating and maintaining scenic vistas could occur in all alternatives, particularly within the scenic routes recreation niche setting, which would improve the quality of the recreation experience. No development would occur in the future until site-specific environmental analysis is completed for a proposed project.

Effects on 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 to visitors' experiences from management activities would be variable. 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. Increasing efforts to interpret management activities, which could occur in all alternatives, would help to build understanding of those management activities and develop a sense of stewardship (USDA Forest Service 2008a). 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.

Comparison of Alternatives

The following table compares the alternatives for how well they respond to predicted recreation demand and potential change to the trail system, which are the measures used for the Recreation and Public Use and trail portion of the Road and Trail Access issues presented in Chapter 1.

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."

Table 7 Comparison of Alternatives

Issue	Alt. A	Alt. B	Alt. C	Alt. D	Alt. E	Alt. F
Recreation	<p>Somewhat limited in flexibility to respond to future recreation demand and new activities; the activities emphasized are listed in Forest Plan management emphasis area direction.</p>	<p>Most flexibility to respond to future recreation demand and new or changing activities.</p>	<p>Emphasizes developed recreation opportunities; has flexibility to respond to future demand and new or changing activities, but with some limitations on allowed activities; activities such as dispersed (roadside or end of the road) camping and biking on trails would not be possible.</p>	<p>Limits the development of new recreation facilities; most limited in ability to respond to future recreation demand and new or changing activities; no new roads allowed, so new picnic areas or campgrounds would be walk-in only, limiting the ability to accommodate groups.</p>	<p>Somewhat limited in flexibility to respond to future recreation demand and new activities; the activities emphasized are listed in Forest Plan management emphasis area direction.</p>	<p>Most flexibility to respond to future recreation demand and new or changing activities.</p>
Trail access	<p>Potential for increase as decommissioned roads are converted to trails or new trails are developed. Trails for specific uses (mountain biking, hiking, stock) and loop trails could be provided.</p>	<p>Potential for increase as decommissioned roads are converted to trails or new trails are developed. Trails for specific uses (mountain biking, hiking, stock) and loop trails could be provided.</p>	<p>Most potential for increase as decommissioned roads are converted to trails or new trails are developed. Trails for specific uses (hiking, stock) and loop trails could be provided, but not for mountain bikes.</p>	<p>More potential for increase as decommissioned roads are converted to trails or new trails are developed. Trails for specific uses (mountain biking, hiking, stock) and loop trails could be provided, but opportunities for mountain bikes could be limited.</p>	<p>Potential for increase as decommissioned roads are converted to trails or new trails are developed. Trails for specific uses (mountain biking, hiking, stock) and loop trails could be provided.</p>	<p>Potential for increase as decommissioned roads are converted to trails or new trails are developed. Trails for specific uses (mountain biking, hiking, stock) and loop trails could be provided.</p>

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 decisionmaking. (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 Recreation

The cumulative effects analysis for recreation considers the effect of the alternatives when combined with the following past, present, and foreseeable future actions and events: management decisions; facility, road, and trail maintenance; facility, 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 recreation opportunities, including public access. 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 on 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.

Facility, Road, and Trail Maintenance

Facility, 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 recreation facilities, 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, trails, and recreation facilities; closure due to safety concerns and deferred maintenance needs; and subsequent loss of recreation opportunity and quality of the experience.

Facility, Road, and Trail Construction/Reconstruction

Facility, 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 recreation management remains at or near recent levels, deferred maintenance would continue to increase, the condition of facilities 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. Some new development could be constructed by private entities (authorized by special use permit), providing new business opportunities for existing businesses, or new businesses could be attracted to the area. (For additional information on business opportunities, see the socioeconomic section in Chapter 4 of the final EIS.) As new facilities are developed, the costs for operation and maintenance would increase above existing levels. To the extent that new facilities are developed in any of the alternatives, 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 recreation opportunities are provided (see the recreation demand analysis in Appendix A of this report), including what kinds of development would occur and what activities would be allowed. Beyond the need for additional group opportunities, what new opportunities would be accommodated in the future is unknown at this time, due to the uncertainty inherent in predicting the future. Any proposals for new opportunities, including new development, changes to existing sites, 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.

People who are displaced by the reduced availability of dispersed (roadside/end of the road) camping opportunities in Alternative C might choose to go elsewhere for dispersed recreation experiences, which could increase crowding in some areas of the Sequoia National Forest outside of the Monument, or these displaced dispersed campers may visit other areas entirely. Some people could opt to use developed sites instead, which could worsen congestion problems in those sites, creating a greater need for the development of new facilities in the Monument. This need could also carry over into areas of the Sequoia National Forest outside of the Monument, Sequoia and Kings Canyon National Parks, or other nearby areas, such as Mountain Home State Demonstration Forest.

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 tourism-related development could occur in the gateway communities in any alternative, and Alternatives B, C, and F are particularly designed to promote tourism. However, new development would be particularly encouraged outside

the Monument in the gateway communities in Alternative D, with its limitations on new development in the Monument. The cumulative effect is that any new development would take time for any of the alternatives, as new businesses may need to become established in the communities if existing businesses do not have the interest or capacity, as well as the time for the construction itself (Hill et al. 2009). (For additional information on tourism related businesses, see the socioeconomic section in Chapter 4 of the final EIS.)

New business opportunities could become available for outfitter-guide services, attracting new businesses to the area or expanding existing businesses. Attracting new businesses could take time (Hill et al. 2009). 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 for 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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Appendix A— Recreation Demand Analysis

A recreation demand analysis was prepared for the Monument for use in this planning process. This analysis is independent of the alternatives developed for the final EIS; predicted recreation demand does not change by alternative. What does vary by alternative is how well the alternative responds to the predicted recreation demand. That

variation is discussed in the effects on recreation section in Chapter 4, not in this appendix.

This recreation demand analysis is not a needs assessment that compares recreation demand with the existing Monument supply of recreation opportunities and use patterns. A gap analysis (demand minus supply equals needs) was not performed, because such an analysis yields simplistic results that are not reflective of the complexities inherent in predicting human behavior or the uncertainties associated with predicting changing circumstances in the future.

This recreation demand analysis looks at recreation participation trends and factors (societal, lifestyle, demographic) that affect recreation participation (Cordell 1999, Sheffield 2005, USDA Forest Service 2006a).

Influences on Recreation Participation

Several factors, relating to societal, lifestyle, and demographic trends, can affect recreation participation (Cordell 1999, Sheffield 2005, USDA Forest Service 2006a); race, ethnicity, and gender also affect recreation participation (Cordell 1999). The aging of the baby boomer generation, income changes, time constraints, changes in family structure, and immigration are examples of trends that can all affect recreation (Sheffield 2005). Some specific examples of how trends affect recreation are that people are tending to take more frequent, shorter trips, rather than the traditional two-week vacation (Cordell 1999); many people are looking for opportunities that are close to home (APPL 2004, California State Parks 2009, Cordell 1999); and more families and singles are recreating.

The diversity of “family” has greatly changed over the past several years and will continue to do so (Sheffield 2005). An increasing divorce rate over the past several years has created greater numbers of single parent households (APPL 2004). Families increasingly may be a blend of adults and children, who may be related by marriage, but not necessarily blood. The number of households with multiple generations is also increasing. A

greater number of persons are also living alone, by personal choice, death of a spouse, or divorce. These factors affect who people want to recreate with and the number of people who want to recreate together. Many people want to recreate in groups.

Income can affect participation (California State Parks 2009, Cordell 1999). An example is activities that have a high cost investment in recreation equipment. Some researchers have also noticed that participation is lower in households with very low or very high incomes (California State Parks 1998). Economic recession or prosperity also affects participation patterns, as equipment sales, travel distance, travel frequency, and activity choices can all be affected by the amount of disposable income available (Cordell et al. 2009b). Whether by choice or economic necessity, two income households with or without children have become the rule, although with the current recession, many people are unemployed.

As the baby boom generation ages, the proportion of the population that is elderly will increase. The attitude is generally changing that leisure time is not a privilege, but a right earned by years of hard work, and seniors have more free time available for activities. Improved health care, greater emphasis on maintaining lifelong physical fitness, and a changing image of what “old” people can or cannot do are also factors that contribute to greater participation in outdoor recreation and leisure activities than previous generations (California State Parks 2002, 2009, Cordell 1999, USDA Forest Service 2006a).

Baby boomers are a diverse group. Some people are interested in continuing education and have a strong desire to learn about nature, wildlife viewing, and history/culture, for example. Some are interested in high-risk activities, and a number of people over the age of 40 are beginning such activities as rock climbing (California State Parks 1998, 2002, Sheffield 2005, USDA Forest Service 2006a). Not all older people will increase their recreation participation, however, as health concerns and mobility problems will affect their ability and desire to participate.

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). Interest and concern for overall physical fitness, wellness, and improving health are substantial, although a report from the Surgeon General found that 60 percent of Americans are not regularly active, while 25 percent are not active at all. For young people, physical activity declines dramatically during adolescence. The same report concluded that a variety of medical conditions can be prevented or improved through lifelong moderate physical activity, which will improve the quality of life. Americans see outdoor recreation as a potent tool in attacking societal problems. Those who participate in outdoor recreation are markedly more content with their lives, in general, their families, their jobs, and their physical well-being (California State Parks 1998, 2002, 2003, 2009, Cordell 1999, Hill et al. 2009, Sheffield 2005, 2008).

