

Chapter 2 - Alternatives, Including the Proposed Action

This chapter describes and compares the four alternatives considered in detail in this analysis, as well as those eliminated from detailed study.

Section 2.1 briefly describes the process used to develop a range of alternatives.

Section 2.2 lists the elements that will not vary by alternative.

Section 2.3 describes the key strategic differences among the alternatives, and is organized according to the four issue areas presented in Chapter 1:

- Watershed Health and Aquatic Ecosystems
- Terrestrial Ecosystems
- Recreation
- Access and Travel Management

Section 2.4 describes how the alternatives differ in their response to the relevant issues raised during scoping.

Section 2.5 describes how the management direction in the Plan would differ by alternative, and is organized according to the six plan decisions described in Chapter 1. This section also includes several tables that compare the alternatives in different ways.

Section 2.6 briefly describes the alternatives considered but not analyzed in detail, and the rationale for excluding each from detailed analysis.

Chapter 2 concludes with a table summarizing the consequences of the alternatives.

2.1. Development of Alternatives

Alternative A, the No Action alternative, is the 1988 LTBMU Land and Resources Management Plan, as amended. The plan was amended multiple times since its inception, including the 2004 Sierra Nevada Forest Plan Amendment, and the 2007 Sierra Nevada Forests Management Indicator Species Amendment, both of which amended 10 Sierra Nevada Forest Plans including the LTBMU.

Development of a Draft Forest Plan (Alternative B) was initiated with the adoption of the Pathway vision statements and broad desired conditions for ten resource areas. Additional detailed desired conditions were then developed internally for these resource areas and other resources not included in Pathway, but important to the Forest Service mission, such as Heritage

and Cultural Resources, and Interpretive Services. This expanded set of desired conditions formed the basis for a Proposed Plan, which was also informed by input from the public workshops held in 2008 and 2009.

When the requirement for a plan revision EIS was reinstated, additional public meetings were held to solicit concepts we could use to construct additional alternatives. Alternatives were then developed in response to public issues, management concerns, and resource use and development opportunities. Public comments received during the scoping phase of the process were summarized to define the relevant issues, and the issues were integrated with the revision themes (described in Chapter 1) and used as the basis for the development of four different alternatives. The range of alternatives was designed to reflect the range of public opinions expressed during scoping. Similar concepts were packaged together in alternatives where possible, but more importantly we attempted to incorporate all of the views expressed in at least one alternative.

The range of alternatives was also designed to meet the requirements of the 1982 planning regulations. The procedures of the 1982 Planning Rule require analysis of a range of reasonable alternatives, as follows:

- Distributed between the minimum and maximum resource potential
- Reflect the full range of commodity and environmental resource uses and values
- Reflect a range of outputs and expenditure levels;
- Facilitate analysis of opportunity costs and tradeoffs between benchmarks and alternatives
- Facilitate evaluation of effects of present net value, benefits and costs of nonmonetary values
- Provide different ways to address and respond to major issues, management concerns and resource opportunities

The 1982 Planning Rule also requires that “at least one alternative shall be developed which responds to and incorporates the Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA) Program tentative resource objectives for each forest displayed in the regional guide.” Additionally the 1982 Rule requires that each alternative state “the relationship of expected outputs to the RPA Program tentative resource objectives for the forest displayed in the current regional guide” (Sec 219.12 (f)).

Changes in law and policy have rendered this language obsolete. The regional guide has been withdrawn. Additionally, in lieu of an RPA Program, a Forest Service Strategic Plan was completed in 2007 (USDA Forest Service 2007d) in accordance with the Government Performance and Results Act of 1993 (GPRA) and language in the Department of Interior and Related Agency Appropriations Act, 2001 (Public Law 106-321).

RPA Assessments and interim updates are being completed as scheduled. Neither the RPA Assessment nor the Forest Service Strategic Plan contains recommended output targets applicable to individual National Forests. The Assessment contains national and regional level analysis of the renewable resource situation, including long-run projections of supply and

demand for the various renewable resources. The Strategic Plan contains goals, outcomes, performance measures, and strategies that apply to all Agency programs, including management of National Forest System lands, but the Strategic Plan does not establish output targets. All alternatives are consistent with the relevant goals in the Strategic Plan.

2.2. Elements Common to All Alternatives

Forest Plans do not create, authorize, or execute any site-specific ground-disturbing activities. Each alternative would provide a framework to guide project selection, project design, and project implementation to meet or maintain the desired conditions. While the alternatives would differ in the means and timeframes for achieving the desired conditions, management of specific resources and programs would not vary by alternative in several important respects. This section describes the set of management considerations that would be the same under all alternatives.

All alternatives adhere to the concepts of multiple-use and ecosystem management, are designed to protect national forest resources, and comply with applicable laws, regulation, and policy. In addition, the following elements are common to all alternatives:

- Fire suppression practices would be the same for all alternatives. The acres available for managing wildfires for multiple objectives would vary by alternative.
- Existing recreation special use permits would remain in effect until their expiration date. Renewal would be governed by law and policy. Project implementation within permit areas would be required to be consistent with either the 1988 LTBMU Forest Plan or the revised Forest Plan, as specified in the transition language referenced in Section 1.3.
- Existing special use permits for communication sites, utility corridors, transportation corridors and other special uses designated in the 1988 LTBMU Forest Plan would remain in effect until their expiration date. Renewal would be governed by law and policy.
- BMP upgrades to enhance water quality and Universal Accessibility upgrades would continue at recreation sites.
- The current Motor Vehicle Use Map (MVUM) and Over Snow Vehicle Use Map (Snowmobile Guide) remain in effect.
- No programmatic expansion of the road system is proposed.
- Where opportunities are present, transit use would be promoted by development of multi-modal transit stops that would provide convenient access among various transit modes such as busses, bicycles, walking, and boats.
- Grazing management would not vary by alternative.
- Minerals management would not vary by alternative.
- Current designations of wilderness areas, national scenic and recreational trails, and scenic byways would not be reduced or eliminated.

