
Part 2—Strategy

Land Allocations and Management Areas

Land allocations are land areas that are differentiated and named in the 2001 SNFPA or in this Monument Plan and its EIS.

Management areas are not land allocations as defined by the 2001 SNFPA, but rather are areas specific to the Monument with their own distinct management direction. The land allocations and management areas for the Monument are shown in their entirety on Map A of the Monument Plan map packet.

There are three categories of land allocations/management areas for the Monument: static, overlapping, and dynamic.

- **Static** land allocations/management areas are those not likely to change in size and location over time. They include designated wildernesses, wild and scenic river corridors, the Kings River Special Management Area (KRSMA), backcountry (inventoried roadless areas), the giant sequoia groves, old forest emphasis area, the Southern Sierra Fisher Conservation Area, research natural areas, botanical areas, and a geological area.
- **Overlapping** land allocations/management areas are those that are likely to overlap with static and dynamic areas. Where they overlap, the more restrictive standards and guidelines would

be applied, except where noted in the Dominant Management Direction table (Table 3). Land allocations/management areas that have more restrictive management direction preempt those with less restrictive direction. For example, when a wildland urban intermix (WUI) defense zone overlaps designated wilderness, the management direction for the more restrictive land allocation/management area—in this case, the direction for the wilderness area because of the importance of its legal status—is followed.

- **Dynamic** land allocations/management areas are those that are most likely to change in size and location over time with the introduction of new information. For example, as Pacific fisher populations are tracked, new den sites may be identified and mapped. Dynamic land allocations/management areas may, at times, overlap the other types. Since most of the dynamic land allocations/management areas are related to the protection of wildlife species, the standards and guidelines associated with them are usually given priority over most land allocations/management areas they overlap.

The following table shows the acres of land allocations and management areas in the Monument.

Table 2 Acres of Land Allocations/Management Areas

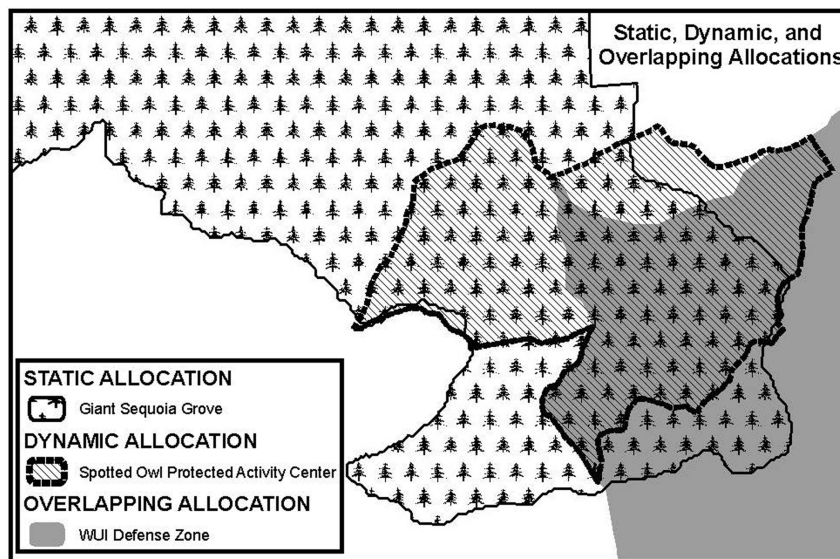
Land Allocations/Management Areas (Only the Portions in the Monument)	Acres
Static	
Giant Sequoia Groves ⁽¹⁾	90,360
Wilderness/Wild & Scenic Rivers	17,960
Kings River Special Management Area (KRSMA)	24,290
Backcountry (Inventoried Roadless Areas)	80,300
Old Forest Emphasis Area	153,760
Southern Sierra Fisher Conservation Area (SSFCA)	311,150
General Monument	5,710
Research Natural Areas, Botanical Areas, Geological Areas	9,340
Overlapping	
WUI Defense Zone	45,340
WUI Threat zone	145,520
Tribal Fuels Emphasis Treatment Area (TFETA)	56,640

1. Using the Grove Zones of Influence as the grove allocation boundary.

Land Allocations/Management Areas (Only the Portions in the Monument)	Acres
Dynamic	
RCA and CARs	178,000
CA Spotted Owl Protected Activity Centers (PACs)	22,620
Goshawk PACs	3,240
Great Gray Owl PACs	60
Furbearer (Pacific fisher and American marten) Den Sites	3,070
CA Spotted Owl Home Range Core Areas (HRCAs)	44,410

An example of how the three categories of land allocations relate to each other is shown in the following graphic.

Figure 2 Land Allocations/Management Areas



areas (in which some mechanical fuel treatments are permitted). Standards and guidelines for designated wilderness and backcountry (inventoried roadless areas) supersede all those for other land allocations.

Where the standards and guidelines for the two overlapping allocations are equally restrictive, or use different measures, so that both sets should be used in the overlapping area, the table indicates “apply both.” For example, standards and guidelines for Riparian Conservation Areas (RCAs) and Critical Aquatic Refuges (CARs) minimize disturbance of ground cover and riparian vegetation, while those for the Southern Sierra Fisher Conservation Area (SSFCA) support fisher habitat requirements such as overstory trees and canopy cover. Therefore, where these allocations overlap, both sets of standards

and guidelines can and should be applied in the overlapping area, as shown in Table 3.

The following table further illustrates what management direction would be followed where land allocations or management areas overlap. Where there is an overlap, the table indicates which area’s direction applies. Except where noted in the following table, land allocations with standards and guidelines that protect special habitats or protected species have a higher priority than land allocations or management areas that allow more active management. For example, standards and guidelines for California spotted owl protected activity centers (PACs) protect owl habitat and breeding by limiting the types and intensities of fuel treatments within their boundaries. Therefore, where PACs overlap old forest emphasis areas, the standards and guidelines for the PACs take precedence over those for old forest emphasis

The Monument Plan map packet contains four maps displaying land allocations and management areas. Map A displays the static land allocations/management areas for the Monument; Map B shows the land allocations/management areas for wildlife; Map C displays the WUI zones; and Map D shows the giant sequoia groves. Recreation and scenery management areas are delineated on maps to support broad administrative management, but do not constitute land allocations. Examples of this type of mapped information are Maps 1 and 2, which display the recreation niche settings for the Monument, the recreation opportunity spectrum maps in Appendix F, and the scenic integrity objective maps in Appendix G.

Table 3 Dominant Management Direction When Land Allocations/Management Areas Overlap

Land Allocations/Management Areas	Southern Sierra Fisher Conservation Area (SSFCA)	Old Forest Emphasis Area	Wildland Urban Intermix (WUI): Defense Zone	Wildland Urban Intermix (WUI): Threat Zone	Riparian Conservation Areas (RCAs) and Critical Aquatic Refuges (CARs)	General Monument ⁽¹⁾	Protected Activity Centers (PACs), Den Sites, Home Range Core Areas (HRCAs)	Giant Sequoia Groves	Tribal Fuels Emphasis Treatment Area (TFETA)
Southern Sierra Fisher Conservation Area (SSFCA)	N/A	Apply Old Forest.	Apply SSFCA. Exception: where fuels treatments are needed to meet fire behavior outcomes, apply WUI Defense Zone (S&G #15, p. 87).	Apply SSFCA. Exception: where fuels treatments are needed to meet fire behavior outcomes, apply WUI Threat Zone (S&G #18, p. 88).	Apply both.	N/A	Apply PACs, Den Sites, and HRCAs in their respective allocations.	Apply both.	Apply SSFCA and General Monument ⁽²⁾
Old Forest Emphasis Area	Apply Old Forest.	N/A	Apply Old Forest. Exception: where fuels treatments are needed to meet fire behavior outcomes, apply WUI Defense Zone (S&G #15, p. 87).	Apply Old Forest. Exception: where fuels treatments are needed to meet fire behavior outcomes, apply WUI Threat Zone (S&G #18, p. 88).	Apply both.	N/A	Apply PACs, Den Sites, and HRCAs in their respective allocations.	Apply both.	Apply Old Forest.

1. The 2001 SNFPA called this land allocation General Forest. For the Monument, it is called General Monument and includes any area in the Monument that is outside of other allocations. It therefore does not overlap with any other allocations.
 2. There are no standards and guidelines specific to the TFETA, so fire and fuels management in the TFETA is accomplished using the standards and guidelines for the General Monument allocation, in addition to those standards and guidelines specific to the SSFCA.

Land Allocations/ Management Areas	Southern Sierra Fisher Conservation Area (SSFCA)	Old Forest Emphasis Area	Wildland Urban Intermix (WUI): Defense Zone	Wildland Urban Intermix (WUI): Threat Zone	Riparian Conservation Areas (RCAs) and Critical Aquatic Refuges (CARs)	General Monument ⁽¹⁾	Protected Activity Centers (PACs), Den Sites, Home Range Core Areas (HRCAs)	Giant Sequoia Groves	Tribal Fuels Emphasis Treatment Area (TFETA)
Wildland Urban Intermix (WUI): Defense Zone	Apply SSFCA. Exception: where fuels treatments are needed to meet fire behavior outcomes, apply WUI Defense Zone (S&G #15, p. 87).	Apply Old Forest. Exception: where fuels treatments are needed to meet fire behavior outcomes, apply WUI Defense Zone (S&G #15, p. 87).	N/A	N/A	Apply both.	N/A	Apply PACs and/or Den Sites in their respective allocations. Apply WUI Defense Zone in HRCAs outside of den sites.	Apply Groves.	Apply SSFCA. Exception: where fuels treatments are needed to meet fire behavior outcomes, apply WUI Defense Zone (S&G #15, p. 87).
Wildland Urban Intermix (WUI): Threat Zone	Apply SSFCA. Exception: where fuels treatments are needed to meet fire behavior outcomes, apply WUI Threat Zone (S&G #18, p. 88).	Apply Old Forest. Exception: where fuels treatments are needed to meet fire behavior outcomes, apply WUI Threat Zone (S&G #18, p. 88).	N/A	N/A	Apply both.	N/A	Apply PACs and/or Den Sites in their respective allocations. Apply WUI Threat Zone in HRCAs outside of den sites.	Apply Groves.	Apply SSFCA. Exception: where fuels treatments are needed to meet fire behavior outcomes, apply WUI Threat Zone (S&G #18, p. 88).
Riparian Conservation Areas (RCAs) and Critical Aquatic Refuges (CARs)	Apply both.	Apply both.	Apply both.	Apply both.	N/A	N/A	Apply all applicable S&Gs. Exception: where S&Gs conflict, apply most restrictive.	Apply both.	Apply RCAs and CARs.
General Monument	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Land Allocations/ Management Areas	Southern Sierra Fisher Conservation Area (SSFCA)	Old Forest Emphasis Area	Wildland Urban Intermix (WUI): Defense Zone	Wildland Urban Intermix (WUI): Threat Zone	Riparian Conservation Areas (RCAs) and Critical Aquatic Refuges (CARs)	General Monument ⁽¹⁾	Protected Activity Centers (PACs), Den Sites, Home Range Core Areas (HRCAs)	Giant Sequoia Groves	Tribal Fuels Emphasis Treatment Area (TFETA)
Protected Activity Centers (PACs), Den Sites, Home Range Core Areas (HRCAs)	Apply PACs, Den Sites, and HRCAs in their respective allocations.	Apply PACs and/or Den Sites in their respective allocations. Apply WUI Defense Zone in HRCAs outside of den sites.	Apply PACs and/or Den Sites in their respective allocations. Apply WUI Threat Zone in HRCAs outside of den sites.	Apply all applicable S&Gs. Exception: where S&Gs conflict, apply most restrictive.	N/A	N/A	N/A	Apply PACs, Den Sites, and HRCAs in their respective allocations.	Apply PACs and/or Den Sites in their respective allocations. Apply WUI Threat Zone ⁽³⁾ in HRCAs outside of den sites.
Giant Sequoia Groves	Apply both.	Apply both.	Apply Groves.	Apply Groves.	Apply both.	N/A	Apply PACs, Den Sites, and HRCAs in their respective allocations.	N/A	Apply Groves.
Tribal Fuels Emphasis Treatment Area (TFETA)	Apply SSFCA and General Monument. ⁽⁴⁾	Apply Old Forest.	Apply SSFCA. Exception: where fuels treatments are needed to meet fire behavior outcomes, apply WUI Defense Zone (S&G #15, p. 87).	Apply SSFCA. Exception: where fuels treatments are needed to meet fire behavior outcomes, apply WUI Threat Zone (S&G #18, p. 88).	Apply RCAs and CARs.	N/A	Apply PACs and/or Den Sites in their respective allocations. Apply WUI Threat Zone ⁽⁵⁾ in HRCAs outside of den sites.	Apply Groves.	N/A