People will continue to have an increasing number of choices on how to spend their leisure time. Recreation areas face competition from a myriad of leisure opportunities, both at home and away. At the same time, the public is developing higher expectations for quality and service. Convenient products and services that give people more time will continue to proliferate. As more people work, they have less time available to do anything else. The importance of convenience will extend to all areas of life, even recreation, as close-to-home recreation will increase in importance. Visitors will be interested in a diversity of activities and conveniences/amenities (APPL 2004, Hill et al. 2009, Sheffield 2005).

In determining future recreation demand, looking at current recreation participation patterns is useful (Cordell 1999, Sheffield 2005, USDA Forest Service 2006a). What is currently occurring forms a baseline for estimating what might happen in the future. In addition, when people are asked what activities they would participate in if opportunities were available, comparing those responses to current behavior can be useful. What activities people say they would participate in does not necessarily equate to what they actually do. For example, if people say they would go camping

if more opportunities were available, but do not camp now, even though opportunities are currently available, they still may not camp in the future, even if more opportunities are provided.

The difference between what someone says they would do and what they actually do can be attributed to a number of reasons. First, people may simply think it would be nice to do something, but never actually follow through with the action. Limitations on time, disposable income, transportation, health, family needs, and traveling companions, as well as fear of the unknown or perceived crowding are some of the factors that could affect a person's recreation participation (California State Parks 1998, 2002, 2003, 2009, Cordell 1999, Crano et al. n.d., Sheffield 2005).

Crowding can affect how and when people visit an area (Cordell 1999). Some people do not mind crowds and, in fact, crowds can positively influence their recreation experiences. Many others, however, 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).

The Hispanic population will continue to grow during this century, which will greatly influence recreation participation. According to one researcher (Dwyer 1994 [cited in Cordell 1999]), minorities are projected to account for 75 percent of participation growth in backpacking, birdwatching, hunting, day hiking, tent camping, walking for pleasure, and picnicking. Hispanic recreation participation patterns are somewhat different from predominantly Anglo populations (California State Parks 1998, 2003, Sheffield 2005). One example is in picnicking; Hispanics tend to participate with larger groups, arrive earlier in the day, and spend quite a bit of time in food preparation (Sheffield 2005). Hispanics have different preferences in activities and types of areas visited (California State Parks 1998, 2003, Sheffield 2005).

Recreation is a prime lure for attracting visitors from overseas, and it is a growing factor in travel and residency patterns (California State Parks 2002, Hill et al. 2009). The availability and proximity of recreation opportunities affect how much people recreate, as well as their choice of activities. The multinational forest users have different expectations for their recreation experiences than those of the traditional forest user. The multinational visitors also provide a challenge in effective communications (Cordell 1999).

International tourism is expected to increase in the future. Natural resources and outdoor recreation play an important role in tourism, as they provide the settings for travel activities and experiences (California State Parks 2002, Cordell 1999, Hill et al. 2009). The Monument already sees a substantial number of international visitors (USDA Forest Service 2008a), and they are expected to increase in the future.

Assessing Future Demand in the Monument

In order to assess future recreation demand in the Giant Sequoia National Monument, various sources of information are examined (listed in the literature cited section and further described in the remainder of this 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.

The various surveys provide a snapshot in time. Due to the facts that the surveys were conducted at different times, different sampling techniques were used, and different questions were asked, the results are not directly comparable. Yet, even though the surveys yield different results, they do provide insight to help determine future

recreation demand in the Monument. Despite what the science indicates, predicting the future is uncertain.

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 Giant Sequoia National Monument (although research [Chavez] was recently completed, which provides information on six day use sites in the Monument; research on a seventh site is being conducted in summer 2011). Consequently, information must be extrapolated from these other sources and applied to the Monument; the results are inherently uncertain. Each source provides a piece of the picture. Together they form a mosaic, through which a picture emerges, to illustrate what future recreation demand might look like in the Giant Sequoia National Monument.

For studies that include income/economic information, those results are not presented here, due to the fact that a separate socioeconomic analysis was conducted for the final EIS (see the socioeconomic sections in Chapters 3 and 4).

The information sources presented in this demand assessment are generally arranged chronologically, from earliest to most recent.

According to a Forest Service estimate in 1996, use at the two districts that comprise the Giant Sequoia National Monument is over half of the forest total (use in the Monument would be less than this, because some district lands are not included in the Monument).

The Sequoia, Inyo, and Sierra national forests account for 45 percent of all recreation visitor days on National Forest System lands in the Sierra Nevada. Together with the adjacent national parks, this portion of the Sierra Nevada probably has one of the highest recreation activity levels in the world. This area of the Sierra Nevada will also experience the largest population growth in nearby urban areas, particularly Bakersfield and Fresno, during the next few decades (Duane 1996).

Various studies have found that recreationists are generally satisfied with their available recreation opportunities (California State Parks 1998, 2002, 2003, 2009, Kocis et al. 2004, USDA Forest Service 2006a). However, they continue to be concerned with the availability of clean restrooms, safe drinking water, and information (directional signs, information on conditions and hazards, and interpretive information). Safety and security are of more concern in some areas and among some populations (Cordell 1999, Sheffield 2005).

The National Survey on Recreation and the Environment (NSRE) is one of a continuing series of national recreation surveys, conducted periodically by the federal government since 1960 (USDA Forest Service n.d.). The survey is not specific to recreation on national forest lands. People 16 years and older have been surveyed. Over the years, the survey has noted an increase in participation, although participation rates vary greatly across different demographic strata. The results of the 1994-1995 NSRE survey are published in *Outdoor Recreation in American Life* (Cordell 1999). *Outdoor Recreation for 21st Century America* (Cordell 2004) compares the results from the 1994-1995 and 2000-2001 NSRE surveys.

In the 1994-1995 NSRE survey, 94.5 percent of the population participated in some activity during the previous 12 months. The most popular types of recreation included viewing and learning activities, such as birdwatching; trail, street, and road activities, such as biking; social activities, such as picnicking; spectator activities, such as attending an outdoor concert; and swimming (Cordell 1999). Similar to a 1997 California survey (California State Parks 1998), for the most part, these activities are relatively low cost, can be pursued without a great deal of physical exertion, and do not require special equipment or skills. Most of these activity types remain popular with Americans past the age of 60.

Places that can be used for casual activities, such as walking, family gatherings, sightseeing, and visiting beaches, historic sites, and other sites of interest, are most in demand for a broad spectrum of Americans. Viewing and learning,

socially oriented activities, and swimming are the most popular forms of recreation, with natural and historic settings contributing significantly to recreationists' expectations. The trend is generally away from consumptive uses (e.g., hunting, fishing) to nonconsumptive uses (e.g., wildlife viewing). Heritage, nature, and educational travel are increasing. Growth seems particularly strong for viewing and learning activities and for new activities (Cordell 1999). More uses continually come into vogue that must compete with existing uses for a limited land base.

Of all the regions nationally, the Pacific Coast will see the largest number of activities for which primary purpose recreation trips grow faster than the rate of increase predicted for the population (about 13 out of 22) from now until 2050. This region will also have the most activities (75 percent) for which participants grow at a rate faster than the population. Activity days should also increase faster than population growth for about 60 percent of the activities (Cordell 1999).

The projected demand for the year 2020 is highest for sightseeing, non-consumptive wildlife, biking, family gatherings, hiking, horseback riding, rock climbing, walking, and camping (NSRE 2000).

According to *Outdoor Recreation for 21st Century America* (Cordell 2004), the most popular activities in the 2000-2001 NSRE survey were walking for pleasure and outdoor family gatherings, across all race/ethnicity groups. In the 1994-1995 survey, walking for pleasure and outdoor family gatherings were also the top two activities, although the rank order was reversed for African Americans. In California, in 2000-2001, the most popular activities, with more than 50 percent participating at least once in the previous 12 months, were walking for pleasure, family gathering, viewing/photographing natural scenery, visiting nature centers, picnicking, and gardening/landscaping for pleasure.

The biggest change in the most popular activities between the two NSRE surveys (1994-1995 and 2000-2001) was an increase in the numbers of people participating. For example, the percentage of people participating in walking for pleasure rose from 67 percent to 83 percent. Family gatherings

rose from about 62 percent to nearly 74 percent. Visiting nature centers increased from about 53 percent to about 57 percent. Sightseeing decreased in participation, but still ranked in the top ten, as number five. The only activity that joined the ranks of the top ten in the 2000-2001 survey was viewing/photographing wildlife, which rose from number 12. The remainder of the top ten activities were picnicking, attending outdoor sporting events, visiting historic sites, swimming in lakes or streams, and swimming in outdoor pools (Cordell 2004).

How frequently people engage in an activity indicates the intensity of participation and volume of demand. In 2000-2001, people participated in viewing/learning/gathering activities the most frequently, with an average of about 136 occasions per person. People walked for pleasure on an average of almost 102 days or occasions per person. No other activity had nearly as frequent participation by such high percentages of participants. For most activities, the highest percentages were for 10 days or less. For many activities, little change occurred in the number of participation days between the two NSRE surveys. For some activities, such as cross-country skiing, snowmobiling, developed camping, hunting, fishing, swimming, backpacking, and off-road driving, a reduction in participation day percentages reflected the addition of new participants to those activities who participated for only a few days (Cordell 2004).