- Current designations of Inventoried Roadless Areas (IRA) would not be reduced or eliminated unless wilderness designation of an IRA, or portion of an IRA, is proposed and adopted by Congress.
- The current recommendation to add a segment of the Upper Truckee to the Wild and Scenic River System (USDA Forest Service Tahoe National NF and LTBMU 1999) is retained, and the management plan in the EIS remains in effect. No other segments or rivers are recommended.
- All currently designated special areas and the Grass Lake RNA would be retained and their management would not vary by alternative. Special areas are listed in Part 2: Strategies of the Draft Forest Plan.
- Management and use of Santini-Burton parcels would be consistent with the provisions of the Act for all alternatives.
- Selection and monitoring of Management Indicator Species (MIS) are described in the 2007 Sierra Nevada Forests Management Indicator Species (SNFMIS) Amendment Final Environmental Impact Statement (FEIS) (USDA Forest Service 2007a) and SNFMIS Amendment Record of Decision (ROD) (USDA Forest Service 2007b), which are hereby incorporated by reference.
- Decisions listed in Appendix K would remain in place.

2.3. Alternatives Considered in Detail

Four alternatives are analyzed in detail. Alternatives B, C and D provide choices for revising the existing Plan:

Alternative A is the no action alternative; if this alternative were selected, management would continue as described in the 1988 LTBMU Land and Resource Management Plan, as amended.

Alternative B (Draft Plan; Preferred Alternative) does not significantly change the overall goals and management course set by the existing LRMP as currently implemented. It does, however, respond to present natural resource management concerns such as climate change, provides management direction that reflects current science, and provides direction that will better respond to contemporary recreation demands. Management Areas are reduced from 21 to 4, providing more uniform direction. Developed recreation emphasizes retirement of deferred maintenance and allows for a small increase in capacity.

Alternative C proposes a more aggressive approach that would achieve fuels and forest health desired conditions more rapidly than other alternatives. This alternative allows for a modest expansion of developed recreation facilities, more than other alternatives. The Dardanelles Inventoried Roadless Area for Wilderness designation. No major changes are proposed to the road and trail inventory, but a greater percentage of roads and trails would provide easier access for all vehicles and people.

Alternative D is characterized by a passive management approach to watershed restoration and forest health, relying primarily on natural processes rather than active management to achieve the desired conditions. This alternative emphasizes dispersed recreation opportunities, limits expansion of developed facilities, and recommends both the Dardanelles and Freel Inventoried Roadless Areas for Wilderness designation. No major changes are proposed to the road and trail inventory, but they would be managed to emphasize more primitive routes with more challenge.

Of the alternatives under consideration at this stage, Alternative B is preferred by the responsible official. The detailed management direction associated with Alternative B is presented in the Draft Plan, the companion document to this DEIS. Desired Conditions remain the same for Alternatives B, C and D. Management Strategies and Objectives differ among the action alternatives and are presented in Appendices H and I. Standards and Guidelines that differ by alternative are discussed in this Chapter, in the section titled “How Plan Decisions Change By Alternative.”

2.3.1. Alternative A: No Action (1988 Plan, as amended)

Watershed Health and Aquatic Ecosystems

Alternative A emphasizes water quality and SEZ protection. This alternative would continue the current program of watershed restoration to promote healthy watersheds, stable stream channels, and the biological and physical health and function of Stream Environmental Zones (SEZs). Prevention of sediment delivery to stream channels would continue to be a priority for management activities adjacent to SEZs. The primary goal of stream and watershed process restoration of streams and related watershed processes would be the decrease or elimination of sediment sources (stream banks, roads, and other infrastructure) and other non-point pollution sources.

Improvement of aquatic habitat conditions would be a secondary goal. Alternative A does not provide well-organized planning direction that addresses the complex linkages between species and habitat in aquatic ecosystems. While adequate measures are provided for habitat protection, there is no strong direction for active restoration of impacted habitats.

Terrestrial Ecosystems

Alternative A continues current vegetation management using direction from the 1988 LTBMU Forest Plan as amended. A Wildland Urban Intermix (WUI) fuels treatment strategy is defined, and WUI fuels treatments are the first priority for vegetation management. Community wildfire safety concerns are also addressed by an aggressive fire suppression strategy.

Post-disturbance timber salvage is actively promoted to recover commercial value. Although wildland fire is recognized as an essential ecosystem process, wildland fire management for resource objectives is allowed only in the Desolation Wilderness.

The forest health strategy emphasizes early and late seral forest stand structure and late seral dependent wildlife species habitat, including a series of land allocations (e.g, Protected Activity Ceters [PACs], Home Range Core Areas [HRCAs], and Old Forest Emphasis Areas [OFEAs])

restricting vegetation treatments in old forest ecosystems. Forest-wide canopy closure requirements are included, and removal of trees greater than 30 inches DBH is prohibited except for removal of hazard trees and to enable equipment operation.

Standards for managing terrestrial invasive plant species are included.

Recreation

Alternative A includes future expansion of recreation infrastructure and development of new sites by up to 10%. This alternative responds to future recreation demands through PAOT (Persons At One Time) allocation. A gradual increase in developed recreation opportunities would be accommodated by encouraging development over time to meet predicted future demands by allowing for the expansion of developed recreation sites, alpine skiing facilities, and improvements to existing sites.

This alternative would provide a balanced mix of recreation settings defined by ROS and would conform to a Lake Tahoe Basin strategy based on the “Fair Share Concept” for publicly provided developed recreation facilities.

Management of existing wilderness and inventoried roadless areas would continue in accordance with current plans and policy direction.

Access and Travel Management

Current management direction allows expansion of the non-motorized trail system and construction of trailhead parking facilities. Existing trails and trailhead facilities would be maintained and reconstructed as needed to comply with health and environmental standards.