3. There are no standards and guidelines specific to the TFETA, so the standards and guidelines for the WUI Threat Zone would be used in the HRCAs outside of den sites.
 4. There are no standards and guidelines specific to the TFETA, so fire and fuels management in the TFETA is accomplished using the standards and guidelines for the General Monument allocation, in addition to those standards and guidelines specific to the SSFCA.
 5. There are no standards and guidelines specific to the TFETA, so the standards and guidelines for the WUI Threat Zone would be used in the HRCAs outside of den sites.

Suitable Land Uses

National Forest System lands are generally available for a variety of multiple uses, although not all uses are suitable for all areas. Section 6 (g) of the Resource Planning Act of 1974 (RPA), as amended by the National Forest Management Act of 1976 (NFMA), requires “the identification of the suitability of lands for resource management” (RPA 1974, pp. 4-9).

The definition of suitability is:

The appropriateness of applying certain resource management practices to a particular area of land, as determined by an analysis of economic and environmental consequences and the alternative uses forgone. A unit of land may be suitable for a variety of individual or combined management practices (36 CFR 219.3)

The Sequoia National Forest, as the administrator of the Monument, has identified generally suitable uses for the Monument as guided by current management direction and the Proclamation. The Proclamation makes specific statements about the suitability of the Monument for certain resource-related activities, such as:

- These giant sequoia groves and the surrounding forest provide an excellent opportunity to understand the consequences of different approaches to forest restoration. These forests need restoration to counteract the effects of a century of fire suppression and logging. Fire suppression has caused forests to become denser in many areas, with increased dominance of shade-tolerant species. Woody debris has accumulated, causing an unprecedented buildup of surface fuels. One of the most immediate consequences of these changes is an increased hazard of wildfires of a severity that was rarely encountered in pre-Euroamerican times. Outstanding opportunities exist for studying the consequences of different approaches to mitigating these conditions and restoring natural forest resilience (Clinton 2000, pp. 24095-24096).
- 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 (Clinton 2000, p. 24097).

- No portion of the monument shall be considered to be suited for timber production, and no part of the monument shall be used in a calculation or provision of a sustained yield of timber from the Sequoia National Forest (Clinton 2000, p. 24097).
- The plan will provide for and encourage continued public and recreational access and use consistent with the purposes of the monument (Clinton 2000, p. 24097).
- For the purposes of protecting the objects included in the monument, motorized vehicle use will be permitted only on designated roads, and non-motorized mechanized vehicle use will be permitted only on designated roads and trails, except for emergency or authorized administrative purposes or to provide access for persons with disabilities (Clinton 2000, p. 24098).
- Laws, regulations, and policies pertaining to administration by the Department of Agriculture of grazing permits and timber sales under contract as of the date of this proclamation on National Forest System lands within the boundaries of the monument shall continue to apply to lands within the monument (Clinton 2000, p. 24098).

This section describes general land use suitability and provides guidance for making decisions about future proposed projects and activities, but does not constitute a commitment or a decision to approve any particular projects or activities.

The following tables display the suitability of specific land uses or activities in both static and overlapping land allocations and management areas. Suitability is expressed as suitable, not suitable, designated areas (existing uses and areas only), regulated by the state (California Department of Fish and Game

[CDF&G]), suitable unless otherwise restricted, suitable for authorized use, or by exception. “By exception” means the use or activity is not generally compatible with that land allocation or management area, but it may be appropriate, depending on specific site conditions or under certain circumstances, such as the collection of culturally important special forest products in the backcountry at a certain time of year. NEPA analyses for site-specific projects may need to be conducted to determine specific instances where exceptions are warranted.

Land allocations and management areas are described and discussed in the previous section. For the dynamic land allocations (not included in these tables), suitability will be addressed with standards and guidelines developed for those allocations. A complete list of the standards and guidelines by resource area is available in Part 3.

Table 4 Suitable Land Uses and Activities by Static Land Allocation or Management Area

Land Use or Activity	Wilderness	Wild and Scenic Rivers	Backcountry (Inventoried Roadless Areas)	Giant Sequoia Groves ⁽¹⁾	Southern Sierra Fisher Conservation Area	Old Forest Emphasis	General Monument	Research Natural Areas	Botanical Areas, Geological Area
Resource Management									
Prescribed Fire	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable
Managed Wildfire	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable
Hand Treatments for Fuels Reduction ⁽²⁾	By Exception ⁽³⁾	By Exception	Suitable	Suitable	Suitable ⁽⁴⁾	Suitable	Suitable	Suitable	Suitable
Mechanical Treatments for Fuels Reduction ⁽⁵⁾	Not Suitable	By Exception	By Exception	Suitable	Suitable	Suitable	Suitable	By Exception	Suitable
Removal of Felled Trees ⁽⁶⁾	Not Suitable	By Exception	By Exception	Suitable	Suitable	Suitable	Suitable	By Exception	Suitable
New Road Construction	Not Suitable	Suitable	By Exception	Not Suitable	Suitable	Suitable	Suitable	By Exception	Suitable
Road Reconstruction	Not Suitable	Suitable	By Exception	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable
Trail Construction or Reconstruction	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable
Administrative Facilities ⁽⁷⁾	By Exception	Suitable	Suitable	By Exception	Suitable	Suitable	Suitable	By Exception	By Exception

1. For implementing site-specific projects, this applies only within the grove administrative boundary, not in the Zone of Influence (ZOI).
 2. Includes the use of chainsaws, handsaws, axes, and loppers.
 3. By Exception: use or activity is not generally compatible with that land allocation or management area, but may be appropriate, depending on specific site conditions or under certain circumstances, such as the collection of culturally important special forest products in the backcountry at a certain time of year.
 4. As allowed in the standards and guidelines.
 5. Includes the use of mechanized equipment; only where clearly needed for ecological restoration and maintenance or public safety.
 6. Only where clearly needed for ecological restoration and maintenance or public safety.
 7. Including trailheads, day use areas, lookouts, district offices.

Land Use or Activity	Wilderness	Wild and Scenic Rivers	Backcountry (Inventoried Roadless Areas)	Giant Sequoia Groves ⁽¹⁾	Southern Sierra Fisher Conservation Area	Old Forest Emphasis	General Monument	Research Natural Areas	Botanical Areas, Geological Area
Scientific Study and Monitoring	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable
Human Use									
Recreation Residence Tracts	Not Suitable	Designated Areas ⁽⁸⁾	Designated Areas	Designated Areas	Suitable	Designated Areas	Designated Areas	Not Suitable	Designated Areas
Organizational Camps	Not Suitable	Suitable unless otherwise restricted	Designated Areas	Designated Areas	Suitable	Designated Areas	Suitable unless otherwise restricted	Not Suitable	Designated Areas
Lodges and Resorts	Not Suitable	Suitable unless otherwise restricted	Suitable unless otherwise restricted	Designated Areas	Suitable	Suitable	Suitable	Not Suitable	Designated Areas
Developed Recreation Sites	Not Suitable	Suitable unless otherwise restricted	Suitable unless otherwise restricted	Suitable	Suitable	Suitable	Suitable	Not Suitable	Suitable
Dispersed Recreation Sites	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable
Hunting and Fishing	Regulated by the state (CDF&G) Suitable	Regulated by the state (CDF&G) Suitable	Regulated by the state (CDF&G) Suitable	Regulated by the state (CDF&G) Suitable	Regulated by the state (CDF&G) Suitable	Regulated by the state (CDF&G) Suitable	Regulated by the state (CDF&G) Suitable	Regulated by the state (CDF&G) Suitable	Regulated by the state (CDF&G) Suitable
Motorized Use of Roads	Not Suitable	Designated Roads Only	Designated Roads Only	Designated Roads Only	Designated Roads Only	Designated Roads Only	Designated Roads Only	Designated Roads Only	Designated Roads Only
Motorized Use of Trails ⁽⁹⁾	Not Suitable	Designated Only ⁽¹⁰⁾	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable

8. Designated Areas: existing uses and areas only.

9. This activity is not suitable as stated in the Proclamation.

10. Motorized use is allowed on Forest Trails 27E04 and 27E05 in KRSMA by law (P.L. 100-150).

Land Use or Activity	Wilderness	Wild and Scenic Rivers	Backcountry (Inventoried Roadless Areas)	Giant Sequoia Groves ⁽¹⁾	Southern Sierra Fisher Conservation Area	Old Forest Emphasis	General Monument	Research Natural Areas	Botanical Areas, Geological Area
Motorized or Mechanized Cross Country Travel ⁽¹¹⁾	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable
Non-motorized Mechanized Vehicle Use of Roads and Trails	Not Suitable	Suitable Unless Otherwise Restricted	Suitable Unless Otherwise Restricted	Suitable Unless Otherwise Restricted	Suitable Unless Otherwise Restricted	Suitable Unless Otherwise Restricted	Suitable Unless Otherwise Restricted	Suitable Unless Otherwise Restricted	Suitable Unless Otherwise Restricted
Temporary Special Uses ⁽¹²⁾	Suitable Unless Otherwise Restricted	Suitable Unless Otherwise Restricted	Suitable Unless Otherwise Restricted	Suitable Unless Otherwise Restricted	Suitable Unless Otherwise Restricted	Suitable Unless Otherwise Restricted	Suitable Unless Otherwise Restricted	Suitable Unless Otherwise Restricted	Suitable Unless Otherwise Restricted
Commodity and Commercial Uses									
Communication Sites	Designated Areas	By Exception	Designated Areas	Designated Areas	Suitable Unless Otherwise Restricted	Suitable Unless Otherwise Restricted	Suitable Unless Otherwise Restricted	Designated Areas	Designated Areas
Utility Corridors	Designated Areas	By Exception	Designated Areas	Designated Areas	Suitable Unless Otherwise Restricted	Suitable Unless Otherwise Restricted	Suitable Unless Otherwise Restricted	Designated Areas	Not Suitable
Livestock Grazing	Suitable	Suitable	Suitable	Designated Areas	Suitable	Suitable	Suitable	Not Suitable	Suitable
Wood Products (firewood)	Not Suitable	Suitable for Authorized Use	By Exception	By Exception	Suitable for Authorized Use	Suitable for Authorized Use	Suitable for Authorized Use	Not Suitable	By Exception

11. This activity is not suitable as stated in the Proclamation.

12. Includes weddings, fishing events, historical reenactments, and other recreation events.

Land Use or Activity	Wilderness	Wild and Scenic Rivers	Backcountry (Inventoried Roadless Areas)	Giant Sequoia Groves ⁽¹⁾	Southern Sierra Fisher Conservation Area	Old Forest Emphasis	General Monument	Research Natural Areas	Botanical Areas, Geological Area
Special Forest Products	Not Suitable	Suitable for Authorized Use	By Exception	By Exception	Suitable for Authorized Use	Suitable for Authorized Use	Suitable for Authorized Use	Not Suitable	By Exception
Minerals Exploration and Development ⁽¹³⁾	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable

13. This activity is not suitable as stated in the Proclamation.

Table 5 Suitable Land Uses and Activities by Overlapping Land Allocation or Management Area

Land Use or Activity	Overlapping Land Allocations/Management Areas		
	Wildland Urban Intermix: Defense Zone	Wildland Urban Intermix: Threat Zone	Tribal Fuels Emphasis Treatment Area
Resource Management			
Prescribed Fire	Suitable	Suitable	Suitable
Managed Wildfire	Suitable	Suitable	Suitable
Hand Treatments for Fuels Reduction ⁽¹⁾	Suitable	Suitable	Suitable
Mechanical Treatments for Fuels Reduction ⁽²⁾	Suitable	Suitable	Suitable
Removal of Felled Trees ⁽³⁾	Suitable	Suitable	Suitable
New Road Construction	Suitable	Suitable	Suitable
Road Reconstruction	Suitable	Suitable	Suitable
Trail Construction or Reconstruction	Suitable	Suitable	Suitable
Administrative Facilities ⁽⁴⁾	Suitable	Suitable	Suitable
Scientific Study and Monitoring	Suitable	Suitable	Suitable
Human Use			
Recreation Residence Tracts	Designated Areas ⁽⁵⁾	Designated Areas	Designated Areas
Organization Camps	Suitable unless otherwise restricted	Suitable unless otherwise restricted	Suitable unless otherwise restricted
Lodges and Resorts	Suitable unless otherwise restricted	Suitable unless otherwise restricted	Suitable unless otherwise restricted
Developed Recreation Sites	Suitable unless otherwise restricted	Suitable unless otherwise restricted	Suitable unless otherwise restricted
Dispersed Recreation Sites	Suitable unless otherwise restricted	Suitable unless otherwise restricted	Suitable unless otherwise restricted
Hunting and Fishing	Regulated by the state (CDF&G) Suitable	Regulated by the state (CDF&G) Suitable	Regulated by the state (CDF&G) Suitable
Motorized Use of Roads	Designated Roads Only	Designated Roads Only	Designated Roads Only
Motorized Use of Trails	Not Suitable	Not Suitable	Not Suitable
Motorized or Mechanized Cross Country Travel	Not Suitable	Not Suitable	Not Suitable
Nonmotorized Mechanical Vehicle Use of Roads and Trails	Suitable	Suitable	Suitable

1. Includes the use chainsaws, handsaws, axes, and loppers.
2. Includes the use of mechanized equipment. Only where clearly needed for ecological restoration and maintenance or public safety.
3. Only where clearly needed for ecological restoration and maintenance or public safety.
4. Including trailheads, day use areas, lookouts, district offices.
5. Designated Areas: existing uses and areas only.

Land Use or Activity	Overlapping Land Allocations/Management Areas		
	Wildland Urban Intermix: Defense Zone	Wildland Urban Intermix: Threat Zone	Tribal Fuels Emphasis Treatment Area
Temporary Special Uses ⁽⁶⁾	Suitable	Suitable	Suitable
Commodity and Commercial Uses			
Communication Sites	Suitable	Suitable	Suitable
Utility Corridors	Suitable	Suitable	Suitable
Livestock Grazing	Suitable	Suitable	Suitable
Wood Products (firewood)	Suitable	Suitable	Suitable
Special Forest Products	Suitable	Suitable	Suitable
Minerals Exploration and Development	Not Suitable	Not Suitable	Not Suitable

6. Includes uses such as weddings, fishing events, historical reenactments, other recreation events, or outfitter guides.

Strategies and Objectives

This part of the Monument Plan sets forth strategies and objectives for achieving or maintaining the desired conditions for the Monument, as established in Part 1. Strategies describe the general approach that the responsible official will use to achieve the desired conditions. Strategies establish priorities in management effort and a sense of focus for objectives.

Objectives exist for some, but not all, resource areas. Objectives are concise projections of measurable, time-specific outcomes that are consistent with the strategies. They provide a way to measure progress toward achieving or maintaining desired conditions. When a time frame has been provided for meeting an objective, the intent is to meet the objective within that time frame, or as soon as reasonably possible thereafter, and as funding allows.

In response to the Proclamation, the management strategies and objectives are focused on the resource areas affected by this plan amendment. These resource areas are:

- Scientific Study and Adaptive Management
- Vegetation, including Giant Sequoias; Fire and Fuels; and Wildlife and Plant Habitat

- Air Quality
- Range
- Hydrological Resources
- Groundwater
- Geological Resources
- Paleontological Resources
- Soils
- Human Use (including Recreation, Scenery, and Socioeconomics)
- Cultural Resources
- Transportation (including the Transportation System and Trails and Motorized Recreation)
- Special Areas, including Special Interest Areas

Scientific Study and Adaptive Management

Figure 3 Overview of Adaptive Management Based on Scientific Study and Monitoring

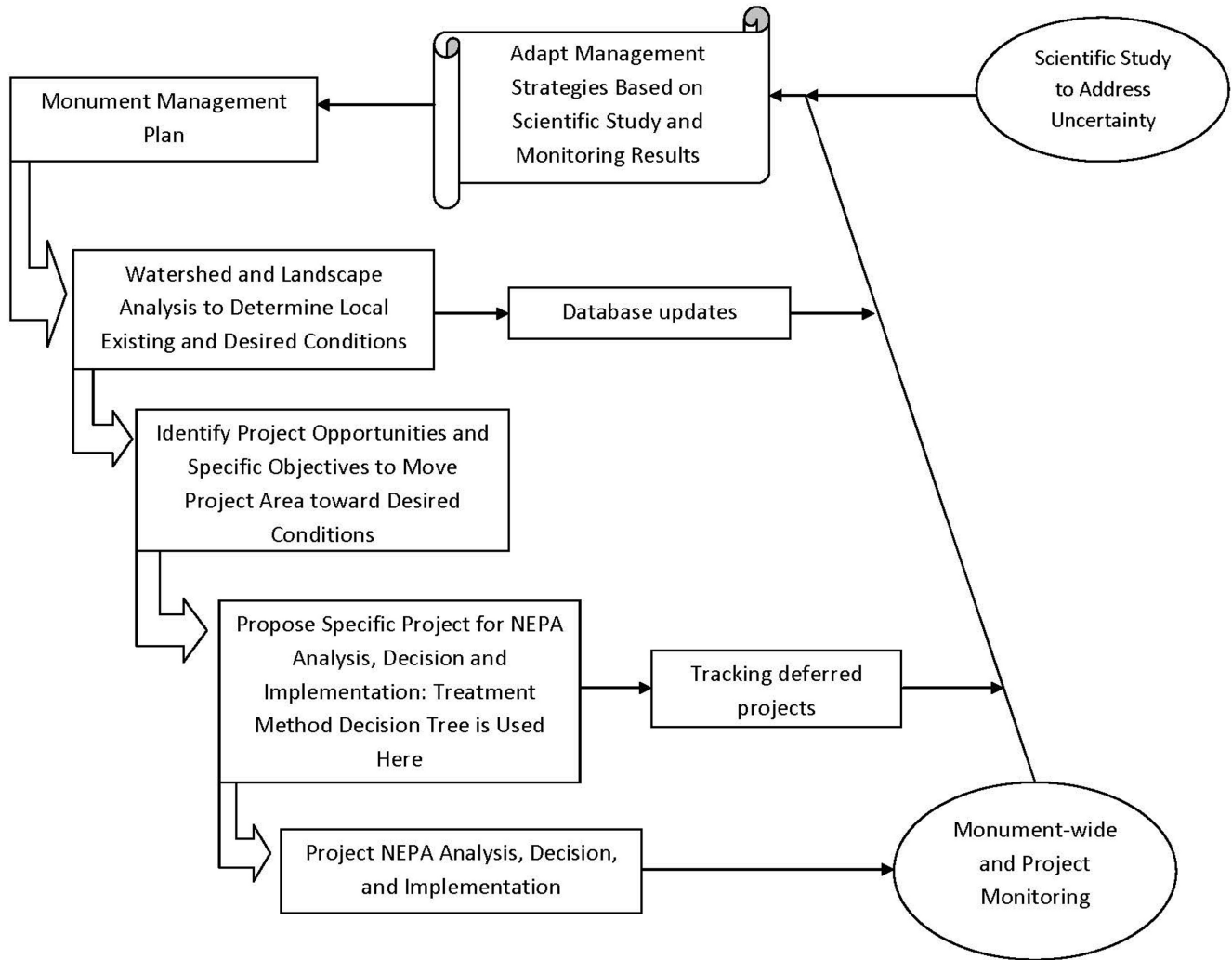


Table 6 Strategies for Scientific Study and Adaptive Management

Strategy
1. Propose scientific study and management activities that respond to the advice provided in the science advisories, where applicable and practicable. Use the joint strategic framework, “A Strategic Framework for Science in Support of Management in the Southern Sierra Nevada Ecoregion,” developed with the National Park Service, to incorporate current and new science.
2. Encourage research to assist in defining agents of change, such as climate, invasive species, ecological succession, and air pollution.
3. Foster partnerships dealing with science.
4. Conduct research regarding objects of interest, including paleontological, cultural, and geological resources, for which there is little current science available.
5. Conduct social science and recreation research to better understand connection to place (including objects of interest), levels of acceptable change, and future use trends.
6. Conduct research to determine whether species shifts are occurring and whether these are associated with climate change factors, such as shifts in habitat characteristics.