Many activities with the largest growth rates between the two NSRE surveys are physically demanding and may require specialized equipment and/or skills, such as kayaking, snowboarding, backpacking, and mountain climbing. Even though participation increased tremendously for some of these activities, the overall participation rate (percentage of the population participating) is quite small, compared to the most popular activities. In the Pacific region, which includes California, ice fishing, snowboarding, kayaking, snowmobiling, and soccer each exhibited a growth rate of over 100 percent, but less than 10 percent of the population participates in each of those activities. Snowmobiling had a higher growth rate in this region than anywhere else in the country.

These growth rates indicate a shift in the mix of activities occurring in many outdoor areas (Cordell 2004).

Where people recreate has also been questioned in NSRE surveys. People were asked if their activities occurred in forested settings, which includes national forests, among all other forestlands in the country. Between the two NSRE surveys, the activities with increased participation in forested settings were walking, outdoor family gatherings, viewing/photographing wildlife, hiking, picnicking, visiting nature centers/museums, viewing/photographing birds, camping in developed campgrounds, visiting historic sites, and driving motor vehicles off-road (Cordell 2004).

Outdoor Recreation in America (Roper Starch Worldwide 2001) is a report on the eighth national survey in an annual series for the Recreation Roundtable. The survey is not specific to recreation on national forest lands. The survey found a broad increase in outdoor recreation participation, with 20 of 37 activities showing a percentage increase over the previous twelve months. The sharpest climbs were in wildlife viewing (up 4 percent), hiking, running/jogging, and motorboating (each up 3 percent). Half reported a visit to a federal recreation site over the past two years. However, the survey showed a decrease in the frequency of participation, roughly balanced by gender, but more pronounced in the 18-29 age group. This statistic is important, because, historically, individuals in the 18-29 age bracket are much more active outdoors than those who are older. If those born between 1972 and 1982 continue to live a less active life, their lifestyles will affect not only their health, but also business and government serving their needs. The drop was also greater among higher income Americans (43 percent to 31 percent). The decline in frequency of participation was very strong among internet users, who reported a several times weekly participation drop of 17 percent, versus an 11 percent drop for the public overall. Households with children showed a less pronounced drop.

The state of California conducted a survey on recreation in 2002 (California State Parks 2003), which partially replicated previous California

surveys. (A recreation demand analysis completed for the Giant Sequoia National Monument in 2002 examined results from the 1997 California survey [California State Parks 1998].) The survey results apply to recreation areas operated by all levels of government and are not specific to the Forest Service. However, in the 2002 survey, some questions were split, to get a better idea of recreation use, satisfaction, condition, and management emphases for regional, state, and federal recreation providers (including the Forest Service) versus local recreation providers. The survey also gathered information on Hispanic recreation patterns, which may be different from non-Hispanics, and for the first time, gathered information on youth participation (under the age of 18).

Most (84.1 percent) Californians (up slightly from 82 percent in 1997) believe that outdoor recreation areas and facilities are “important” or “very important” to their quality of life. More than two-thirds (69.1 percent) spent the same or more time on outdoor activities than they did five years ago. People who spent less time were asked why. Most of the reasons (81.6 percent) were beyond the control of recreation managers to change (such as time constraints). For those reasons given that could be within managerial control, issues related to security and enforcement (36.4 percent) and lack of appropriate facilities (27.3 percent) were stated most often, followed by crowding (12.7 percent) and activities not available (10.8 percent). Also mentioned were poor maintenance (7.3 percent) and entrance costs and fees (5.5 percent). A larger percentage of Hispanics (59.8 percent) than non-Hispanics (52.3 percent) strongly supported increasing user fees (California State Parks 2003).

People were asked about factors that influence enjoyment of their favorite recreation activities. In the 2002 California survey, the factor considered most important to most people (75.9 percent) was being able to relax (being outdoors was highest ranked in 1997). More than 60 percent reported feeling safe and secure (68.3 percent), being outdoors (67.4 percent), and beauty of the area (61.8 percent). Meeting new people was the least important factor. Only one factor (quality

of the natural setting) was significantly different for Hispanics (45 percent), compared to non-Hispanics (60.6 percent) (California State Parks 2003).

The 2002 California survey asked about five broad types of outdoor recreation areas: natural and undeveloped areas; developed nature oriented parks and recreation areas located outside of or on the fringe of urban areas; historical or cultural buildings, sites, or areas, regardless of their location; highly developed parks and recreation areas in or near urban areas; and private, not public outdoor recreation areas and facilities. Highly developed areas were visited with the greatest frequency, followed closely by developed nature oriented parks and recreation areas (90.1 percent) and historic or cultural buildings, sites, or areas (86.7 percent). People were also asked their favorite type of area to visit. Developed nature oriented parks and recreation areas were reported as the favorite (35.4 percent), which was a significant change from 1997, when natural and undeveloped areas were reported as the favorite. The change was speculated to be the result of changing demographics, as the Hispanic population has grown since the 1997 survey, and natural and undeveloped areas are significantly less popular (16.4 percent) with them than developed nature oriented areas (40.3 percent). Developed nature oriented areas were the favorite for both Hispanics and non-Hispanics (California State Parks 2003).

The mean travel time to Californians' favorite recreation area in the 2002 survey was 45 minutes, with just 13.7 percent reporting more than 60 minutes (in National Visitor Use Monitoring, the average distance for Sequoia visitors was 61 miles or about an hour [USDA Forest Service 2006a]). About half (50.4 percent) reported using non-local parks several times in 2002 (California State Parks 2003).

People were asked about their satisfaction with recreation areas, facilities, and services. For opportunities outside of their local communities (more likely to be a regional, state, or federal area), 73.7 percent said they were "satisfied" or "very satisfied." In addition, 82 percent reported

that the condition of those facilities was the "same as" or "better than" five years ago (California State Parks 2003).

In the 2002 California survey, people were asked 16 questions about their attitudes regarding recreation lands and facilities, many of which have applicability to federal lands. A few are noted here. On the top of the list was the statement, "Maintaining the natural environment in outdoor recreation areas is important to me," with 96.7 percent agreement (moderately agree or strongly agree). Lower on the list was "More outdoor recreational facilities are needed at lakes and reservoirs, such as picnic and camping sites," with 80.3 percent agreement. "More outdoor recreation areas are needed for camping or overnight use" was agreed to by 76.1 percent. "More developed campgrounds with hot showers and electrical and water hook-ups are needed in outdoor recreation areas" was agreed to by 69.3 percent. Less than a third (31.3 percent) agreed that they do not feel safe using outdoor recreation areas (California State Parks 2003).

The 2002 California survey reported that over two-thirds (68.2 percent) of respondents indicated facilities are too crowded when they want to use them (California State Parks 2003). Within the Monument, some areas are filled to capacity, at times, especially on holiday weekends.

The attitudes of Hispanics were significantly different from those of non-Hispanics for 12 of the 16 questions. Most Hispanics (87.9 percent) agreed that more recreation areas are needed by lakes than non-Hispanics (77.8 percent). More than three-quarters (78.3 percent) of Hispanics agreed that recreation areas are too crowded, compared to 64.9 percent of non-Hispanics. 45.3 percent of Hispanics agreed that they do not feel safe using recreation areas, while only 25.8 percent of non-Hispanics agreed with that statement. Hispanics also agreed that outdoor recreation areas should promote tourism (47.1 percent), while only 34.9 percent of non-Hispanics agreed with that statement. Most Hispanics (82.2 percent) agreed that additional developed campgrounds are needed, while only about two-thirds (65.6 percent) of non-Hispanics felt that way (California State Parks 2003).

The 2002 California survey questioned people on their participation in 55 activities (California State Parks 2003). The largest percentage (91.1 percent) engaged in walking for fitness and fun, followed by driving for pleasure, sightseeing, and driving through natural scenery (90.2 percent), while the lowest (3.4 percent) participated in windsurfing. Other activities that typically occur on national forests (and their rankings) include:

- Visiting historic or cultural sites, museums (3)
- Attending outdoor cultural events (festivals, fairs, concerts, theater, etc.) (4)
- Beach activities (including sunbathing), surf play (5)
- Picnicking in developed sites (7)
- Wildlife viewing, bird watching, viewing natural scenery (8)
- Trail hiking (9)
- Camping in developed sites with facilities such as toilets and tables (12)
- Fishing—freshwater (19)
- Camping at a primitive site without facilities (21)
- Bicycling on unpaved surfaces and trails, mountain biking (24)
- Winter sports (non-mechanized—sledding, snow play, ice skating) (28)
- Backpack camping (29)
- Camping in trailer or RV sites with hook-ups (30)
- Off-road vehicle use—four-wheel drive (31)
- Horseback riding, horse shows, and events (32)
- Gathering mushrooms, berries, or other natural products (37)
- Off-road vehicle use—motorcycles, dirt bikes, ATVs, dune buggies (38)
- Rock climbing/bouldering (40)
- Hunting (large and small game) (49)
- Cross-country skiing (51)
- Snowmobiling (54)

The 2002 survey found that California youth were very active in outdoor recreation, participating in many activities. The largest percentage (92 percent) participated in walking for fitness and fun, followed by pool swimming (80.7 percent), visiting water sites other than beaches (79.3 percent), beach activities (including sunbathing) (78.7 percent), and visiting outdoor nature museums/zoos/arboretums (78.4 percent). Snowmobiling had the lowest youth participation rate (3.9 percent), with windsurfing the next lowest (4.7 percent) (California State Parks 2003).