Motorized access to NFS lands is managed through the Motor Vehicle Use Map (MVUM) during the summer season and through the Over Snow Vehicle Use Map (OSVUM) during the winter season.

The road and OHV trail system would be maintained and managed to meet current standards with available funding and the MVUM would be updated as needed. Current non-motorized trails would be maintained and managed to meet standards with available funding.

Use of transit is promoted where possible.

Projects are prioritized based upon public safety first, resource impacts second and public access third.

2.3.2. Alternative B: Proposed Action

Watershed Health and Aquatic Ecosystems

Alternative B proposes a coherent, updated set of desired conditions and strategies to maintain, protect, and restore overall watershed health. This alternative would continue the emphasis on water quality and SEZ protection, while adding increased emphasis on integrated SEZ restoration, and retaining most of the Riparian Conservation Strategy elements from the SNFPA ROD (2004). Additional desired conditions and strategies increase emphasis on aquatic habitat improvement such that this alternative provides equal emphasis on the stream process, water quality, and aquatic habitat components of watershed restoration.

This alternative recognizes the need for building resilience into watershed systems and associated habitats to better enable them to adapt to changing climate conditions. Restoration goals include creating conditions that will enable stream systems and associated habitats to adapt to altered flow regimes and disturbances that may result from a changing climate.

Species Refuge Areas (SRAs) are included in Alternative B and defined as areas of quality habitat for Threatened and Endangered Species (FSH 1909.12, Ch. 40, Sec. 43.22a), species proposed for listing, candidate species, and species that have been recently de-listed where regulatory agency monitoring is still considered necessary. These areas either currently provide habitat for Federal Threatened (T), Endangered (E), Candidate (C), and Proposed (P) species or have potential to provide habitat needed for future recovery. SRAs include the Critical Aquatic Refuges (CARs) designated in the SNFPA ROD (USDA Forest Service 2004b). Species included are Lahontan cutthroat trout, Sierra Nevada yellow legged frog, whitebark pine, and Tahoe yellow cress. This list is subject to change when species are added or removed.

Alternative B provides mitigation and restoration strategies to ensure sufficient quality habitat is available for special status species populations.

Alternative B includes a proactive approach to the prevention of unwanted species, such as Quagga mussel, and the active treatment (control and or eradication) of the full spectrum of aquatic invasive species populations.

Terrestrial Ecosystems

This alternative addresses safety concerns of communities by focusing fuels treatments in the WUI while emphasizing an active ecological restoration approach that restores and protects natural resources inside the WUI as well as throughout the broader landscape. After wildfires and other disturbances, sale of dead and dying trees would be considered once concerns for safety, habitat, soils, and water resources are met, to offset the costs of restoration and to meet restoration goals. This alternative includes management direction specifically intended to promote resilience to fire, changing climate, disease, and insect outbreaks.

The Old Forest Emphasis Area land allocation is eliminated; instead, the old growth condition is preserved and perpetuated wherever it occurs, and selected mid-seral forest is promoted for future late-seral conditions. Treatments would emphasize regeneration of early seral stage in the major forested vegetation types; this would be achieved by creating openings of one to ten acres

in size. In Jeffrey pine, treatments would also focus on reducing mid-seral closed canopy stands to proportions closer to reference conditions; this would mean increasing mid-seral open canopy stands and facilitating their succession to late seral.

The desired conditions include a range of forest stand density conditions. Thinning treatments under this alternative would vary within the range of desired tree stocking densities. The low end of the range (less dense stands) provides greater resiliency to insect outbreaks, especially during drought; however, density will vary because other objectives would be considered. For example, where forest health and nesting habitat desired conditions are considered in the same area, a higher density would likely be prescribed.

The above two paragraphs describe the structural heterogeneity which is the desired condition, and which is prescribed to create resilience by mimicking the landscape patterns created by natural disturbance regimes. This degree of heterogeneity is not consistent with the absolute canopy closure limits in Alternative A, so these limits have been abandoned in Alternative B, except within PACs and HRCAs. Trees greater than 30 inches DBH may be removed under certain specified conditions described in the Standards and Guidelines of the Draft Plan.

The SRAs would include Whitebark Pine, a recently listed Candidate species. PAC/HRCA management direction is included in this alternative to protect and restore habitat for northern Goshawk and California Spotted Owls. PAC management direction allows PAC restoration activities in this alternative.

Planned and unplanned ignitions may be utilized for forest health restoration purposes. Wildland fire management for resource objectives is allowed in all Fire Management Units except the WUI Defense Zone.

Recreation

The mix of recreation settings as defined by ROS is similar to Alternative A. (See ROS Map, Map #2).

Management of developed recreation sites would focus on deferred maintenance and/or modification of existing facilities to achieve ecological, social and economic sustainability of the recreation setting before constructing new facilities to maintain existing opportunities.

Small increases in the number of overnight accommodation units (e.g. campsites, cabins), parking spaces, and developed acres would be allowed, over the life of the plan and new sites could be developed. This future expansion of recreation infrastructure would be by up to 5%. Recreation infrastructure modified or displaced by ecological restoration, financial constraints, or conflicts with other resources, would be replaced.

Management of existing wilderness and inventoried roadless areas would continue in accordance with current plans and policy direction.

Access and Travel Management

Management of the road and trail system would remain largely unchanged in this alternative, except as described below.

The access and travel management (ATM) planning process would be formalized/acknowledged in the Plan. ATM planning is used to identify needed routes, crossing upgrade and BMP needs, and restoration and reroute opportunities that will protect and enhance natural resources.

Fee parking and reduction of roadside parking would encourage use of transit.

2.3.3. Alternative C

Watershed Health and Aquatic Ecosystems

Alternative B and C do not differ. Management direction for watershed and aquatic habitat and species diversity is the same for both alternatives.

Terrestrial Ecosystems

This alternative is similar to Alternative B, with the exceptions that follow.