Strategy
7. Study the archaeological sites recording Native American occupation and adaptations to this complex landscape, and the roles prehistoric peoples played in shaping the ecosystems on which they depended (Clinton 2000, p. 24095).
8. Study the archaeological remains of historic logging and giant sequoia regeneration since logging, and study forest resilience to large-scale logging and the consequences of different approaches to forest restoration (Clinton 2000, p. 24097).
9. Conduct research “to understand the consequences of different approaches to forest restoration...” and “the consequences of different approaches to mitigating these conditions [unprecedented buildup of surface fuels, increased hazard of wildfires] and restoring natural forest resilience” (Clinton 2000, p. 24095-24096).

Table 7 Objectives for Scientific Study and Adaptive Management

Objective
1. During the life of the Monument Plan, ⁽¹⁾ encourage and coordinate at least two scientific studies in the giant sequoia groves to research resilience to agents of change such as fire, drought, insects, disease, and climate change. Design experiments to investigate the responses, including regeneration, of giant sequoias to changes in temperature and moisture, and the complex interactions of these two factors. Publish results within 10 years of study initiation.
2. During the life of the Monument Plan, continue and expand research on the effects of management activities on Pacific fisher and its habitat to better understand how these activities influence individuals, important habitat components, prey resources, and competition with other predators. Evaluate the research findings as available and refine management direction.
3. Within 5 years, encourage and coordinate scientific studies in giant sequoia regeneration and in the growth of older giant sequoias subjected to disturbance.
4. During the life of the Monument Plan, use landscape analysis information to identify opportunities for site-specific ecological restoration projects.

1. The work toward achieving the objectives in this plan will begin upon plan implementation. When a time frame has been provided for meeting an objective, the intent is to meet the objective within that time frame, or as soon as reasonably possible thereafter.

Vegetation, including Giant Sequoias; Fire and Fuels; and Wildlife and Plant Habitat

Vegetation management, fuels management, and wildlife habitat management are intricately linked, relying on the structure, function, and composition

of vegetation. Because of this, the strategies and objectives for these three resource areas are covered together in this section.

Vegetation Strategies

Table 8 Strategies Specific to Giant Sequoias

Strategy
1. As part of the fuel load reduction plan for each giant sequoia grove, ⁽¹⁾ emphasize the protection of: <ul style="list-style-type: none"> • Large giant sequoia trees • Large trees of other species, including pines, red firs, incense cedars, and black oaks.
2. Protect naturally-occurring isolated giant sequoias located outside of grove administrative boundaries and near areas of human use from vegetation management activities, giving special consideration to the root systems. When practical, preserve them within wildlife clumps or within areas reserved to meet seral stage diversity requirements.

1. Using the grove administrative boundary.

Strategy
3. Provide additional protection to the named giant sequoias—Boole, President Bush, and Chicago Stump—from fuels reduction activities, wildfires, and from human disturbance that can damage tree health, such as peeling bark and trampling on roots. Protect these specific trees by pulling fuels away from the base of the trees or removing ladder fuels that could promote a crown fire in them.
4. Give the designation of “grove” to any detached naturally-occurring group (10 or more giant sequoia trees, with at least 4 trees with a dbh of 3 feet or larger) located outside an existing grove’s administrative boundary. If previously unknown giant sequoia trees of any size and number are discovered outside a grove’s administrative boundary, modify the boundary according to the standards and guidelines. Develop a zone of influence (ZOI) within which key ecological processes, structures, and functions should be evaluated to ensure that the giant sequoia groves are preserved, protected, and restored (North et al. 2000).



Picture 22 The Boole Tree

Table 9 Strategies for Climate Change/Carbon Sequestration

Strategy
5. Design forest management techniques to forestall impacts to high value resources, such as retention of named giant sequoia trees.
6. Improve the potential for forest ecosystems to return to desired conditions following natural disturbances, such as through the use of prescribed fire, managed wildfire, or mechanical treatments to reduce ladder fuels or tree densities.
7. Restore essential ecological processes and patterns (for example, structural heterogeneity) to reduce impacts of current stressors.
8. Provide mitigation measures for minimizing short-term greenhouse gas emissions and promoting long-term sequestration of carbon resulting from site-specific project activities.

Table 10 Strategies for Ecological Restoration

Strategy
9. Accomplish ecological restoration, in part, through the reduction of fuels by decreasing down woody material, ladder fuels, and brush.
10. Promote heterogeneity in plantations and young stands by encouraging more diversity in species composition and age. Reduce stand density in young stands and encourage shade-intolerant species such as giant sequoia, pine, and oak.
11. Improve stand resilience and health by varying spacing of trees both inside and outside of giant sequoia groves.
12. Encourage natural regeneration of tree species, including giant sequoia. In areas where natural regeneration is not likely, use planting as determined in site-specific project analysis.

Strategy
13. Promote resiliency in Monument ecosystems by using the following tools, in order of priority: managed wildfire (when available), prescribed fire, mechanical treatment. ⁽¹⁾

1. Consistent with the Decision Tree narrative (pp. 82-84), whenever naturally-ignited wildfires occur and are available to manage for resource benefits, those managed wildfires will be used first for ecological restoration. These three tools can be used individually or in combination based on site-specific analysis and existing conditions.

Table 11 Strategy for Pest Management

Strategy
14. Continue using integrated pest management, allowing carefully controlled, limited use of pesticides to rapidly control pests and encourage a natural environment.

Vegetation Objectives (by Type)

Vegetation and fuels management focus on the first two decades of time for ecological restoration, tree

and stand resiliency, and the reduction of surface and ladder fuels.

Table 12 Objectives for Giant Sequoias

Objective
1. Within 20 years, complete a grove-specific fuel load reduction plan for each giant sequoia grove in the Monument.
2. Within 20 years, accomplish ecological restoration projects in the WUI defense zone in the giant sequoia groves.
3. Within 20 years, accomplish ecological restoration projects in 25 percent of the giant sequoia groves outside of the WUI defense zone.

Table 13 Objectives for Mixed Conifer

Objective
4. Manage vegetation to: <ul style="list-style-type: none"> • Change approximately 2 percent of the mixed conifer types to an early seral phase in giant sequoia groves per decade. • Change approximately 1 percent of the mixed conifer types to an early seral phase outside of groves per decade. • Change approximately 10 percent of the mixed conifer types to reduce fuels and increase tree growing space in groves per decade. • Change approximately 6 percent of the mixed conifer types to reduce fuels and increase tree growing space outside of groves per decade.

Table 14 Objective for Blue Oak–Interior Live Oak

Objective
5. For the life of the plan, keep the total acreage of the blue oak vegetation type stable.

Table 15 Objectives for Chaparral–Live Oak

Objective
6. Manage vegetation to change approximately 6 percent of the chaparral vegetation types to an early seral phase outside of groves per decade.

Table 16 Objectives for Montane Hardwood–Conifer

Objective
<p>7. Manage vegetation to:</p> <ul style="list-style-type: none"> • Change approximately 24 percent of the montane hardwood-conifer vegetation types to an early seral phase in giant sequoia groves per decade. • Change approximately 2 percent of the montane hardwood-conifer types to an early seral phase outside of groves per decade. • Change approximately 12 percent of the montane hardwood-conifer types to reduce fuels and increase tree growing space in groves per decade. • Change approximately 9 percent of the montane hardwood-conifer types to reduce fuels and increase tree growing space outside of groves per decade.

Table 17 Objectives for Red Fir

Objective
<p>8. Manage vegetation to:</p> <ul style="list-style-type: none"> • Change approximately 3 percent of the red fir vegetation types to an early seral phase in giant sequoia groves per decade. • Change approximately 1 percent of the red fir types to an early seral phase outside of groves per decade. • Change approximately 1 percent of the red fir types to reduce fuels and increase tree growing space in groves per decade. • Change approximately 1 percent of the red fir types to reduce fuels and increase tree growing space outside of groves per decade.

Fire and Fuels Strategies

Table 18 Strategies for Fire and Fuels

Strategy
1. Focus fire prevention programs on recreation use and residential areas.
2. When the use of fire is not appropriate (poor air quality days) or desirable (an abundance of ladder fuels that pose a threat to public safety or adjacent communities), mechanical treatments ⁽¹⁾ can be used to accomplish fuel management objectives.
3. Promote a range of natural fire effects by allowing low, moderate, and high intensity fires to burn in the Monument.
4. For fires started by natural ignitions (lightning strikes), determine whether to allow them to burn on a case-by-case basis.
5. Conduct prescribed burning at various times of the year, and with different prescriptions (firing patterns), to maximize biodiversity and to avoid undesirable changes from repeated burning at the same time of year.
6. Avoid aerial application of retardant or foam within 300 feet of waterways. This does not require the helicopter or air tanker pilot in command to fly in such a way as to endanger his or her aircraft, other aircraft or structures, or compromise ground personnel safety.

1. Mechanical treatment is the use of self-propelled equipment.

Table 19 Strategies for Ecological Restoration

Strategy
7. Restore fuel conditions to allow fire to burn in its characteristic pattern and allow fire to resume its ecological role.

Strategy
8. Manage fire and fuels to produce a vegetation mosaic of age classes, tree sizes, and species composition to protect the objects of interest and help maintain environmental, social, and economic benefits, such as those associated with tourism.
9. Manage some high-intensity fires on a limited basis and tolerate relatively high mortality to reduce fuels or to improve the diversity of vegetation and habitat characteristics in the Monument.
10. Prioritize treatments for fuels reduction and ecological restoration by land allocations/management areas as follows: <ol style="list-style-type: none"> 1. WUI defense zones 2. TFETA areas of high and moderate fire susceptibility within ¼-mile of the reservation boundary (see following map) 3. WUI threat zone 4. Giant sequoia groves (not previously treated in 1 through 3) 5. TFETA areas of high fire susceptibility (not previously treated in 2) 6. Old forest emphasis areas (not previously treated in 1 through 5)

Table 20 Strategies for Fuels Reduction

Strategy
11. Locate fuel treatments and manage wildfires (when available) across broad landscapes so that the spread and intensity of wildfire is reduced.
12. Locate the tribal fuels emphasis treatment area (TFETA) along the northern, eastern, and southern boundaries of the Tule River Indian Reservation (see following map). Focus fuel treatments in the TFETA to slow the spread of fire and to protect the objects of interest in the Monument, the reservation, and their watersheds from severe fire effects. The first priority for fuel reduction treatments in the TFETA is those areas within ¼ mile of the reservation boundary with high and moderate fire susceptibility, and in the Long Canyon area.
13. Use the following tools for fuels reduction, in order of priority: managed wildfire (when available), prescribed fire, mechanical treatment. ⁽¹⁾

1. Consistent with the Decision Tree narrative (pp. 82-84), whenever naturally-ignited wildfires occur and are available to manage for resource benefits, those managed wildfires will be used first for ecological restoration. These three tools can be used individually or in combination based on site-specific analysis and existing conditions.