The number of days people participated in activities was also recorded in the 2002 California survey. Participation appears to be higher for activities that can be done near where people live and without specialized facilities, which is consistent with findings from other surveys. People participated in walking for fitness and fun for the greatest number of days (102.8 days) (82.6 days for the youth survey). Other activities with frequent participation (ranked in the top 10 for people who participated in outdoor recreation) included driving for pleasure, sightseeing, driving through natural scenery, and wildlife viewing, bird watching, viewing natural scenery. Many of the activities with low participation rates appear to have avid participants. For example, 9 percent participated in hunting, but they did it for an average of 20.7 days. Other activities in the youth survey with frequent participation included jogging, skateboarding, walking a pet, and using play equipment (California State Parks 2003).

In order to determine unmet or latent demand, the 2002 California survey asked respondents to identify and rank the top five activities in which they would most probably increase participation if good opportunities were available. The rankings were weighted and given an index number. The five activities with the highest index numbers were: camping in developed sites with facilities such as toilets and tables; trail hiking; walking for fitness and fun; wildlife viewing, birdwatching, viewing natural scenery; and bicycling on paved surfaces. The highest ranked activities for Hispanics included walking for fitness and fun; bicycling on unpaved surfaces and trails, mountain biking; driving for pleasure, sightseeing, driving

through natural scenery; and snowboarding. The highest ranked activities for youth included beach activities (including sunbathing); swimming in freshwater lakes, rivers, and/or streams; camping in developed sites with facilities such as toilets and tables; and bicycling on paved surfaces (California State Parks 2003).

The 2002 California survey respondents were also asked to rank the top five activities to which the government should give the highest priority when spending public money (public support). The results were again weighted and given an index number. Four of the top five are the same as on the latent demand index (previous paragraph). The five activities with the highest index numbers were: camping in developed sites with facilities such as toilets and tables; trail hiking; walking for fitness and fun; wildlife viewing, bird watching, viewing natural scenery; and picnicking in developed sites. Visiting historic or cultural sites also received a high degree of public support. The highest ranked activities for Hispanics included walking for fitness and fun; driving for pleasure, sightseeing, driving through natural scenery; and snowboarding. Trail hiking was ranked significantly lower by Hispanics than non-Hispanics (California State Parks 2003).

In order to assess recreation needs, the 2002 California survey combined the results of the unmet demand question with the results of the question on which activities should have the highest priority for the expenditure of public funds (public support). The top five activities on the needs index were: camping in developed sites with facilities such as toilets and tables; trail hiking; walking for fitness and fun; wildlife viewing, bird watching, viewing natural scenery; and bicycling on paved surfaces (California State Parks 2003).

Given limited agency budgets, the 2002 California survey respondents were asked about priority categories for public spending. For state and federal agencies, over 80 percent of respondents placed emphasis (“more emphasis” or “about the same emphasis”) on all eight categories (protecting natural resources; protecting historic resources; remodeling and improving existing facilities; providing educational programs; maintaining

or caring for park and recreation areas; buying additional parkland and open space for recreation purposes; providing more organized activities and special events; and building new facilities) (California State Parks 2003).

While Hispanics also placed emphasis on all eight categories, the order in which they ranked them was significantly different (buying additional parkland and open space for recreation purposes; maintaining or caring for park and recreation areas; providing educational programs; building new facilities; remodeling and improving existing facilities; protecting natural resources; protecting historic resources; and providing more organized activities and special events) (California State Parks 2003).

Priorities for possible changes/improvements in facilities and services included providing more public use opportunities at lakes and reservoirs; constructing more developed campgrounds with flush toilets, hot showers, and food lockers; increasing the number of wilderness type areas where no vehicles or developments are allowed; constructing more basic campgrounds with picnic tables, cold water, and pit toilets; developing more multi-use, non-motorized trails for horseback riding, hiking, and/or mountain biking; and providing more education programs and services in parks and outdoor recreation areas (California State Parks 2003).

The 2002 California survey asked people how they prefer to receive information about recreation areas. The largest percentage said they prefer word of mouth from family and friends (59 percent), the internet (54.1 percent), and brochures (53.4 percent) (California State Parks 2003).

In 2002, the Forest Service published *Effectiveness of Visitor Information Programs in Giant Sequoia National Monument* (James and Absher 2002). Study results indicated that the vast majority of visitors to the Monument use visitor services. Before their forest visits, the majority (53 percent) sought information, such as directions (38 percent), entrance fees (33 percent), weather (32 percent), things to do (30 percent), lodging (26 percent), bears/bear safety (25 percent), and

camping safety (24 percent). Some also sought interpretive information about giant sequoias (24 percent) and other available programs/interpretive services (10 percent). Before their visits, their information sources were family and friends (34 percent), maps (34 percent), the internet (26 percent), travel guides (23 percent), books (20 percent), newspapers (9 percent), magazines (8 percent), and classes or lectures (1 percent). While on-site, visitors continued to seek information, including forest rules and regulations (64 percent), campsite availability (60 percent), activities (45 percent), current fire restrictions (45 percent), interpretive information (36 percent plants and animals; 33 percent forest history), and directions to specific sites (65 percent) and nature trails (57 percent). On-site information sources included visitor maps (52 percent), signs (48 percent), park visitor centers (46 percent), and ranger station staff (46 percent).

A survey conducted on-site in 2002 in Sequoia and Kings Canyon National Parks also included some questions specific to the Sequoia National Forest. The results were published in 2003 in *Sequoia & Kings Canyon National Parks, Visitor Study, Summer 2002* (Littlejohn and Gramann 2003). For future visits, 47 percent of visitors said their preferred information source would be the Forest Service internet. When asked for their primary reason for visiting, 10 percent said they came to the area to primarily visit the Sequoia National Forest. Among the forest areas visited on the trip when the survey occurred were Hume Lake (63 percent), Big Meadows (42 percent), and Montecito (24 percent). Most visitors (73 percent) stayed overnight somewhere in the area. Of those who stayed overnight, 51 percent stayed one or more nights in the Sequoia National Forest. Over half (54 percent) camped in the forest or parks. Visitors were asked about the importance of various facilities and services and the quality. Developed Forest Service campgrounds were rated as extremely important or very important by 90 percent of visitors; the quality was rated as very good or good by 81 percent. Forest Service picnic areas were rated as extremely important or very important by 91 percent of visitors; the quality was rated as very good or good by 88 percent.

Recreation Statistics Update (Cordell et al. 2004) updated information collected through NSRE. For the period 1999-2004, the highest percentage of the population participated in walking (82.5 percent), while the lowest participated in windsurfing (0.8 percent). Rounding out the top five were outdoor family gatherings (74.2 percent), gardening, viewing/photographing natural scenery (58.5 percent), and visiting nature centers (56.5 percent). Two general trends were noticed. The percentage of the population participating increased for many activities over the period of 1999-2004. However, from fall 2001 to summer 2002, many activities experienced a dip in participation, presumably in reaction to the tragedies of September 11, 2001.

In 2005, the state of California published *Parks and Recreation Trends in California* (Sheffield 2005). This publication stated that the changes in the state's population in the coming years will affect outdoor recreation more than anything else. The population is growing rapidly, is becoming more culturally and racially diverse, and is aging. According to predictions, based on existing growth rates (in 2005), the population in California will surpass 50 million before 2040 (about 2032) and reach 60 million by about 2050 (projected by the California Department of Finance). With the rate of population growth predicted, even if outdoor recreation participation rates are static or decline, overall participation will increase in sheer numbers simply because more Californians exist. Families with children, youth, and seniors are large markets for outdoor recreation and will grow, particularly in southern and central California urban areas, increasing recreation demand.

According to the report (Sheffield 2005), California is already culturally and racially diverse, with significant proportions of the United States total for various racial and ethnic groups (e.g., 36.1 percent of the nation's total Asian American population; 31.1 percent of the nation's Hispanic population). By 2030, 43 percent of the state's population is projected to be Hispanic (52 percent by 2050, projected by the California Department of Finance). Between 2000 and 2020, the state should see a 58 percent increase in Hispanics, a 55 percent increase in

Asian/Pacific Islanders, a 29 percent increase in Native Americans, a 20 percent increase in African Americans, and a 4 percent increase in people of European descent. California has more foreign-born residents than any other state, and many of them are recent (since 1990). Many recent immigrants have limited outdoor recreation experience on public lands.

The senior population (those 60 and older) will double by 2020. As the baby boom generation enters its retirement years, this generation of seniors will generally be healthier and more active than any previous senior generation. They will tend to continue to seek outdoor recreation experiences. They will also be drawn to be active in conservation and heritage causes (Sheffield 2005).

Younger age groups will also have a huge effect on outdoor recreation. Californians between the ages of 18 and 40 are creating new ways to recreate, drawn by opportunities for excitement, such as extreme sports and adventure recreation. Children (from kindergarten through high school) are more racially and culturally diverse and are more urban than previous generations (Sheffield 2005).