Vegetation treatments would be designed to reduce the number of entries needed to meet desired conditions by thinning to the lower range of desired tree stocking levels. The reduction in stand densities would be greatest in this alternative.

Wildland fire management for resource objectives is allowed all in all Fire Management Units except WUI Defense and Threat Zones.

Recreation

This alternative would allow the greatest number of overnight accommodation units (e.g. campsites, cabins), the greatest number of day use parking spaces, and the greatest number of developed acres. Future expansion of recreation infrastructure would be allowed up to 15%. The mix of recreation settings as defined by ROS is similar to that in Alternatives A and B.

Dardanelles Roadless Area is recommended for addition to the National Wilderness Preservation System.

Access and Travel Management

Alternative C would be the same as alternative B in almost all respects, except more intensive management is proposed as it relates to expanding and enhancing recreational access.

Vehicular access to the forest and developed parking would increase. In addition to the ATM goals in Alternative B, ATMs would also include reroutes to provide for greater access by reducing grade and increasing road and trail widths. A greater percentage of roads and trails would be maintained to a higher standard, enabling more access for passenger vehicles.

Challenging trails and roads would be kept in the system, but the percentage of those routes would decrease.

Fee parking and reduction of roadside parking would encourage use of transit. Alternative C would provide for more managed parking than Alternatives A and B.

2.3.4. Alternative D

Watershed Health and Aquatic Ecosystems

A passive management strategy for watershed and aquatic habitat management characterizes this alternative. Watershed restoration objectives would be met by allowing natural processes to control the rate of recovery; restoration actions would be limited to removal of stressors. Terrestrial and aquatic species habitat objectives would be met by allowing natural processes to control the rate of recovery; restoration would be limited to removal of high priority invasive species or where directed by law.

Watershed condition and aquatic species sustainability would be addressed primarily by reducing and preventing causes of degradation where identified, (i.e. BMP upgrades or decommissioning of facilities, roads and trails, aquatic invasive species prevention, etc.), rather than by active restoration.

No active management would be implemented to stabilize or restore stream channels and associated riparian areas that are out of equilibrium or degraded due to past land use or climate change. Natural processes would be allowed to set the pace to achieve equilibrium with the changing climate and other existing and future stressors.

Management of aquatic invasive species would not include actions to control or eradicate warm water sport fishes.

Terrestrial Ecosystems

Management of natural ignitions and under burning would be the preferred tools for vegetation and fuels management. There is a decreased emphasis on mechanical thinning as a surrogate for the natural processes outside the defense zone. Vegetation management outside the WUI would be limited, and natural processes would be allowed to operate within natural range of variability to restore ecosystems and promote resilience.

After implementation of currently planned projects, the WUI would not include a threat zone. A 12-inch diameter limit outside the defense zone would be employed to create conditions that would allow the safe use of prescribed fire and natural ignitions to restore ecological processes and create resilience.

This alternative emphasizes late seral forest stand structure and late seral dependent wildlife species habitat protection. Removal of trees greater than 30 inches DBH is prohibited with the exception of hazard trees and to enable equipment operability. Canopy closure restrictions are retained. PAC management standards are the same as in Alternative A, and do not allow for restoration activities in PACs. Old Forest Emphasis Areas are retained. Creation of early seral and mid-seral open conditions would depend on high and mixed-severity fire or other mortality agents; this alternative would not include cutting trees to manipulate stand structure for forest health objectives.

Wildland fire is recognized as an essential ecosystem process in need of restoration and this alternative utilizes planned and unplanned ignitions to meet the need. Wildland fire management for resource objectives is allowed all in all Fire Management Units except WUI Defense Zone. Post-disturbance timber salvage is not allowed.

Recreation

Recreation infrastructure lost due to ecological restoration, financial constraints or conflicts with other resources would not be replaced. This would account for a reduction by 15% of this recreation infrastructure. Recreation facilities and developed recreation permit boundaries would not be expanded to accommodate increased demand. Permit boundaries may be decreased where development has not yet occurred.

This alternative includes recommendation of the Dardanelles and Freel Roadless Areas for Wilderness designation. Designation of the Freel Roadless Area would alter the mix of recreation opportunities as defined by the ROS.

This alternative also shifts roughly 12,000 acres from the General Conservation to the Backcountry Management Emphasis Area. These acres are primarily adjacent to the Freel IRA and Granite Chief Wilderness.

Access and Travel Management

Transportation infrastructure would be considered for decommissioning based upon ecological restoration goals and financial constraints. Maintenance level of roads and trails would be reduced compared to the current maintenance levels. Non-motorized access to the forest would increase. Parking and road access would decrease over time.

A spectrum of opportunities for recreation would be maintained so that challenging trails and roads would be kept in the system, and the percentage of primitive and challenging routes would increase.

Fee parking and reduction of roadside parking would encourage use of transit. Emphasis in this alternative includes a reduction of roadside parking while providing the least amount of managed parking of all the alternatives.

2.4. How the Alternatives Address Relevant Issues

2.4.1. Watershed Health and Aquatic Ecosystems

Degraded Watersheds

Under Alternative A, the primary goal for watershed restoration projects is sediment reduction, with habitat restoration as a secondary goal. Under Alternatives B and C, sediment reduction and habitat restoration goals would be given more equal weight overall, though on an individual project, one might be given more weight than the other based on site needs. Under Alternative D, habitat restoration objectives would be met by allowing natural processes to control the rate of recovery; restoration would be limited to actions required by law or removal of high priority invasive species.

Under Alternatives A, B, and C, new funding would be sought for additional projects. Under Alternative D, new watershed restoration projects would be limited to removal of stressors, and the rate of watershed recovery would be governed by natural processes. Watershed restoration projects for which planning and implementation funding has been secured would continue under all alternatives.

Public Use Impacts to Aquatic Habitats

Alternative A allows outdoor recreation facilities in SEZ under limited circumstances, including where the nature of the activity is dependent on the location, where there is no feasible alternative, and where it is fully mitigated. Under Alternative B and C, facilities removed from SEZ would be replaced elsewhere, while in Alternative D, facilities may be removed without replacement.