Table 21 Strategies Specific to WUI Management

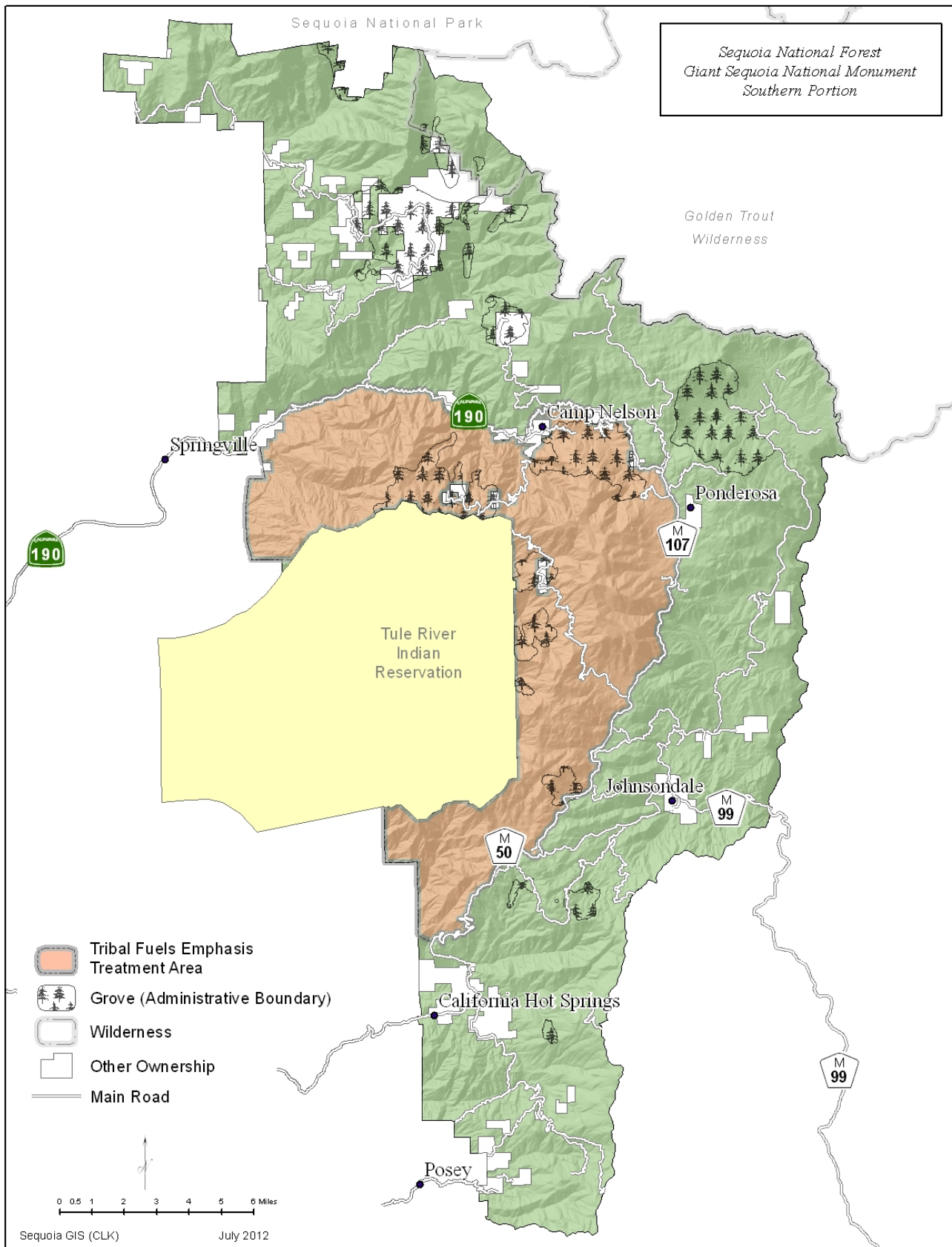
Strategy
14. Allow low, moderate, and high intensity fires to burn in the Monument, including within giant sequoia groves.
15. Provide a minimum 100-foot defensible space (CFR Section 4291) for all structures on administrative sites, structures authorized by permit, and for developments adjacent to National Forest System lands.

Fire and Fuels Objectives

Table 22 Objectives for Fire and Fuels

Objective
1. Meet at least once annually with cooperating agencies to coordinate prescribed burning plans for projects located on adjacent lands and to coordinate fire protection activities.
2. Use grove-specific fuel load reduction plans to determine where mechanical treatments are needed prior to the re-introduction of fire.
3. Re-introduce fire to achieve ecological restoration goals in the giant sequoia groves on an average of 5 percent of grove acres per year, according to their fuel load reduction plans.

Map 3 Tribal Fuels Emphasis Treatment Area



Prioritizing Fuel Load Reduction in Giant Sequoia Groves

The MSA and the Proclamation both recognized the need for fuels reduction treatments in the Monument and, in particular, in the giant sequoia groves. The MSA directed that the groves be inventoried and evaluated for their fuel load build-up. “Based on this inventory and evaluation, Groves, or parts of Groves, with risks of catastrophic fire and/or exclusion of new giant sequoia regeneration because of unnatural fuel load build-up will be identified and prioritized for fuel load reduction treatment.” The Proclamation discussed the build-up of fuels as a reason for forest restoration.

... a century of fire suppression has led to an unprecedented failure in sequoia reproduction in otherwise undisturbed groves... These giant sequoia groves and the surrounding forest provide an excellent opportunity to understand the consequences of different approaches to forest restoration. These forests need restoration to counteract the effects of a century of fire suppression and logging. Fire suppression has caused forests to become denser in many areas, with increased dominance of shade-tolerant species. Woody debris has accumulated, causing an unprecedented buildup of surface fuels. One of the most immediate consequences of these changes is an increased hazard of wildfires of a severity that was rarely encountered in pre-Euroamerican times (Clinton 2000, p. 24095).

The MSA required a grove inventory for each grove. All fieldwork for these inventories and data analysis have been completed, providing better site-specific information on fuel loading, giant sequoia regeneration, and large tree abundance. Although the MSA requested an inventory of every giant sequoia tree over three feet in diameter, this was only done in two of the smaller groves, Cunningham and Agnew. The large, complex area covered by groves made a 100 percent inventory prohibitive in terms of both time and money. The rest of the groves were sampled using standard forest inventory procedures, with plots distributed throughout the grove to obtain reliable estimates of species abundance and distribution. Preliminary results from these inventories suggest that fuel loading is generally high or very high in

the groves, and giant sequoia regeneration is sparse except in larger openings or plantations.

The MSA required an approved fuel load reduction plan to use mechanical treatment methods in giant sequoia groves. The Black Mountain Giant Sequoia Grove Fuel Load Reduction Evaluation (2008) was developed to meet this requirement. This evaluation can be used as a template for future sequoia grove fuel reduction plans.

Each fuel load reduction plan will include a description of existing conditions and the need for treatment within the groves as well as the area surrounding the groves. As displayed in the Black Mountain Giant Sequoia Grove Fuel Reduction Evaluation, the following condition information and data should be included in each sequoia grove plan.

- Fire history
- Fire return interval departure (FRID)
- Fire behavior
- Fuel loading (current grove inventories)
- Fuel treatment goals

The most recent inventories of fuel load will be used to develop each grove’s fuel load reduction plan. However, since most groves have fuel loads that exceed desirable levels, this data will not likely be a deciding factor in prioritizing the groves for treatment. Similarly, the fire return interval departure (FRID) will not be used in prioritizing groves for treatment because almost 90 percent of the groves are classified as either high or extreme FRID. In addition, forest health, as determined from the most recent forest aerial detection surveys, does not show a manageable difference in tree mortality between groves that could be attributed to insect or disease.

The identification and prioritization of groves or parts of groves for fuel reduction treatments will be based on the fire susceptibility in each grove and its surrounding watershed(s). Fire susceptibility considers the expected flame length (hazard) of a wildfire burning in the current level of fuels, the risk of fire occurrence, and how severe a wildfire is expected to be in a given location. Fire severity is defined primarily by elevation, because the amount of moisture and the temperature differ by elevation. Fire

Part 2—Strategy

susceptibility is an appropriate tool for prioritizing the groves for treatment because it often varies between groves, it can be measured on the ground, and it can be estimated in models.

It is important to note that fire susceptibility will vary over time. An insect outbreak that causes extensive mortality to associated trees in a grove may increase the fire susceptibility there. Changes in managed animal species may change treatment priorities in certain groves. Changing conditions may change the fire susceptibility in any particular grove, but because fire susceptibility is so closely related to the desired conditions for many resources, it is an important decision tool. Fire susceptibility can be used to help evaluate the potential for damage to the objects of interest, residential or recreational facilities, soils, and watersheds. Fire susceptibility can also serve as a measurable factor in projects designed to encourage canopy openings and early seral habitat with hotter, more severe fires. Fire susceptibility is related to the regeneration of giant sequoia and pines within groves. Fuels treatments that reduce fire susceptibility may also produce site conditions that allow the roots of

tree seedlings to expand in mineral soil and adequate light to reach the seedlings for height growth.

Other factors that will be considered when prioritizing the groves for treatment include, but are not limited to, slope, aspect, tree canopy cover, forest health, fuel loading, access, cooperative agreements with adjacent landowners or other parties, funding opportunities, political and public pressure, safety concerns, recreation opportunities, and imminent threat from wildfire. Various resource objectives and values may be most appropriate to consider at the site-specific project level of analysis. For example, a line officer may choose to treat a grove with a lower fire susceptibility rating for the purposes of recreation, tree regeneration, or project efficiency. However, for every site-specific project in the Monument, decisions for fuels treatments that include tree removal must be based on determinations that they are “clearly needed for ecological restoration and maintenance or public safety” (Clinton 2000, p. 24097). Restoring more natural conditions and protecting the objects of interest and communities fulfill the needs identified in the Proclamation.