According to the report (Sheffield 2005), Californians will likely continue involvement in outdoor recreation for the foreseeable future, although in some new and different ways. Participation in some already popular activities will continue to increase, along with the state's population. Many of these activities can be done without much equipment, and can be enjoyed by people with a variety of skill levels. Many activities have a strong social component, drawing families to participate. These continuing favorite activities are:

- Walking
- Picnicking and family gatherings in the outdoors
- Swimming (pools, lakes, streams)
- Developed camping
- Visiting beaches
- Sightseeing

- Outdoor sports events and concerts
- Visiting nature centers and historic sites

Day hiking, bicycling (including mountain biking), running, and wildlife viewing are rapidly increasing in popularity, and, if growth rates continue, will join the previous list of favorites. Activities with learning components, trail-related activities, and water-based recreation will grow. Muscle-powered, mechanized, and motorized activity demand will continue to grow. Activities that are high cost, require specialized equipment, or require specialized settings draw dedicated enthusiasts, but their future demand is less clear, due to varying participation rates and rates of growth (Sheffield 2005).

Baby boomers and older adults want more amenities and improved access, while younger adults want more immediate and lively information and access. People expect instantaneous information, thanks to the internet, so that they can customize their recreation experiences, as well as have virtual experiences (Sheffield 2005).

For Hispanics of Mexican origin, the most popular outdoor recreation activities are family gatherings, walking for pleasure, day hiking, picnicking, visiting nature centers, and viewing/photographing scenery. They are less likely to sightsee, photograph wildlife, photograph wildflowers, visit historic sites, or drive for pleasure (Cordell et al. 2005 [cited in Sheffield 2008]).

For Asians/Pacific Islanders, the most popular activities are walking for pleasure, family gatherings, gardening/landscaping, picnicking, driving for pleasure, and attending outdoor concerts. They are less likely to visit wilderness, visit farms/agricultural lands, or hunt (Cordell et al. 2005 [cited in Sheffield 2008]).

Activities that remain most popular (40 percent or more participation) across the lifespan are walking, family gathering, and gardening/landscaping. Viewing/photographing scenery and picnicking are popular up to age 84. Visiting nature centers, driving for pleasure, and sightseeing are popular up to age 74. For those age

16-64, 40 percent or more also visit historic sites, view/photograph wildlife or wildflowers, visit beaches, and swim in lakes/streams/outdoor pools (Cordell and Betz 2005 [cited in Sheffield 2008]).

In 2002 and 2003, the Sequoia National Forest first participated in the National Visitor Use Monitoring (NVUM) process. A stratified random sampling process was used to select which sites would be surveyed, based on the type of site or area (day use developed site, overnight use developed site, general forest area, wilderness) and level of use (high, medium, low, or closed). Data was collected throughout the year. The information gathered includes visitation estimates, activity participation, satisfaction, expenditures, and demographic information. Due to the sample size, the information is only valid at the forest level and cannot be strictly applied to the Monument or a particular district or a particular site (Kocis et al. 2004, USDA Forest Service 2008b).

In 2006, NVUM data were used, along with information from NSRE, the United States Census Bureau, the National Association of Counties, and local information, to develop market data, including recreation demand information, for the Sequoia National Forest. These market data were used in the recreation facility analysis process to help define the forest's recreation niche (USDA Forest Service 2006a).

The market data indicated that the Sequoia National Forest's market zone consisted of about 25 million people in 2006. About 75 percent of visits are of California origin, within a 275-mile distance, from Sacramento and San Francisco down to Orange County; this area is the market zone. The population centers of Sacramento, Bakersfield, Orange County, and Los Angeles contribute a large influx of visitors. About half of the visits are from the local counties of Fresno, Tulare, and Kern. The remaining 25 percent of visitors come from throughout the United States or are international visitors (USDA Forest Service 2006a).

Population in the market zone is predicted to increase by 38 percent from 2000 to 2030. Visitation to the Sequoia National Forest is

estimated to increase by a similar amount (37 percent) over the years 2005-2025, which would equate to 26,400 more visitors each year (USDA Forest Service 2006a).

The Sequoia is an overnight destination, rather than a day use destination. The forest is a primary destination for 83 percent of visitors; the percentage of visitors from non-local origins who stay overnight in the forest is more than twice the regional average, and even visitors from local origins (Fresno, Tulare, and Kern counties) are staying overnight (more than the regional average). The average distance that visitors travel from home to their forest destination is 61 miles; consequently, for many visitors (except for those who live in communities within or adjacent to the forest), the Sequoia does not provide a quick, out-the-back-door day use experience. The average stay duration of 30 hours connotes a significant amount of overnight use. Overnight visitors are camping more in developed sites than they are primitive camping (USDA Forest Service 2006a) (although dispersed camping in concentrated use areas, which is not really primitive, is also popular, based on visual observation).

Visitor use data from NVUM show that the Sequoia is a very family oriented forest. Indicators that show this family orientation are a higher average number of people per car than the regional average (3.0 people per car on the Sequoia versus 2.2 per car regionally) and a higher percentage of use by both young people and persons over the age of 61 than the regional average (25 percent of the Sequoia's visitors are less than 16 years old). Use by nontraditional user groups, especially Hispanics and Asian, is prevalent and growing, although not well represented compared to the population base (USDA Forest Service 2006a).

Group facilities for both camping and day use are important and will become even more important in the future, as larger "families" want to recreate together (USDA Forest Service 2006a). What constitutes a family has changed over the years, due to changing demographics. Where, in the past, a family was viewed as a mother, father, and their children, today a family may be multi-generational and may or may not be related by blood or

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marriage (Sheffield 2005). Research has shown that people often want to recreate in groups (one study showed an average of 11 people).

Public demand for outdoor opportunities to accommodate larger social groups presents forest managers with challenges, including effects from human waste, littering, soil compaction and erosion, and vegetation disturbance.

Larger groups can mean concentrated resource effects, especially in riparian areas and other environmentally sensitive areas. Many of these users are urbanites, lower income groups, and culturally diverse user groups, unfamiliar or unconcerned with the dangers and vulnerabilities of the natural environment they have come to enjoy. This situation is especially true of lakes and rivers within a one-hour drive of urban centers. Interpretive programs that increase agency presence, using peers to deliver the messages, and provide audience-valued resource information, incorporating low impact use messages, could be effective ways to increase outreach to these users, while mitigating resource effects (USDA Forest Service 2008a).

With the forest's spectacular scenery, viewing it is very popular, again resulting in a higher percentage of visitors participating in this activity than the regional average. Water is a magnet, attracting people to recreate; areas with water attract more visitors than areas without it (USDA Forest Service 2006a).

Escape from the heat is a primary motivation of many visitors to the Sequoia, so that higher elevations are popular. Although water attracts people in most locations, here it provides an additional escape from the heat, and water-related activities are popular (USDA Forest Service 2006a).

Visitors to the Sequoia are active while they are here. They do not spend all their time relaxing in the campground, as evidenced by a higher participation rate than the regional average for many activities (15 of 26 activities) (USDA Forest Service 2006a, 2008a).

Based on both current use and projections in the market and survey data, the following activities

are expected to be primary in the next ten years for the Sequoia National Forest: relaxing/escaping heat, hiking, viewing natural features/wildlife, driving for pleasure, fishing and hunting (although many studies [California State Parks 1998, 2002, Cordell 1999] show the demand for hunting to be decreasing), snowmobiling, picnicking/group picnicking, developed camping/group developed camping, motorized and non-motorized water travel, swimming/water play, nature center/nature study, and visiting historic/prehistoric sites (USDA Forest Service 2006a).

The Outdoor Foundation published a report on outdoor recreation participation in the United States (Outdoor Foundation 2008). Participation in outdoor activities increased, overall, in 2007 to about 50.0 percent of all Americans. Of the activities surveyed, the favorites (frequency of participation) were running/jogging/trail running, bicycling, fishing, wildlife viewing, and skateboarding. Participation declines with age; 68 percent of those age 6-12 participated, while only 26 percent participated who were 65 and older. Most participants (90 percent) are introduced to recreation in their youth (between ages 5 and 18). Indoor fitness activities were more popular with females than outdoor activities. Outdoor activities were more popular with males for ages 25 to 65.

The Outdoor Foundation reported that participation declined 11 percent for youth, ages 6 to 17, in 2007. The decline was larger for girls than boys, particularly for ages 6-12. Most youth are introduced to outdoor recreation by parents, friends, and other relatives. School programs are cited more often by African American youth (22 percent) and Asian/Pacific Islander youth (20 percent) and less often by Caucasian youth (11 percent) and Hispanic youth (13 percent). Few cite the media, mentors, or outdoor education programs as motivation to begin participation. Fun is the primary motivator for youth participation. Exercise was cited second by African Americans and Asians/Pacific Islanders. Discovery/exploration was cited second by Caucasians and Hispanics. Most youth of all ages who do not participate cite lack of interest as the primary reason. The favorite outdoor activities (frequency of participation) for those age 6-17 are bicycling;

running/jogging/trail running; skateboarding; fishing; and camping (within ¼ mile of vehicle/home) (Outdoor Foundation 2008).