Vegetation Management Impacts to Stream Environment Zones

Fuels treatments in SEZs would be similar under Alternatives A, B, and C. LTBMU would continue on the current course with treatments that reduce the hazard of catastrophic wildfire while protecting natural resource values in SEZs.

Under Alternative D, SEZ fuels reduction treatments outside the WUI defense zone would limit tree removal to trees 12 inches in diameter or less. In addition, under Alternative D, the treatment tools in order of preference would be (1) management of natural ignitions (2)

prescribed fire (3) hand thinning (4) mechanical thinning. This strategy would limit mechanical treatments in SEZs under Alternative D.

Vegetation management undertaken purely for ecosystem restoration objectives would involve more intensive treatments under alternatives A, B, and C, than under Alternative D. Fuels reduction and vegetation restoration treatments for which planning and implementation funding has been secured would continue under all alternatives.

Special Status Aquatic Species

Protection and conservation measures for threatened and endangered species, and Region 5 sensitive species, would meet all requirements of law and Forest Service policy in all alternatives. Recovery actions mandated by law would be implemented in all alternatives. Alternatives B and C would promote species recovery through active management, while Alternative D would allow natural processes to control the rate of recovery.

Aquatic Invasive Species

Alternative A allows for management of AIS, but provides little specific direction. Alternatives B and C add an aquatic invasive species management strategy. Alternative D would limit AIS management to removal of high priority invasive species or other actions required by law.

Climate Change

Alternative A allows for watershed and aquatic habitat management actions to increase resiliency to changing climate conditions, but does not provide any specific guidance. Alternatives B and C include strategies aimed at increasing resiliency, while Alternative D employs a strategy of relying on natural processes to achieve equilibrium with a changing climate.

2.4.2. Terrestrial Ecosystems

Forest Health, Hazardous Fuels, and Terrestrial Wildlife Habitat

Forest health management in Alternative A is primarily focused on early and late seral, and does not differentiate between vegetation types, an approach not supported by current science. While this alternative does not prohibit management for other seral types and specific vegetation types, it fails to provide guidance. Alternatives B, C and D, provide detailed desired conditions designed to shift the LTBMU forests onto a sustainable trajectory. The desired conditions are supported by strategies and standards and guidelines which provide guidance to achieve heterogeneity and associated benefits.

While Alternatives A and B are similar in many respects, they differ in several important areas. Unlike Alternative A, Alternative B recognizes that different vegetation types should have different distributions of seral stages, and provides management direction specific to four different forest types. Alternative B prescribes management for old growth conditions wherever they occur on the landscape, as opposed to the site-specific Old Forest Emphasis Areas in Alternative A. Alternative B includes six exceptions to the 30 inch diameter limit, to achieve forest health, restoration and safety goals. Canopy closure limits are retained only for PACs and HRCAs in Alternative B.

While in Alternative A, only the LTBMU portion of the Desolation Wilderness is available for managing wildfire for multiple objectives, in Alternative B, the only area not available is the defense zone.

Alternative C prescribes thinning to the lower range of desired tree stocking levels, reducing stand densities more than in Alternative B. Old growth conditions would be managed as in Alternative B and exceptions to the 30 inch diameter limit and canopy closure limits are the same as in Alternative B. Management of wildfire for multiple objectives would be allowed outside the WUI threat and defense zones.

Under Alternative D, the WUI would not include a threat zone. A 12 inch diameter limit outside the defense zone would be employed. Prescribed fire would be used to restore ecological processes and create resilience. Vegetation management outside the WUI would be limited, and natural processes would be allowed to operate within the natural range of variability to restore ecosystems and promote resilience. Management of wildfire for multiple objectives would be the same as in Alternative B.

Under Alternatives A and D, California Spotted Owl and Northern Goshawk PACs would be managed as currently described in the 2004 SNFPA Record of Decision. Under Alternatives B and C, PAC management standards would be expanded to allow PAC restoration activities to enhance habitat while meeting hazardous fuels reduction objectives.

Climate Change

Alternative A does not address climate change. Alternatives B and C use a suite of silvicultural tools to manipulate stand structure and stand density with the goal of making stands more resilient to wildfire, drought, insect outbreaks and other disturbances that may accompany a changing climate. Alternatives B and C also provide the heterogeneity needed for habitat diversity which would better enable wildlife species to adapt to change. Alternative D uses a more passive approach, in which nature is allowed to provide most of the needed change. Manipulation of stand structure and density would primarily be used to protect communities from wildfire in Alternative D.

2.4.3. Recreation

Balance of Recreation Opportunities

Alternatives A and B and C continue the current mix of settings and activities with approximately 64% of the NFS lands providing a semi-primitive environment and 36% providing a more developed environment (RN and R). Alternative C is similar to A and B in its general mix of settings, but allows more facility development and more service amenities.

Primitive recreation opportunities would be increased slightly in, Alternative C and more in Alternative D with Wilderness recommendations (see section below).

Recreation development and economic opportunities

Alternative B would provide slightly fewer opportunities for expansion and new development of recreation infrastructure than Alternative A. Alternative C would provide more opportunities than A and B. Alternative D would provide the fewest opportunities for development and expansion. Under Alternative D, recreational infrastructure lost due to ecological restoration, financial constraints, or where conflicts exist with other resources would not be replaced.

Alternative A prescribes development or expansion of specific sites and allows for a moderate degree of development and expansion elsewhere. Alternatives B, C, and D do not prescribe any site-specific development or expansion. Alternative B focuses on maintaining existing sites while allowing for expansion and development to maintain capacity and to respond to future trends in recreation demand.

Wilderness

Alternatives A and B retain current designated Wilderness areas. Alternative C recommends the Dardanelles IRA for wilderness designation, and Alternative D recommends both the Dardanelles and Freel IRAs for wilderness designation.