Wildlife and Plant Habitat Strategies

Table 23 Strategies for Wildlife and Plant Habitat

Strategy
1. Maintain and improve habitat for endangered and threatened plant and animal species on federal and state lists to meet objectives set forth in their recovery and management plans.
2. Protect, increase, and perpetuate old forest ecosystems and provide for the diversity of native plant and animal species associated with old forest ecosystems.
3. Protect high value wildlife habitat from management activities using species-specific standards and guidelines based on land allocations such as PACs, HRCAs, den site buffers.
4. Protect high quality fisher habitat from any adverse effects from management activities, evaluating the effects of site-specific projects with models appropriate to the scale of the project.
5. To protect aquatic, riparian, and meadow ecosystems, use streamside management zones, the aquatic management strategy, and the riparian conservation objectives for riparian conservation areas (RCAs) and critical aquatic refuges (CARs).
6. Manage California condor habitat following the most current U.S. Department of the Interior (USDI) Fish and Wildlife Service California Condor Recovery Plan. Contribute to the recovery of the California condor by protecting roosting and potential nesting sites. Include the management of historic use areas, such as the Starvation Grove historic nest site and the Lion Ridge roost area.
7. Manage wetlands and meadow habitat for willow flycatchers and other species following the standards and guidelines from the 1988 Forest Plan, as modified by the 1990 MSA and the 2004 SNFPA.

Strategy
8. Cooperate with other agencies and researchers on rare species conservation (e.g., the Southern Sierra Nevada Fisher Working Group, the Pacific Southwest Research Station, and the California Department of Fish and Game).
9. Minimize effects to TES plant species and their habitat. Restore and enhance suitable habitat.
10. Minimize the spread of existing infestations and the introduction of invasive non-native species (noxious weeds).

Wildlife and Plant Habitat Objectives

Table 24 Objectives for Wildlife and Plant Habitat

Objective
1. Within 3 years, complete a baseline inventory for invasive species within the Monument.
2. Over the next 10 years, maintain or increase the number of acres of old forest habitat (defined as CWHR vegetation size classes 4, 5, and 6). Maintain structural features important to late forest species including: multiple layers of vegetation, snags, down woody debris and dense canopy cover.

Air Quality

Table 25 Strategies for Air Quality

Strategy
1. Avoid prescribed burning on high visitor use days.
2. Convey condition and trend information of sensitive resources to the U.S. Environmental Protection Agency, California Air Resources Board, and the San Joaquin Valley Air Pollution Control District for regulatory consideration.
3. Use ambient air quality monitoring, in collaboration with research, to understand broad southern Sierra air pollution trends and the contribution of smoke to the total pollution load.

Table 26 Objective for Air Quality

Objective
1. As part of managing prescribed fire and wildfire, develop actions with local air pollution control districts that minimize public exposure to atmospheric pollutants.

Range

Table 27 Strategies for Range

Strategy
1. Maintain or enhance the productivity of all Monument ranges through adequate protection of the objects of interest and the soil, water, and vegetative resources.
2. Contribute to the stability of the ranching community by recognizing its value as part of our heritage, its contribution of food and fiber, and its maintenance of open space.
3. Utilize management systems that ensure cost-effective management of suitable rangelands.
4. Manage rangeland in meadows following the standards and guidelines from the Forest Plan, as modified by the 1990 MSA and the 2004 SNFPA.

Hydrological Resources

Table 28 Strategies for Hydrological Resources

Strategy
1. Restore streams, meadows, wetlands, and other special aquatic features to their desired conditions whenever possible.
2. Design hydrologic restoration projects to improve water storage and retention in riparian and wetland areas for longer flow duration (i.e., upgrading an unstable-sensitive-degraded system to a stable-sensitive system).
3. Maintain sustainable riparian conditions for giant sequoia ecosystems.
4. Manage stream channels to maintain riparian vegetation, transport sediment, and ensure streambank stability.
5. Create a network of long-term monitoring sites within watersheds to determine the current state of riparian and wetland resources and habitat conditions.
6. Determine streambank erosion rates to define baseline conditions and determine if management activities have resulted in change.
7. Determine channel geometry and discharge relationships to define baseline conditions and determine if management activities have resulted in change.
8. Provide for a renewable supply of down logs that can reach the stream channel and provide habitat in riparian areas.
9. Protect aquatic, riparian, and meadow ecosystems, using the Aquatic Management Strategy, Riparian Conservation Areas (RCAs), Riparian Conservation Objectives (RCOs), and Critical Aquatic Refuges (CARs).
10. Manage riparian conservation areas and critical aquatic refuges for species dependent on those areas, while reducing the risks associated with wildfires and allowing for ecological restoration.

Table 29 Objectives for Hydrological Resources

Objective
1. During the life of the Monument Plan, inventory 10 percent of the perennial streams in 6th-field watersheds to determine existing condition.
2. During the life of the Monument Plan, assess meadows for hydrologic function and prioritize ecological restoration needs.
3. During the life of the Monument Plan, based on assessment, restore hydrologic function in priority meadows to enhance riparian habitat.

Groundwater

Table 30 Strategies for Groundwater

Strategy
1. Determine patterns of recharge and discharge and minimize disruptions to groundwater levels that are critical for wetland integrity.
2. Determine the groundwater levels, within a range of natural variability, that provide base flows to maintain and enhance the condition of groundwater-dependent resources and their habitat.
3. Manage springs and their riparian areas as integrated systems.
4. Restore those groundwater-dependent ecosystems, such as meadows and giant sequoia groves with campgrounds, damaged by prior land uses.

Table 31 Objectives for Groundwater

Objective
1. During evaluation of site-specific projects with the potential to affect groundwater (such as recreational development), determine groundwater conditions and evaluate potential effects on groundwater levels and groundwater-dependent ecosystems.
2. During the life of the Monument Plan, evaluate the effects of groundwater pumping on groundwater-dependent resources in 10 wells near giant sequoia groves, meadows, or springs.

Geological Resources

Table 32 Strategies for Geological Resources

Strategy
1. Identify areas where caves, domes, spires, soda springs, and hot springs are located and can be used by recreationists, while protecting and preserving these sites.
2. Enhance opportunities for interpretation and education, including brochures and signs, of geological resources (cave ecosystems, domes, and spires), emphasizing conservation practices and safe cave use.
3. Keep Church Cave and Boyden Cave open for public use under an appropriate permit system.
4. Identify and minimize potential geologic hazards including flood hazards, landslide hazards, and naturally-occurring asbestos (NOA) hazards within the Monument.
5. Establish the Windy Gulch Geological Area as a Special Area.

Table 33 Objectives for Geological Resources

Objective
1. In 2 years, use existing inventories to make a determination of significance for the known caves in the Monument.
2. On an annual basis, evaluate the condition of Church Cave and Boyden Cave, ensuring gates are secured and cave features are protected.
3. Within 5 years, develop a cave management plan for the significant caves in the Windy Gulch Geological Area.

Paleontological Resources

Table 34 Strategies for Paleontological Resources

Strategy
1. Retain areas of significant sedimentation and meadow vegetation deposits.
2. During cave inventories, conduct paleontological evaluations of any fossilized material found.

Table 35 Objective for Paleontological Resources

Objective
1. Initiate surveys to identify the location and type of paleontological resources in the Monument, focusing on areas such as meadows and caves most likely to contain these resources. Use survey data to evaluate risk factors to these resources.

Soils

Table 36 Strategies for Soils

Strategy
1. Protect and improve soils for continuous forest and rangeland productivity and favorable water flows.
2. Maintain a sufficient level of soil cover in the form of fine organic matter to prevent erosion, conserve nutrients, and permit infiltration of precipitation into the soil.
3. Minimize the physical movement or displacement of soil during management activities.
4. Maintain soil porosity for plant growth and hydrologic soil function.
5. Maintain and restore wetland soil moisture conditions, such as in areas along creeks and rivers, and in wet meadows and fens.

Human Use

Table 37 Strategies for Human Use

Strategy
1. Provide visitors with opportunities to recreate in a variety of settings, from primitive to highly developed areas.
2. Develop and manage opportunities for public enjoyment.
3. Provide for wide and varied public use of monument resources and opportunities, while protecting sensitive resources and the objects of interest.
4. 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.
5. Maintain the assigned Recreation Opportunity Spectrum (ROS) classes (semi-primitive non-motorized, semi-primitive motorized, roaded natural, and rural) (see ROS maps).
6. Manage for new developed recreation facilities as visitor use increases.
7. 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.
8. Balance diverse users and a wide variety of uses, accommodate use through all seasons, and minimize conflicts among recreational users.
9. Maintain or create scenic vistas as necessary to meet the needs of the public and improve scenery in areas of high public concern.
10. In all vegetation treatment and fuels reduction projects consider improving scenery resources especially in areas that do not meet established scenic integrity objectives (SIOs).
11. 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.
12. 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. <ul style="list-style-type: none"> a. 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. b. 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.

Strategy
13. Emphasize diverse public access, partnerships, and place-based recreation opportunities, focusing on connection to place and the recreation settings (Monument’s recreation niche).
14. Establish use fees that are compatible with cost, and reduce public competition with the private sector.
15. 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.
16. 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.
17. Support the efforts of non-profit, public benefit organizations promoting conservation, education, and recreational enjoyment of the Monument and the surrounding southern Sierra Nevada region.
18. Develop partnerships to increase interpretive materials and programs that reach larger segments of the general public and to foster stewardship.
19. Enhance opportunities to connect people to the land, especially those in urban areas and of diverse cultures (connect people to place).
20. Work with gateway communities and communities within the Monument to help foster economic opportunities.
21. Develop bi-lingual ⁽¹⁾ communication tools, including publications, information boards, and radio spots.
22. Encourage communities of color, focusing on youth, to increase involvement in environmental education programs to educate and develop the citizen steward.
23. 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. The criteria for the location of a Children’s Forest include: <ul style="list-style-type: none"> ● In or in close proximity to a giant sequoia grove ● Within 1/2 mile of a road ● Close to an existing parking lot or a suitable area for one ● Close to developed recreation facilities ● Away from high use, congested areas ● Close to water source ● Year-round access ● Does not conflict with existing uses (such as grazing)

1. English–Spanish

Table 38 Objectives for Human Use

Objective
1. During site-specific project planning, actively engage communities of color in the central valley of California in management planning and conservation education projects.
2. During site-specific project planning, develop partnerships for project implementation.
3. During the life of the Monument Plan, explore the designation and development of a Children’s Forest in the Monument.

Communication with Communities of Color

The Sierra Nevada is the third fastest growing region in California. Some estimates predict the population will triple by 2040. The area is experiencing rapid retiree and commuter resident growth, and large intermittent recreational populations that increase resource pressures. For some time, the Sierra Nevada's economy has been diversifying from primarily a resource-based economy to one increasingly dependent on tourism and related services; specialized goods and services tied to the state economy; and health, financial, and other services needed by the growing population. Many parts of the region face significant threats from natural disaster, in particular the risk of catastrophic fire. There is increasing conflict over various land use decisions in certain portions of the region and over regional resource conservation strategies (Sierra Nevada Conservancy Revised Strategic Plan March 2009—*A Key Sierra Nevada Fact*).