The Outdoor Foundation defines “gateway” activities as those that are popular and often lead to participation in other activities. Those activities are fishing, bicycling, running/jogging/trail running, camping, and hiking. Overall, participation in these activities remained relatively steady from 2006 to 2007. Running/jogging/trail running experienced the biggest increase, while camping experienced the largest decrease (Outdoor Foundation 2008).

Like most surveys, the Outdoor Foundation survey found that participation was highest for Caucasians in all age groups. Participation was lowest for African Americans. Although the participation rate was lower among Hispanics and African Americans than Caucasians, the participation frequency was higher (Outdoor Foundation 2008).

In 2009, Cordell (et al.) updated NSRE data, which, for the first time, included a National Kids Survey, and looked at other information driving outdoor recreation participation (Betz et al. 2009, Cordell and Betz 2009, Cordell et al. 2009a, 2009b, 2009c). Some recent publications have reported decreasing participation in outdoor recreation (generally), nature-based recreation, forest recreation, and visitation to public land. The researchers asked the question, “Is there a general and fundamental shift away from people’s participation in nature-based recreation and interest in nature?” (Cordell 2008, Cordell et al. 2009b). Although technology has changed outdoor equipment and clothing over all the years that NSRE has been conducted, the activities that were popular in the 1950s, 1960s, and 1970s are still popular. Much more than technology, however, has changed; key aspects of society have also changed which dramatically influence recreation (Cordell et al. 2009b).

From 1969 up to 2008, key drivers of change nationwide have included dramatic increases in the number of vehicles, the number of drivers, the number of workers, the number of households, and the population. Urbanization has increased, as has racial and cultural diversity. The economy

grew from the 1930s through 2005. Use of the internet has grown. Transportation changes have affected people’s travel. Although people are not driving more miles, overall, the average time spent in transit increased from an average of 49 minutes in 1990 to 56 minutes in 1995 and 62 minutes in 2001, indicating an increase in congestion (Cordell et al. 2009b).

All of these factors have affected outdoor recreation participation. Through 2007, the number of people who participated in one or more activities grew by 4.4 percent nationwide. The total number of days also increased. In the 50 nature-based activities, through 2007, the total population participating grew by 3.1 percent nationwide, and the number of participation days increased about 32 percent. Per capita days of participation increased by more than 22 percent (Cordell et al. 2009b).

Although one paper has stated that public land visitation was in sharp decline, that report looked at per capita visitation, not total visitation. Agency data showed that state park, national park, and national wildlife refuge visitation has been stable or increasing since the 1990s (Cordell 2008). The Outdoor Foundation compared participation in 2006 and 2007 for a variety of activities, mostly physically challenging, and found that participation increased for Americans aged 18-64 (Cordell and Betz 2009, Cordell et al. 2009b, Outdoor Foundation 2008).

From 2000-2007 (Cordell et al. 2009b), the fastest growing nature-based activities were viewing or photographing flowers and trees, natural scenery, and birds and other wildlife; visiting water; visiting nature centers; sightseeing; visiting wilderness; and driving off-road. Many activities showed increases in both the number of participants and the number of days, while a few activities showed decreases in both numbers and days. Technical, risk-oriented, nature-based activities (kayaking, backpacking, snowboarding, rock climbing, and mountain climbing) showed some growth in dedication (the number of days), while, of those activities, only kayaking and snowboarding increased in the percentage of participants (the others decreased). The number

of people visiting prehistoric sites increased, but visited for fewer days. The net effect is growth.

Forest recreation is part of nature-based recreation; nearly 60 percent of nature-based recreation occurs in forested settings. The top seven forest recreation activities were walking for pleasure; viewing/photographing natural scenery; viewing/photographing wildflowers, trees, other wild plant species; viewing/photographing birds; viewing/photographing other wildlife; day hiking on trails; and visiting a wilderness/primitive area (Cordell et al. 2009b).

The report (Cordell et al. 2009b) also looked at recent changes. Climate change is evident, as the number of frost-free days is increasing. The recession in the economy is a prime driver of what is currently occurring. Unemployment continues to increase, according to that 2009 report. Personal income is down. Although the cost of gasoline has gone down significantly since 2008, the unprecedented high gas prices of 2008 drastically affected the way that people drove. Gasoline costs may have had negative or positive effects on national forest visitation; some people visited as a closer-to-home travel option than what they would normally have chosen, while others chose not to visit or visited less often. Gas prices also affect the activities that people choose.

The report (Cordell et al. 2009b) included 2008 NSRE participation data, when people would have been affected by these recent changes. A slightly higher percentage (44.5 percent) reported taking fewer trips versus the same number of trips (43.2 percent), because of the price of transportation. General trends, based on the number of activity days, were reported. For fishing and hunting activities, the general trend is steady. For backcountry activities (backpacking, horseback riding on trails, visiting a wilderness or primitive area, day hiking, mountain climbing), the results are mixed, but the trend is generally steady. For non-motorized boating activities, the results are also mixed, but with a slight decline. Snow skiing (cross-country and downhill) and snowboarding are going down. Motorized activities are up for off-highway vehicle driving and down for snowmobiling and in between for motorboating, waterskiing, and using personal watercraft.

Viewing/photographing various aspects of nature are all up and have reached a new plateau.

The Outdoor Foundation survey did not ask about the time youth spent outdoors, just about their participation in one or more of the activities listed, which tended to be physically challenging activities, and/or required manufactured equipment (Cordell et al. 2009a, Outdoor Foundation 2008). Other publications have made the case that youth physical activity and connection to nature are on the decline. In 2007, the National Kids Survey was launched as part of NSRE, in order to establish a baseline of data about kids' time and activities outdoors. Although more research is needed, the results call into question the assumptions that kids' interest and time spent in the outdoors is decreasing (Betz et al. 2009, Cordell et al. 2009a).

The National Kids Survey (Betz et al. 2009, Cordell and Betz 2009, Cordell et al. 2009a) found that just under 65 percent of kids, ages 6-19, spent two or more hours outdoors on a typical weekday. On weekend days, the number of kids spending two or more hours outside increased to over 75 percent. A short-term (16 months) trend indicated that percentages of kids spending four or more hours outdoors for any activity rose significantly for both weekdays and weekends. The authors (Cordell et al. 2009a) pointed out that this occurred during the period when gas prices both rose sharply and then fell and during the increasingly worsening recession.

Nearly 39 percent estimated spending more time outdoors in 2008 than 2007. Girls were more likely to spend less time outdoors, especially those aged 13-19. Boys were more likely to spend more time outdoors. Youth who spent less time outdoors most cited video/technological and other indoor interests as the reasons for not spending more time outdoors (Cordell et al. 2009a).

The National Kids Survey (Betz et al. 2009, Cordell and Betz 2009) asked kids what they do outside. The highest percentage (81.9 percent) was just hanging out (86.1 percent boys; 77.4 percent girls). This activity was most popular with younger kids. Biking/jogging/walking/skateboarding and similar activities were next most popular and were slightly more popular with boys than girls

and somewhat more popular with younger kids. Listening to music or using screen devices was third most popular, was popular with both boys and girls, and was more popular with older kids. Activities with 30 percent-50 percent participation rates included reading/studying (more popular with girls); other sports; attending camps/outdoor classes (more popular with girls); and swimming/diving. Hiking, fishing, skiing, and boating had under 30 percent participation rates. Birding, wildlife watching, and related activities had close to 30 percent participation and were seen by the authors (Cordell and Betz 2009) as significant and promising for people concerned about youth interest in nature; participation rates were higher for younger kids (parental influence).

Just as people have a variety of reasons for visiting national forests, they also have numerous reasons for not visiting. A lack of information about recreation opportunities has often been cited as one of the reasons, more frequently by people of color. A recent telephone survey of residents of Los Angeles County attempted find out how African Americans, Latinos, Asians, and Whites obtain information (Crano et al. n.d.). They were also asked about trusted sources of information, their forest visitation, and how they obtain information about outdoor recreation opportunities. Because so many visitors to the Sequoia National Forest and Giant Sequoia National Monument come from the L.A. basin, the information gleaned from the survey is likely to have some applicability for the Monument. In addition, the survey is intended to be replicated with central valley residents, in order to see how local residents compare with L.A. residents in answering these questions.

The L.A. phone survey (Crano et al. n.d.) found that family and friends and computers/the internet were most frequently reported as the most trusted information sources across all ethnic groups. Barriers to visitation were reported by ethnic group, with time constraints, lack of information, lack of interest, lack of transportation, health or physical limitations, no one to go with, distance, and lack of money frequently reported.

The phone survey (Crano et al. n.d.) showed significant differences between ethnic groups in the number of hours per week that they watched

TV, listened to the radio, read newspapers or magazines, participated in community activities, and participated in church activities. African Americans spent the greatest number of hours watching TV, while Asians spent the least. Latino respondents listened to the radio most, followed by African Americans, with Asians listening to radio the least amount of time. The kind of radio station listened to also differed across ethnic groups. Latinos listened most to ethnic stations, those with R&B programming, or rock. African Americans listened to stations with R&B programming, jazz, or news/talk. Asian respondents listened to news/talk, adult contemporary, top 40, R&B, or rock. Whites most often listened to news/talk, adult contemporary, or rock. Time spent reading newspapers or magazines was not significantly different between ethnic groups, although the type of magazine was different; in particular, Latinos and African Americans read several magazines designed for an ethnically based audience. Latino respondents spent less time in community activities than other groups. African Americans spent at least twice as much time in church activities than other groups.