2.4.4. Access and Travel Management

Access to National Forests via facilities, roads and trails

The maintenance level of roads and trails changes by alternative, which can affect the use type. Implementation of these changes would be dependent on funding availability.

Roads and trails may be added to the managed system by the adoption of unauthorized routes, and/or the construction of new roads and trails (on a project-specific basis).

Alternative B would provide a slight increase in the total miles of road open to passenger vehicles by opening currently closed routes. Alternative C would provide the greatest increase in mile of road open to passenger vehicles, and Alternative D would provide a decrease through closing additional routes currently open.

Under Alternative D, the miles of road available for OHV use would increase.

Miles of trails open to motorized use would be the same under Alternatives A and B, would increase slightly under Alternative C, and would decrease slightly under Alternative D.

Miles of trails open to mechanized (mountain bike) use would be the same under Alternatives A and B, would decrease slightly under Alternative C, and would decrease the most under Alternative D, largely due to wilderness recommendation.

Miles of trails open to non-motorized, non-mechanized use would remain the same under Alternatives A, B, and D, and would decrease slightly under Alternative C.

Multi-Modal Transit

Alternatives A, B and C include strategies to promote transit use, such as linking bicycle trails to bus stops, with Alternative C having the greatest ability to provide such infrastructure.

Alternative D would have the least potential to promote transit use because recreation infrastructure would be reduced.

Current parking capacity would be maintained in Alternative B by adoption of unmanaged sites (hardening, BMPS), eliminating unmanaged roadside parking. Parking capacity would be increased in Alternative C. Alternative D would decrease total parking capacity as compared to Alternative A; fewer unmanaged sites would be adopted than in Alternatives B and C.

Unmanaged roadside parking not converted would be eliminated.

Parking for dispersed winter recreation would increase under alternatives B and C and decrease under Alternative D, but more parking would be managed under Alternatives B, C, and D than under Alternative A.

Differences among alternatives are primarily differences in strategy; implementation would be dependent on funding availability.

Use Conflicts

Alternative A and B would continue on current trends of managing use conflict by promoting shared use of the trail system and designing the trail system to minimize use conflict and include education, layout, and maintenance. Alternatives A and B would convert unmanaged parking and roadside parking in areas of high use to managed parking and create opportunities for education which has been shown to reduce use conflicts. Alternative C would decrease OHV use on roads and could focus motorized trail users onto fewer routes which could increase use conflict with other uses. Alternative D would increase routes open to OHV and reduce use conflicts for motorized and non-motorized uses. To a larger degree mountain bike trails would be closed and use conflict between mechanized and other uses would increase. Alternative D would also provide the least opportunity for managed parking/trailhead educational opportunities. As a result, alternative D would result in the greatest increase in use conflicts.

2.5. Alternatives Considered but Eliminated from Detailed Study

2.5.1. Conduct Revision as Part of a Sierra Nevada Ecoregion Plan

In response to the NOI, some members of the public suggested that the LTBMU plan revision should be accomplished as part of a broader Sierra Nevada-wide planning effort, similar to the Sierra Nevada Forest Plan Amendment (SNFPA). This approach was considered and rejected by the Regional Forester, because the LTBMU plan revision was already well underway.

Revision started with the Pathway process in 2004. The Pathway agencies (LTBMU, TRPA, Lahontan and Nevada Division of Environmental Protection) developed a set of common vision and desired condition statements through an extensive public collaboration process which are included in all the action alternatives. Continuing the revision process will enable LTBMU to incorporate the shared vision for the Lake Tahoe Basin in our revised Plan. If the LTBMU Forest Plan were revised as part of a broader planning effort, local issues might receive a lesser degree of consideration.

2.5.2. Recommend Additional Wild and Scenic Rivers

The Record of Decision for the Eight Eastside Rivers EIS (USDA Forest Service Tahoe National NF and LTBMU 1999) made a preliminary recommendation to designate a segment of the Upper Truckee as Wild under the Wild and Scenic Rivers Act (16 U.S.C. 1271-1287, Public law 90-542 October 2, 1968). The Regional Forester approved the decision but no further action was taken to designate this segment. The management plan for the segment remains in effect, to ensure eligibility is maintained.

A coalition of conservation groups has requested that additional stream segments in the Lake Tahoe basin be recommended for designation under the Wild and Scenic Rivers Act. The Forest Service has reviewed the Eight Eastside Rivers Wild and Scenic River Study, and the interdisciplinary team found no changed circumstances that would render additional rivers eligible for designation (Appendix B - Wild and Scenic River Evaluation).

2.5.3. Revise the Over-Snow Vehicle Use Map

Some members of the public requested additional snowmobile closure areas to prohibit snowmobile use in specific areas with known use conflicts and in sensitive areas. Separating snowmobile use from other winter recreation was also advocated.

Other members of the public requested designation of additional areas for snowmobile access, and yet others think the current over-snow vehicle policy is acceptable.

Revision of the Over-Snow Vehicle Use Map (Snowmobile Guide) is not addressed in this analysis. The current map (USDA Forest Service LTBMU 2010c.) remains in effect. Because members of the public hold strong and disparate views on motorized winter use, a collaborative process has been initiated to find areas of agreement. It is likely that reaching agreement on this issue will require more time than we have available to complete Forest Plan Revision, so changes to the Over-Snow Vehicle Use Map will be addressed separately.

2.5.4. Increase the Pace and Scale of Ecosystem Restoration

The following is excerpted from a regional policy document, Ecological Restoration: Engaging Partners in an All Lands Approach (USDA Forest Service Pacific Southwest Region (R5) 2010), published in January 2010:

“While sound restoration work is being conducted throughout the Region to increase forest and watershed resilience, important indicators suggest that disturbance impacts already outpace the benefits of this work, and that we will fall further behind over time.....To counter these trends, forest managers will need to significantly increase the pace and scale of the Region's restoration work. Only an environmental restoration program of unprecedented scale can alter the direction of current trends.”