Most visitors to national forests, in particular to locations like the Giant Sequoia National Monument, are more likely to be white or Caucasian than any other ethnic or racial group. However, as the population increases in California, in particular the Central Valley (Kern, Tulare, and Kern counties), more people represent groups of color (communities of color). There are a number of reasons for this disparity in use levels, including a lack of information about outdoor recreational opportunities (Chavez et al. 2008). In the 2000 census, California was 47 percent non-Hispanic white and 32 percent Hispanic. Most of the central San Joaquin Valley had even higher Hispanic percentages—about 38 percent in Kern County, 44 percent in Fresno, Kings and Madera counties, 45 percent in Merced County, and a majority of 51 percent in Tulare County. The continuing shift toward an increasingly diverse society elevates the importance of ensuring that information is provided

through means that are most appropriate to each ethnic and racial group. The Monument will need to produce information, recreation sites, and facilities for this increase in communities of color.

Research shows that communicating with a diverse public requires some variation in media sources to be used as points of contact for reaching different ethnic groups. The heavy reliance on family and friends, particularly in the Hispanic community, translates to the production of various communication tools.

Agency culture is seen as a barrier for multiple reasons including the underrepresentation of non-whites as employees delivering and managing recreation opportunities, communication and education methods that are a poor fit with the needs and preferences of communities of color, planning for a “traditional white” visitor experience, and a general lack of feeling welcomed (Allison and Hibbler 2004, Roberts 2003, Tierney et al. 1998).

To cross a wide variety of communities of color and expand communication opportunities, the Monument will implement the following strategies to communicate with communities of color:

1. Develop bi-lingual communication tools (publications, information boards, radio spots);
2. Establish personal contacts in the community who can be effective in disseminating information on recreation opportunities;
3. Produce newspaper articles to print media, particularly in Spanish;
4. Establish partnerships with Hispanic Chambers of Commerce;
5. Involve and pro-actively encourage communities of color in youth environmental education programs to educate and develop the citizen steward (e.g., MyForest Summit).

Cultural Resources

Table 39 Strategies for Cultural Resources

Strategy
1. Manage cultural resources with a process including identification, evaluation, and allocation to appropriate management categories.
2. Recognize cultural resources through National Register of Historic Places nomination, National Historic Landmark nomination, and other special designations as appropriate.
3. Provide opportunities for public use and enjoyment of cultural resources through education and outreach programs that promote resource stewardship. Focus on the need to protect cultural resources while simultaneously making them available to the public.
4. Provide for continued traditional use by Native American people and protect those places that are most important to local Native American people in maintaining their traditional culture. Seek partnerships with tribes to develop cultural education programs.
5. Protect cultural resources from wildfires and management activities associated with fuels reduction.
6. Develop a cultural resource management plan for the Monument that: <ul style="list-style-type: none"> • Facilitates scientific research of cultural resources to increase understanding of past human cultures and environments. • Uses cultural resource data to increase understanding of the evolution of ecosystems and to adapt management practices. • Preserves and adaptively uses historic structures in place wherever possible; preserves the integrity and character-defining features of historic districts. • Emphasizes partnerships with tribes to develop cultural education programs.

Table 40 Objective for Cultural Resources

Objective
1. Within 3 years, develop a Monument cultural resource management plan that includes identification, evaluation, and criteria for allocation of the resources to appropriate management categories. This plan will protect cultural resource values while allowing for public enjoyment.

Transportation System

Table 41 Strategies for Transportation System

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

Strategy
6. Coordinate transportation planning, management, and road decommissioning with Sequoia and Kings Canyon National Parks; other federal, state, and county agencies; and the Tule River Indian Tribe, to reduce traffic congestion and safety hazards, especially along major travelways.
7. Partner with state and local agencies to operate and maintain roads for four-season use where appropriate.
8. Provide appropriate parking facilities to meet projected use as determined through site-specific project analysis.
9. Base proposals for new roads on the need to provide access to recreation opportunities, other public use, or management activities, as appropriate to the purposes of the Monument.
10. Convert to trails or other uses, or decommission roads not needed to meet management objectives.
11. Emphasize opportunities for creating loop trails where feasible and appropriate.
12. Emphasize opportunities for creating loop roads where feasible and appropriate.
13. Provide and maintain regulatory, warning, directional, and information signing on roads for travelers' use.
14. Manage the roads and trails system to allow: <ul style="list-style-type: none"> • Both highway legal use and off-highway vehicle (OHV) use on designated roads. • Over-snow vehicle (OSV) use on designated roads. • Non-motorized mechanized vehicles (such as bicycles) on designated roads and trails.
Facilities Related Strategies
15. Maintain administrative facilities consistent with wilderness values.
16. Rehabilitate, replace, or relocate existing buildings to support management of the Monument.
17. Maintain buildings to at least the minimum level necessary to protect health and prevent building deterioration.

Table 42 Objectives for Transportation System

Objective
1. Within 2 years, complete travel analysis to determine the minimum necessary transportation system (Subpart A of the Travel Management Rule, 36 CFR 212.5) for the Monument.
2. Within 2 years, complete a Monument-wide watershed improvement needs inventory (WINI) to identify adverse effects to watersheds from roads and trails.
3. During the life of the Monument Plan, establish a sustainable and desirable off-highway vehicle (OHV) and over-snow vehicle (OSV) route system (on the existing road system), including loop opportunities where feasible and appropriate.

Special Areas, including Special Interest Areas

Table 43 Strategies for Special Areas, including Special Interest Areas

Strategy
Proposed Moses Wilderness
1. Manage the Moses Inventoried Roadless Area within the Monument as a proposed wilderness, to preserve the wilderness characteristics until Congress acts.
Freeman Creek Botanical Area
2. Protect and manage this area for public use and enjoyment.
3. Limit vehicle use in the botanical area to existing roads, Forest Roads 20S78 and 22S82, in accordance with FSM 2372.4 (4).

Strategy
4. Manage existing plantations within the botanical area, as needed for ecological restoration, provided that no management prescription outside and up slope of giant sequoias will adversely affect the hydrology of the giant sequoias.
5. Develop partnership agreements with entities interested in promoting the botanical area.
6. Manage the Freeman Creek Trail within the Freeman Creek Botanical Area as Scenery Management System Concern Level 1.
Windy Gulch Geological Area
7. Protect the unique geologic features, including the limestone caverns, rare or endemic cave fauna and flora, and marble roof pendants.
8. Protect and manage this area for public use and enjoyment.
9. Provide opportunities to conduct research in the area for scientific study and understanding of cave ecosystems.
10. Conduct management activities, such as fuel and vegetation treatments, in the area to focus on the protection of the special and unique features within the area.
11. Continue to allow limited access to Church Cave, by permit, to approved cave trip leaders, until the management plan for the area is completed.
Additional Special Areas, including Special Interest Areas
12. Continue coordination with the National Park Service in on-site landmark evaluation studies for Moses Mountain. Protect and manage this candidate area as a national landmark until final resolution.

Table 44 Objectives for Special Areas, including Special Interest Areas

Objective
Proposed Moses Wilderness
1. In accordance with Forest Service Manual direction on wilderness proposals, complete the necessary process.
Freeman Creek Botanical Area
2. Within 5 years, develop a management plan for the Freeman Creek Botanical Area, including inventories and possible research opportunities.
Windy Gulch Geological Area
3. Within 5 years, develop a management plan for the Windy Gulch Geological Area, including inventories and possible research opportunities.
Additional Special Areas, including Special Interest Areas
4. Within five years, develop a management plan for the Moses Mountain Research Natural Area.
5. Within five years, prepare the establishment report for the South Mountaineer Creek area for submission to the Chief, as recommended by the Regional Research Natural Areas Committee for establishment.

Special Areas, including Special Interest Areas

Designated Special Areas

Special areas are places on National Forest System lands identified or designated because of their unique or special characteristics. These include wildernesses, wild and scenic river corridors, special management areas, research natural areas, backcountry (inventoried roadless areas), botanical areas, scenic byways, and geological areas. Special areas have their own sets of management direction.

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. Within the Monument, the Sequoia National Forest manages approximately 13,290 acres of wilderness, 80,300 acres of roadless area, and 4,670 acres of Wild and Scenic River Corridor. The 24,290 acres of the Kings River Special Management Area in the Monument are administered and managed by the Sierra National Forest.

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

Monarch Wilderness

Approximately 8,760 acres of the Monarch Wilderness are in the Monument. The Monarch Wilderness was established by Congress in the California Wilderness Act of 1984, created from the High Sierra Primitive Area and a portion of the Agnew Roadless Area. Shared with the Sierra National Forest, it is located 70 miles east of Fresno, California. Between November and April, the access road is closed because of snow. This is a scenically dramatic area rising from elevations of 4,300 feet along the South Fork of the Kings River to 11,080 feet at Hogback Peak. The Monarch Wilderness contains the only occurrence of white-bark pine in the

Sequoia National Forest. Because of the steep, rugged character of the area, trail access is extremely limited and use is very light.

Golden Trout Wilderness

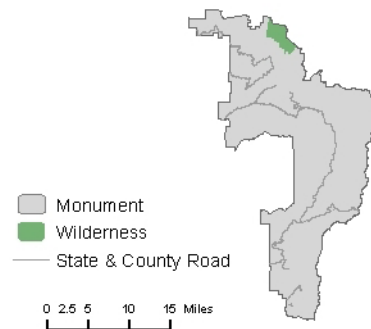
Approximately 4,530 acres of the Golden Trout Wilderness are in the Monument. The Golden

Trout Wilderness was designated by Congress in 1978. Shared with the Inyo National Forest, it gets its name from the brightly colored native trout (California’s state fish) and its subspecies, the Little Kern golden trout, a federally listed threatened species, as well as the South Fork Kern golden trout.

Elevations range from 4,700 feet at the Forks of the Kern River to 12,432 feet on Mt. Florence, the highest peak in the Sequoia National Forest. The entire Little Kern River Drainage lies within the Golden Trout Wilderness. The North Fork Kern and South Fork Kern Wild and Scenic Rivers bisect this wilderness. Approximately 150 miles of trails are located in the Golden Trout Wilderness (mostly outside of the Monument). Grey Meadow and Trout Meadows are located on this trail system and receive high use.