The L.A. phone survey (Crano et al. n.d.) asked about preferred sources of information for outdoor recreation. The results were generally consistent with those reported for media use and community involvement generally. Although not much difference was reported regarding the number of hours reading newspapers and magazines, when asked separately about them, White respondents seemed to rely more on newspapers for recreation information than members of other ethnic groups. Asian respondents relied more frequently on computers than other groups. The most frequently reported information source for both Latinos and African Americans was television.

The phone survey (Crano et al. n.d.) asked about the information source respondents most trusted for outdoor recreation information. In order, the source that Latinos trusted most were family and friends, computers/the internet, TV, and newspapers. African Americans most trusted computers/the internet, family and friends, newspapers, TV, and radio. Asians most trusted computers/the internet, family and

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friends, newspapers, TV, and magazines. White respondents most trusted computers/the internet, family and friends, newspapers, and TV.

The L.A. County survey (Crano et al. n.d.) asked people about the three recreation activities they participated in most often, which revealed some significant differences between groups. Latinos and Whites were more likely to participate in walking. Running was more popular with Latinos than other groups. Other significant differences between ethnic groups were found for freshwater fishing, hiking, camping, picnicking, and sightseeing. Latinos were the least likely to have gone fishing, but the most likely to have reported picnicking. Whites were more likely to have gone hiking. Whites and Latinos were more likely to have gone camping. Sightseeing was reported most by Latinos, followed by Whites, with Asians reporting sightseeing the least.

Respondents to the L.A. phone survey (Crano et al. n.d.) were also asked about national forest visitation. White respondents were most likely to have visited a national forest (77 percent), followed by Asians (59 percent), Latinos (48 percent), and African Americans (48 percent). They were also asked about frequency of visitation in the previous 12 months. Of those who had visited, African Americans visited least frequently, followed by Latinos. Whites and Asians visited most frequently. In addition, they were asked about the activities they participated in during their national forest visits. African American and Asian respondents were more likely to have been hunting than Latinos and Whites. For walking, picnicking, and sightseeing, the participation patterns between ethnic groups were similar to those reported for recreation in any location.

The phone survey (Crano et al. n.d.) asked people about selected activities (camping, hiking, fishing, picnicking, biking, water sports, snow sports) at locations other than national forests. Asians were more likely to have been both camping and hiking in locations other than national forests. Although Whites were more likely to have visited national forests, Latinos were most likely to have participated in at least one activity at a location other than national forests; this result suggests that Latinos are not opposed to participating in outdoor

activities, but that they are less likely to go to a national forest to engage in them, which possibly indicates.

The L.A. phone survey results (Crano et al. n.d.) were analyzed to determine what variables may be predictors of national forest visitation. Time spent reading and in community activities were both associated with a higher likelihood of prior national forest use. The degree of ethnic identification that respondents had was a predictor for visitation by Latinos; the more they identified themselves as being Latino, the less likely they had visited national forests. A significant relationship existed between the primary language spoken at home (and primary language of reading materials) and national forest visitation; if the primary language spoken at home (or reading materials) was Spanish, people were less likely to have visited a national forest. Respondents who had lived more years outside the United States were also less likely to have visited national forests.

People were asked about barriers to their participation in the L.A. County phone survey (Crano et al. n.d.). Time constraints were the top reason for all ethnic groups, although time was reported by over half of Latinos (52 percent) and only about a quarter of African Americans (26 percent). Lack of interest was most often reported by African Americans (26 percent). Lack of information was reported by all three groups of color. Lack of money was among the top five reasons for Whites and Latinos. Fear related reasons were only in the top five for African Americans (least reported, as number five).

Using the results of this L.A. County phone survey (Crano et al. n.d.) may allow the Forest Service to more carefully target its messages, using media that are more likely to be effective with particular groups and emphasizing activities that are more likely to be of interest to those groups.

Beginning in the fall of 2007, a group of people representing diverse recreation interests collaborated with Giant Sequoia National Monument and Sequoia National Forest staff, regarding recreation in the Monument. Participants were interested in the Monument plan and

are interested in and engage in a wide variety of recreation activities. Participants were not selected through a scientific sampling process that would yield statistically valid results through analysis, and they are not representative of the population in the three-county area (Fresno, Kern, and Tulare), California, or the nation. Through this collaborative process, the group, known as the Sequoia Monument Recreation Council (SMRC), identified what is important to them for future recreation in the Monument that should be addressed in the Monument management plan, and the information is considered in this recreation demand analysis.

Increasing enjoyment of the Monument is an overarching goal. The plan needs to balance diverse users, a wide variety of uses, accommodate uses through the variety of seasons, and minimize conflicts. The plan needs to provide for access; people cannot play if they cannot get to their destination, and for some, use of those access routes is their desired form of recreation. Road access, trail access, good signage, and permission to use the roads/trails are needed for people to enjoy the Monument. The plan needs to address connections: connection of people to place, peoples to peoples, developing stewardship to foster that connection to the land, and education. The plan needs to provide for protection of people. The plan needs to be practical, in providing for opportunities that are easy to maintain and can be funded. The plan 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.

In order to satisfy the requirements of the proclamation (Clinton 2000) and to create a healthy balance for both the Monument ecosystems and recreationists, SMRC believes the following considerations (submitted during scoping) are important in developing the Monument management plan.

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. Partner with local and statewide organizations to promote tourism.

Day Use: Provide picnic facilities in areas that create minimal effect on surrounding ecosystems. Place facilities where a range of recreation opportunities exist (such as near rivers, ponds, climbing rocks, views, giant sequoias). Provide and maintain adequate restroom facilities. Create informational and educational kiosks on the specific area's natural and social history, objects of interest, and need for respect and care of these areas.

Camping: Provide and maintain campgrounds that create a sense of space, safety, privacy, and immersion in the forest experience with minimal effect on the surrounding ecosystem. Design camping spaces for small individual use, large family gatherings, and larger organizational groups. Monitor ecosystem and human effects and the safety of the recreation users and wild animals. Situate the campground facilities where recreation activities can be enjoyed close at hand. Provide and maintain adequate water, restroom, food storage, and garbage disposal facilities. Provide interpretive programs that impart historic and environmental information. Develop kiosks and bulletin boards that provide information regarding regulations, appropriate user practices, and maps of the surrounding area. In addition, provide and maintain backcountry camping areas with toilet facilities and food storage for use in popular wilderness areas.

Roads: Designate and maintain existing roads that are appropriate for ATV, four-wheel drive vehicles, and snowmobiles, providing for user safety and minimum effect on the environment. Post maps, regulations, and safety considerations, regarding front country usage, wood gathering, etc., on bulletin boards at the roadheads. Partner with state and local agencies to maintain roads for four season use.

Parking and Toilets: Provide for appropriate toilet and 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 signage 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; historic information; and maps of the area.

Concessionaires and Private Resorts: Provide for, regulate, and cooperate with concessions, resorts, and private organizations that enhance the recreation experience. These opportunity providers may include summer and winter backcountry guides, stock packing outfits, commercial tours, lodges, campgrounds, restaurants, health spas, and other commercial recreation providers.

Permittees, Organizational Camps, and Private Communities in and Adjacent to the Monument: Develop cooperative programs that enhance the Monument experience, while protecting its objects, history, and health. Address the current needs of private and public interests through understanding of past and future concerns. Create cooperative management structures to encourage dialogue, transparency, and trust. Educate private interests to the needs of ecological balance and stewardship.

Public Outreach Programs: Provide for public and permittee input throughout the development and implementation of the Monument management plan. Create memoranda of understanding with outside agencies, organizations, and inholders. Develop cooperative interpretation and stewardship programs involving communities within and adjacent to the Monument. Develop partnerships with Monument advocacy groups to acquire

marketing, financial, and public resources. Involve gateway communities in decision making forums and marketing of Monument opportunities.

Education Programs: Develop programs in schools, communities, and in the Monument to promote a strong sense of public and personal ownership and responsibility for the Monument. Promote responsible usage; conservation practices for environmental and human resources; fire safety; and social and environmental safety. Create awareness through the media and Monument publications of the importance of wildland systems; the importance of human actions to wildland health and welfare; and the importance of historic perspectives to help guide us to a balanced future.

California periodically publishes a statewide comprehensive outdoor recreation plan which provides a status report on the social, economic, environmental, and political conditions that affect outdoor recreation opportunities statewide. The *California Outdoor Recreation Plan 2008* (CORP) (California State Parks 2009) is the most recent plan. The CORP established a recreation strategy to guide all recreation providers in meeting the state’s outdoor recreation needs.

The 2008 CORP (California State Parks 2009) includes California’s recreation policy, which was updated in 2005. The following text is excerpted from California policy, which states:

Parklands and trails should be promoted for the broad-scale economic and non-economic benefits they provide, whether through opportunities for physical activity, increased jobs, attracting tourists, supporting local communities, drawing in new businesses to park-friendly communities, providing vital concession operations or increasing property values.

A comprehensive environmental ethic should be fostered among all Californians, particularly its children and youth, to encourage wise use of the state’s finite natural and cultural resources.

Californians should be made aware of California’s unique and important

environmental, ecological, scenic, historical and educational resources and opportunities contained within parks, recreation areas, open space and resource lands.