In accordance with this policy, the feasibility of increasing the pace and scale of vegetation treatments and watershed restoration projects was analyzed. We concluded that LTBMU is currently operating at capacity in restoring watersheds and vegetation. Over much of the past decade, funding obtained through the Lake Tahoe Restoration Act (LTRA) and the Southern Nevada Public Lands Management Act (SNPLMA) has provided the LTBMU with annual budgets far in excess of typical federal budget allocations, which has enabled us to accomplish more vegetation and watershed restoration work than most other forests.

The major watershed restoration needs have been identified, proposals have been funded, and some projects have been completed or are in progress. For stream channel projects, implementation is restricted to a relatively short period each year when stream flows are low enough to permit in-channel work without undue water quality impacts. Additionally, some projects must be staged (e.g. Blackwood Creek) to allow the stream channel time to stabilize before additional work is done. Thus, it is not possible to increase the pace of restoration.

Similarly, hazardous fuels reduction needs in the wildland-urban interface (WUI) have been identified in the Lake Tahoe Basin Multi-Jurisdictional Fuel Reduction and Wildfire Prevention Strategy, funding has been secured, and planning and implementation are underway. Increasing the scale of these treatments does not make sense, given the relatively small size of the Lake Tahoe Basin. Initial fuels treatments in the WUI are projected to be complete during the upcoming plan period.

2.6. Comparison of Alternatives

2.6.1. How Plan Decisions Change by Alternative

This section describes how the management direction in the revised Plan would vary by alternative. The section is organized according to the six plan decisions to be made in this EIS, as described in the Decision Framework section of Chapter 1.

Multiple Use Goals and Objectives

Multiple Use Goals in Alternative A include the Forest Goals and Predicted Future Conditions in the 1988 LRMP (p. IV-1-11) and the Goals, Desired Conditions, and Objectives in the Sierra Nevada Forest Plan Amendment (ROD, Appendix A) that pertain to the LTBMU.

In Alternatives B, C, and D, the Multiple Use Goals are the Desired Conditions in the Vision section of the Draft Plan. These have been updated to reflect best available science and the collaborative public vision expressed in the Pathway documents. Desired conditions remain constant among alternatives B, C, and D.

Alternative A includes objectives in the 1988 LRMP, which are expressed as resource outputs (p. IV-11-13), plus a set of objectives in the SNFPA (ROD, Appendix A, p 32-33 and 42-48) which clarify goals and management intent.

Objectives in Alternatives B, C, and D vary according to the alternative strategies, and are expressed as time-specific, measurable management accomplishments which represent milestones designed to narrow the gap between existing and desired conditions. Objectives in Alternatives B, C, and D vary according to the alternative strategies. For example, ecosystem restoration objectives are similar in Alternatives B and C, but smaller areas and fewer kinds of activities are proposed in Alternative D, which emphasizes allowing natural processes to dictate the pace and nature of restoration. Appendix F in the Draft Plan provides specific detail about how objectives vary among the action alternatives.

Standards and Guidelines

Most of the geographic-based Management Area standards in the 1988 LRMP were eliminated in Alternatives B, C, and D. Geographic-based management areas were replaced by broad Management Emphasis Areas (see Suitability of Areas discussion, below). While Alternatives B, C, and D include a few Management Area standards and guidelines, the vast majority of standards and guidelines apply forest-wide.

Standards and guidelines that prescribed additional assessments or monitoring were removed in Alternatives B, C, and D because these are no longer considered appropriate content for standards and guidelines.

Most standards for habitat management for species not present on LTBMU were removed.

Canopy closure limits in Alternative A were eliminated in Alternatives B and C, and retained in Alternative D.

The 30-inch diameter limit for tree removal (other than hazard trees and to enable equipment operability) was removed as an absolute limit with seven exceptions in B and C, but retained in Alternative D. Alternative D would also impose a 12 inch diameter limit for tree removal outside defense zone.

PAC standards were revised for Alternatives B and C to allow restoration of PACs; Alternative D retains the standards in Alternative A.

Numerous standards and guidelines were added to address current management concerns.

The Identification of the Suitable Uses for Each Management Area

Alternative A

Management areas and their suitable uses in Alternative A are defined by a set of discrete geographic Management Areas (e.g. Emerald Bay Management Area) with associated prescriptions, practices, and standards in the 1988 LRMP. Urban Lots are also a management area. In Alternative A, the allocations and delineations from the SNFPA ROD are then overlain on the Management Areas. The result is a set of relatively complex Forest Plan direction.

In the 1988 LRMP, each management area has a set of prescriptions which in turn are composed of a set of practices. Each practice has forest-wide standards associated with it. In addition, each management area has specific standards.

The SNFPA land allocations and delineations are overlain on top of the management areas; these allocations are:

- California spotted owl and northern goshawk PACs
- Home Range Core Areas
- WUI Defense Zones
- WUI Threat Zones
- Old Forest Emphasis Areas
- General Forest

Additional delineations include Riparian Conservation Areas and CARs. Specific standards are applied to each land allocation and delineation.

Alternatives B, C, and D

Alternatives B, C, and D do not include the geographic-based Management Areas in the 1988 LRMP. Alternatives B, C, and D include four management emphasis areas:

- Wilderness (congressionally designated)
- Backcountry (includes but is not limited to Inventoried Roadless Areas)
- General Conservation
- Urban Forest Parcels/Santini-Burton Lands

Within each of these management emphasis areas, activities are described as generally suitable or not suitable (ref table and text in draft plan).

Suitable uses in Backcountry management areas recommended for Wilderness designation would not change until the area is designated by Congress.