Wilderness



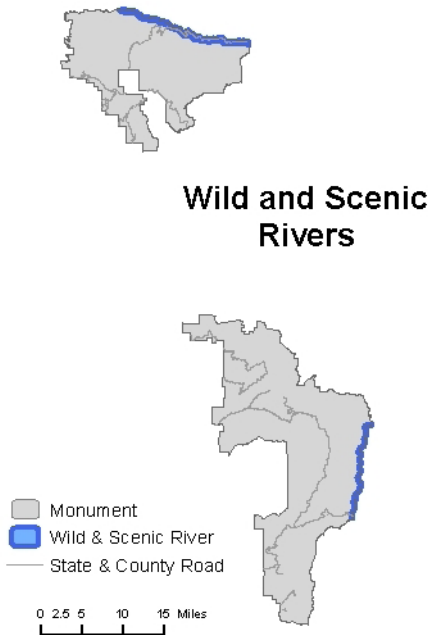
Kings Wild and Scenic River

All 5 miles of the Kings Wild and Scenic River lie along the northern boundary of the Monument. In 1987, Congress designated this part of the Kings River, from the confluence of Middle Fork and South Fork Kings Rivers to Garlic Meadow Creek, as the Kings Wild and Scenic River. The Kings River is one

of the largest rivers flowing down the western slopes of the Sierra Nevada and forms the boundary between the Sequoia and Sierra National Forests. The river is wooded, with premium whitewater and several cataracts. The Kings River is a state wild trout stream. Numerous Native American village sites and remnants of one of the longest logging flumes in the world are located in this system. Other historic artifacts create an area of historic and cultural significance.

Whitewater rafting is popular in the lower reaches of the river corridor.

The river flows through a wide canyon near Pine Flat. As the river ascends toward the confluence with the Middle Fork–South Fork, the canyon becomes more narrow and steep. Main ridges on both sides of the river are more than 5,000 feet in elevation above the river. The river exists in a free-flowing state with numerous rapids. Access is limited above Garlic Falls.



South Fork Kings Wild and Scenic River

Approximately 12 miles of the South Fork Kings Wild and Scenic River lie along the northern boundary of the Monument. In 1987, Congress designated 40.5 miles of the South Fork Kings River, from its headwaters in Kings Canyon National Park to its confluence with Middle Fork and Main Kings Rivers, as the South Fork Kings Wild and Scenic River. The headwaters are in the Sequoia and Kings Canyon National Parks, above the timberline in a heavily glaciated basin. The river flows through one of the deepest and most classic glacial canyons in the nation, with several waterfalls and unique geological formations. The South Fork Kings River has complex floral diversity, with several rare species. Numerous

prehistoric sites and a significant cultural resource area exist on the river. The state has designated the river as a Wild Trout Stream. Important peregrine falcon and golden eagle habitat exist in the area.

North Fork Kern Wild and Scenic River

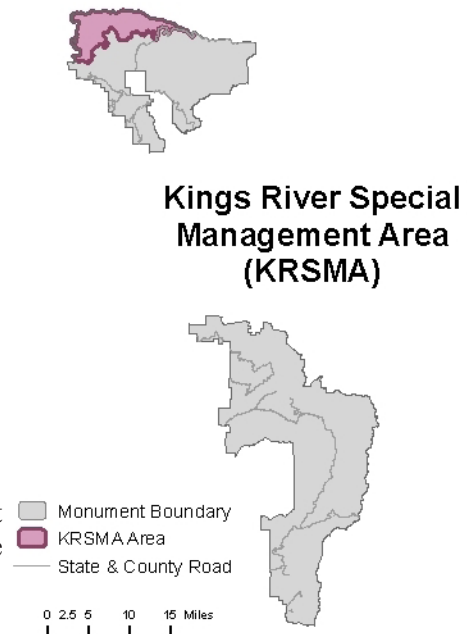
Approximately 14 miles of the North Fork Kern Wild and Scenic River lie along the eastern boundary of the Monument. In 1987, Congress designated 78.5 miles of the North Fork Kern River, from its headwaters in Sequoia National Park to the Kern-Tulare County line, as the North Fork Kern Wild and Scenic River. More than 21 miles flow through wilderness, most of this section in a precipitous gorge, and only the lower 17 miles are accessible by road. The section of the Kern River between Lake Isabella and the Johnsondale Bridge is commonly called the Upperkern. Outstanding features for viewing include gray pines, scrub oaks, grass, and dry climate shrubs clinging to steep canyon walls, while cottonwoods and willows line the river.

Kings River Special Management Area (KRSMA)

About 24,290 acres of the KRSMA (of approximately 48,000 total acres) 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 Proclamation (Clinton 2000) that created the Monument, which prohibits OHVs from driving off designated roads. Therefore, within that portion of the special management area located within the Monument, OHV use may still occur on the 3.8 miles of Trails 27E04 and 27E05.

Other Special Areas

Backcountry (Inventoried Roadless Areas)

Roadless areas in the Sequoia National Forest were inventoried as part of the Roadless Area Review and Evaluation (RARE II) process. The California Wilderness Act of 1984 specifically cited those areas that were

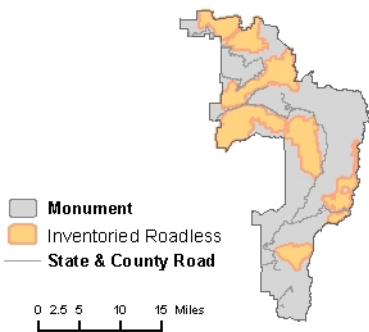
adjacent to newly created wilderness or adjacent to existing wilderness, and added them to the existing wilderness areas. The rest of the roadless areas identified by the RARE II were released to non-wilderness management,

were identified as being non-wilderness or “further planning areas,” and were evaluated in the land management planning process for the Forest Plan.

National management direction from the decision for the Roadless Rule Final EIS prohibits road construction and reconstruction in inventoried roadless areas. Tree removal will only be permitted following a determination that removal of the trees is “clearly needed for ecological restoration and maintenance or public safety” (Clinton 2000, p. 24097), using the criteria in the Clear Need Criteria section of Part 3 of the Monument Plan.



Inventoried Roadless Areas



Fuel treatments in inventoried roadless areas are considered permissible under the Roadless Rule.

The non-wilderness roadless areas within the Monument, as identified in the Forest Plan, are listed in the following table.

Table 45 Non-Wilderness Roadless Areas

Name	Acres
Agnew	8,580
Black Mountain	15,130
Chico	1,620
Dennison Peak	6,300
Jennie Lakes	2,440
Lion Ridge	5,220
Moses	22,020
Rincon	6,650
Slate Mountain	12,340

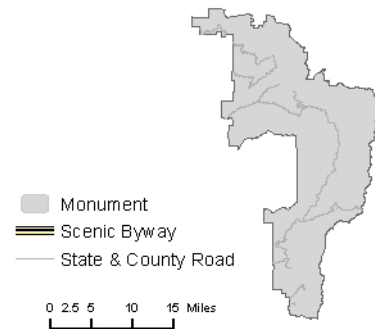
A portion of the Moses Inventoried Roadless Area (about 15,100 acres) will be recommended for inclusion in the National Wilderness Preservation System, as the Moses Wilderness. It will be managed as proposed wilderness while Congress considers its designation (see the Proposed Moses Wilderness Map in Appendix H, Special Area Maps).

Kings Canyon Scenic Byway

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



Kings Canyon Scenic Byway



(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 (USDA Forest Service 1990).

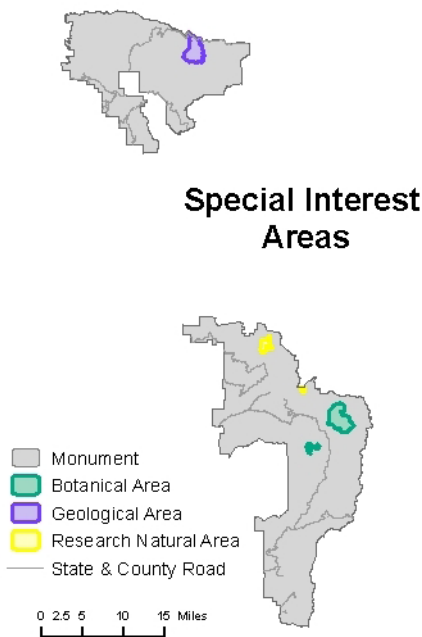
Moses Mountain Research Natural Area

The Moses Mountain Research Natural Area covers approximately 990 acres. In addition to giant sequoias, the area contains rare plant habitat on the rocky east-facing slopes of Moses Mountain, as well as aquatic habitat along the Wishon Fork of the Tule River. Nearly two-thirds of the area lies within the Golden Trout Wilderness. Moses Mountain is managed for the study of giant sequoias in a natural setting.

Slate Mountain Botanical Area

Slate Mountain is unique because of its abundance of sensitive plants. This area was released by Congress for non-wilderness use in the 1984 California Wilderness Act.

The botanical area covers 500 acres along the rocky northern summit comprised of pre-cretaceous metamorphic and metasedimentary rocks surrounded by granitic rocks. Nearly 95 percent of the total population of Twisselmann’s buckwheat occurs on Slate Mountain.



In accordance with the Forest Plan, Slate Mountain is classified and being managed as a botanical area.

Freeman Creek Botanical Area

The Freeman Creek Botanical Area contains the Freeman Creek Grove and covers approximately 4,190 acres. The Freeman Creek Grove, also known

as Lloyd Meadow Grove, is the easternmost grove of giant sequoias and is considered to be among the most recently established. Part of the grove is underlain by a 3-million-year-old volcanic basalt flow. This botanical area is fairly easy to reach by car throughout the summer. There are several noteworthy sequoias to see in this grove, including the President George Bush Tree. This tree was named for President George H.W. Bush when he signed a proclamation on July 14, 1992, to protect all the sequoia groves throughout the Sierra. This proclamation set aside giant sequoia groves in national forests for protection, preservation, and restoration. A beautifully reconstructed trail provides a fully accessible loop around the Bush Tree. Freeman Creek Grove and its surrounding watershed are newly designated and being managed as a botanical area.

South Mountaineer Creek Research Natural Area

The South Mountaineer Creek Research Natural Area covers 1,325 acres, of which 160 acres are in the Monument. An extensive red fir forest dominates the area, which lies in the South Mountaineer Creek watershed in the Golden Trout Wilderness. South Mountaineer Creek, though establishment is still pending, is being managed as a research natural area.

Windy Gulch Geological Area

The 3,500 acres of the Windy Gulch Geologic Area contains a number of outstanding formations, including caves and marble roof pendants. Mesozoic granitic rocks are the dominant rock type and consist of several plutons approximately 100 million years old. The metamorphic rocks are known as the Kings Terrain; the most extensive of these are the Lower Kings River, Kaweah River, and Tule River roof pendants. The Lower Kings River roof pendant includes the Boyden Cave roof pendant, whose marble contains several caves including Boyden Cave and Church Cave.

Appendix H shows all the special areas in the Monument.