The CORP (California State Parks 2009) incorporated preliminary results from the 2007 survey of Public Opinions and Attitudes on Outdoor Recreation in California. The survey found that 98 percent of respondents indicated that viewing scenic beauty is important to their enjoyment of their favorite activities. In addition, 93 percent said that feeling in harmony with nature was important to their enjoyment of the outdoors. More than 87 percent agreed that recreation helps improve people's health. Over 78 percent agreed that recreation programs help reduce crime and juvenile delinquency, and almost 75 percent agreed that recreation agencies create jobs and help the economy.

The number of people at the lower end of the income scale is increasing disproportionately as the state's population grows. People with lower income rely more on public recreation facilities (CORP). Californians tend to participate in activities that are less expensive, require less equipment, and need fewer technical skills. According to the 2007 California survey (California State Parks 2009), the 15 most popular activities (percent participation) were:

- Walking for fitness or pleasure (74.2 percent)
- Driving for pleasure, sightseeing, driving through natural scenery (59.8 percent)
- Beach activities (59.2 percent)
- Swimming in a pool (50.9 percent)
- Day hiking on trails (46.9 percent)
- Wildlife viewing, bird watching, viewing natural scenery (45.9 percent)
- Jogging and running for exercise (39.8 percent)
- Bicycling on paved surfaces (36.3 percent)
- Outdoor photography (33.3 percent)
- Using open turf areas (33.3 percent)
- Using play equipment, play structures, tot-lots (32.8 percent)

- Organized team sports, such as soccer, football, baseball, softball, basketball (25.6 percent)
- Freshwater fishing (21.4 percent)
- Bicycling on unpaved surfaces and trails (15.9 percent)
- Surfing or boogie boarding, windsurfing (14.1 percent)

When asked which activities people would like to participate in more often, the most frequent responses (ranging from 44 percent to 47 percent) were walking for fitness or pleasure, camping in developed sites with facilities such as toilets and tables, bicycling on paved surfaces, and day hiking on trails. Youth would like to participate more in horseback riding, sledding/ice skating/snow play, snowboarding, swimming in a pool, and jet skis or wave runners (California State Parks 2009).

Between 1987 and 2002, participation in viewing activities (wildlife, birds, scenery) has steadily increased (Cordell 1999, 2004, 2008, Cordell et al. 2009b). According to the 2007 California survey, however, participation in these activities dropped by almost 30 percent since 2002 (California State Parks 2009). Time and other surveys will tell if this statistic is an anomaly or a reversal in trend.

People have a continuing interest in adventure activities, such as mountain biking, backpacking, rock climbing, and hang gliding. High-tech activities, such as geocaching, are continuing, and technological advances continue to be made in recreation equipment for various activities, such as skiing, snow shoeing, and mountain biking (CORP) (California State Parks 2009).

When asked about the amount of time people currently spend on outdoor recreation in the 2007 California survey, only 31 percent reported spending less time participating in outdoor activities. Most (88 percent) had visited a park in the previous six months. When asked about the types of facilities most commonly used during respondents' last visit, community/facility buildings were most commonly used (64 percent), followed by open spaces used for play (59 percent), picnic tables/pavilions (58 percent), unpaved multipurpose trails (53 percent), and paved trails (50 percent). Respondents primarily

visited parks with family (56 percent) or both family and friends (31 percent) (California State Parks 2009).

The 2007 California survey asked people how important providing various types of facilities and services was to them. Those facilities/services ranked as most important were play activity areas for tots and young children; wilderness type areas where no vehicles or development are allowed; areas and facilities for environmental and outdoor education programs; multi-use turf areas; picnic sites for large groups; trails for multiple, non-motorized activities, such as hiking, mountain biking, or horseback riding; and hard surface trails for biking, jogging, and fitness walking (California State Parks 2009).

The majority of respondents felt that maintaining or caring for park and recreation areas, protecting natural resources, protecting historic resources, and remodeling and improving existing facilities should receive more emphasis from government (California State Parks 2009).

CORP states that recreation facilities and services need to be made more relevant for the state's rapidly changing population segments, including the elderly, youth, single parent families, ethnic groups, new immigrants, and persons with disabilities. To meet these needs, more group picnic areas and camping opportunities are needed. In addition, camping alternatives, such as cabins, tent cabins, yurts, and other affordable lodging should be provided (California State Parks 2009).

In 2009, Cordell (et al.) looked at long-term recreation activity trends, comparing National Recreation Survey data from 1982-1983 with NSRE data from 1994-1995, 1999-2001, and 2005-2009. When 1982-1983 is compared with 2005-2009, almost all activities have experienced an increase in the percentage of the population participating in them, with two activities experiencing over 200 percent growth (viewing/photographing birds, 287.0 percent; day hiking, 209.9 percent), and four activities experiencing over 100 percent growth (walking for pleasure, 111.3 percent; driving off-road, 141.9 percent; canoeing or kayaking, 105.8 percent; backpacking,

160.9 percent). Only four activities (cross-country skiing, ice skating outdoors, sailing, tennis outdoors) decreased in participation rates during that time (Cordell et al. 2009c).

Looking at shorter term trends reveals some differences from the long-term trends. Although some activities, like walking for pleasure and viewing/photographing birds, increased in popularity (percentage of the population participating), through each of the four survey periods, many others experienced their peak in either 1994-1995 or 1999-2001, with participation trending downward, at varying rates, since that peak. Examples of activities that had their peak participation rate in 1994-1995 are sightseeing, picnicking, swimming in lakes and streams, fishing, and boating. Examples of activities that had their peak participation rate in 1999-2001 are visiting nature centers, bicycling, developed camping, primitive camping, backpacking, and snowmobiling. A few other activities, like driving off-road and swimming in outdoor pools, have vacillated by going up, then down in the next survey period, and then up again. Because many factors in society affect recreation participation, causing participation in particular activities to swing up or down at any point in time, caution should be used when looking at short-term trends, as they are not necessarily indicative of what will occur in the long run (Cordell et al. 2009c).

The report (Cordell et al. 2009c) also compared the number of days that people participated in activities in 1982-1983 and 2005-2009. The number of days that people participated in developed camping, birding, motor boating, and pool swimming remained fairly consistent from the early 1980s until 2009. Some activities (day hiking, backpacking, driving off-road, horseback riding on trails, sailing, primitive camping, cross-country skiing) experienced an increase in the percentage of people spending more days participating. For snowmobiling, the number of people spending 3-10 days participating increased, with decreases in the other categories (1-2 days, 11-25 days, more than 25 days). Viewing/photographing birds had the highest percentage participating for more than 25 days (both survey periods) than any other activity.

Demand Analysis Conclusions

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).

The need exists for more picnicking and developed camping opportunities, and, in particular, more group picnicking and group developed camping opportunities (California State Parks 1998, 2003, 2009, USDA Forest Service 2006a).

The diversity of recreationists will continue to increase, as the American population becomes more diverse, and international visitors will increase (Cordell 1999). 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. Interpretation methods designed to reach these culturally diverse users need to communicate important resource issues, solicit commitment to conservation, and encourage appropriate behaviors; multilingual materials are needed (APPL 2004, California State Parks 2009, USDA Forest Service 2008a).

New methods of interpretation, including multilingual materials, and efforts to outreach to underrepresented groups need to be developed with careful attention to their special needs. 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. In other cases, for those who do visit, services need to be developed that meet their needs (USDA Forest Service 2008a).

Many of the younger user groups get information or communicate in new, more innovative ways, such as the internet, text messaging, and other technology. In order to reach them effectively, information on outdoor recreation opportunities and interpretive products and services should also be provided through use of technology (APPL 2004, Cordell 1999, Sheffield 2005, USDA Forest Service 2008a).

Another phenomenon to keep in mind is the aging of the population. The Sequoia attracts a greater number of visitors over the age of 61 than most forests in the region, and this trend is expected to increase with the aging of the baby boom generation. Demand for services that are accessible for individuals with disabilities, as well as the demands of a more active and physically fit senior population, will affect the types of recreation opportunities, including interpretive products and services, that need to be provided (California State Parks 2009, Cordell 1999, Sheffield 2005, USDA Forest Service 2006a, 2008a).

The various surveys referenced in this analysis (listed in the literature cited section) found similar participation in many activities, although the Sequoia market data (USDA Forest Service 2006a) indicate a continuing demand for hunting, while many studies covering broader geographic areas show a decrease in hunting (California State Parks 1998, 2002, Cordell 1999). Surveys (Cordell 1999, 2004, 2008, Cordell et al. 2009b) seem to indicate a growing interest in viewing/learning activities (except for the 2007 California survey [California State Parks 2009]).

The variety of activities is expected to continue to grow. Some will be determined to be appropriate for national forest land, 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).

In the next 25 years, the population in the Sequoia's market area is projected to increase 38 percent, and this increase will place more demands on the Sequoia's resources. Conservation and resource stewardship will be increasingly important, 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).

Recreation Report

Participation in many activities that currently occur in the Monument is expected to grow in the future, so that the need will exist to create additional opportunities for them. Whatever additional opportunities are provided, they must be provided in such a way that lifestyle and demographic trends are taken into account, in facility design and recreation management, in order to truly serve the needs of the recreating public.