While suitability in Wilderness is defined by the Wilderness Act and the Desolation Wilderness Management Plan, the suitability of many activities and uses in General Conservation lands is dependent on the desired conditions, objectives, and standards and guidelines that apply to a specific project location. These are often tied to the resource overlays:

- WUI Defense Zone
- WUI Threat Zone
- PACs and HRCAs
- Species Refuge Areas (SRAs)
- Stream Environment Zones
- Geologic Hazards
- Fire Management Units
- Recreation Opportunity Spectrum
- Minimum Scenic Integrity
- Minimum Scenic Stability
- Communications Sites
- Recreation Special Use Permit Areas
- Non-recreation Special Use Easements

In addition to management direction associated with the resource overlays, projects would need to be consistent with specific management direction for designated Special Areas (e.g. historic sites, scenic byways). A list of designated Special Areas is found in Part 2 of the Proposed Plan.

Alternatives B, C, and D vary in the way the SNFPA land allocations and delineations are retained:

- CAR boundaries were revised and expanded to include habitat for terrestrial and aquatic threatened, endangered, and proposed and candidate species and were renamed as Species Refuge Areas. Alternatives B, C, and D add Species Refuge Areas for Sierra Nevada Yellow-legged Frog, and Whitebark Pine, two candidate species designated in 2011. The delineations would be revised as the species list changes.
- PACs and HRCAs are retained in alternatives B, C, and D, but the standards and guidelines are revised in Alternatives B and C, as described above.
- The RCA delineation is replaced by site-specific project-level SEZ delineation with most of the standards retained and applied to SEZs in Alternatives B, C, and D.
- WUI (Defense and Threat Zones) is now a resource overlay, not a land allocation. Alternatives B and C retain the WUI as in Alternative A, but Alternative D omits the Threat Zone.
- Similarly, Old Forest Emphasis Areas (OFEAs) are dropped in Alternatives B and C, and replaced by desired conditions and objectives for seral stages. OFEAs are retained in Alternative D.

In Alternatives B, C, and D, the Backcountry Management Area includes all current Inventoried Roadless Areas. Other than the Wilderness recommendations described below, no changes are proposed to Inventoried Roadless Areas in any alternative. Alternative D proposes the addition of roughly 12,000 acres to the Backcountry Management Area; although Alternative D includes the least number of Backcountry acres (due to Wilderness recommendations), it is the only alternative that proposes shifting acres from General Conservation to Backcountry.

Alternative A includes several management prescriptions for developed recreation that describe the kinds of activities allowed within the prescription area boundaries; developed recreation is limited outside these boundaries. For Alternatives B, C, and D, developed recreation is governed by the proposed system of Management Emphasis Areas, resource overlays, and Standards and Guidelines.

The Establishment of the Monitoring and Evaluation Requirements

Alternative A includes the monitoring plan in the 1988 LRMP and Appendix E of the SNFPA (USDA Forest Service 2004a), which was designed to provide comprehensive information on status and trends, ecosystem condition, and the effectiveness of management activities at the Sierra Nevada-wide scale. The Forest monitoring plan is supplemented by additional regional and other broad-scale monitoring.

The proposed monitoring plan (Vol II: Appendix A – Forest Plan Monitoring and Evaluation Plan) is the same for Alternatives B, C, and D. This plan is based on current needs for resource status and trend information to support future management decisions that will maintain or contribute to achieving the desired conditions. It will continue to be supplemented by regional and other broad-scale monitoring.

Recommendations to Congress of areas eligible for wilderness designation (as required by 36 CFR 219.17(a) and rivers recommended for inclusion in the Wild and Scenic River System)

The existing recommendation to add a segment of the Upper Truckee to the Wild and Scenic River System (USDA Forest Service Tahoe National NF and LTBMU 1999) is retained in all alternatives, and the management plan in the EIS remains in effect.

Alternatives A and B would retain current Wilderness and Inventoried Roadless Area designations. Alternative C recommends the Dardanelles Roadless Area for addition to the Wilderness System. Alternative D recommends the Dardanelles and Freel Roadless Areas for wilderness designation.

Determination of suitability and potential capability of lands for resource production

This determination is found in the timber suitability analysis (Volume III: Appendix G).

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2.6.2. Comparison Tables

Table 2-1 Summary of Key Strategic Differences among Alternatives

Program Strategy	Strategy (& Unit of Measure)	Alternative A No Action	Alternative B Proposed Action	Alternative C	Alternative D
Access and Travel Management	Roads and Trails Strategy	Continue to implement current management objectives.	Management objectives closely reflect current management.	Allow increased access for passenger vehicles by improving road surfaces and opening some currently closed routes.	Decrease access for passenger vehicles through management objectives that favor high-clearance vehicles.
	Roads open to passenger vehicles (miles)	84	89	106	77
	Roads open to high-clearance vehicles and OHV (miles)	115	115	115	130
	Trails open to OHV motorized use (miles)	15	15	20	10
	Trails open for hiking and equestrian use (miles)	367	367	360	367
	Trails open to mechanized use (miles)	227	227	218	200
	Transit and Parking Strategy				
	Transit Use to Access NF Lands (incentives)	Transit promoted by providing infrastructure to promote convenient alternatives to the private automobile that connect with bike paths. Informational signs would inform users of alternatives to private automobiles.	This alternative would promote transit opportunities where feasible while reducing overall parking for private automobiles.	This alternative would promote transit opportunities where feasible and provide for the greatest parking for private automobiles.	This alternative would promote transit opportunities where feasible but would provide less transit infrastructure and parking than other alternatives.

Program Strategy	Strategy (& Unit of Measure)	Alternative A No Action	Alternative B Proposed Action	Alternative C	Alternative D
	Vehicle parking & managed parking volume	Apply BMPS to adopted parking areas	Apply BMPS to adopted parking areas. Eliminate or reduce roadside parking and provide for managed parking. Site specific planning would determine where parking is feasible and inform decisions where transit facilities may replace parking for private automobiles.	Eliminate roadside parking and increase parking capacity and amenities where feasible. Apply BMPs to all adopted parking areas.	Eliminate roadside parking; adopt some managed parking with overall reduction in parking. Apply BMPs to all adopted parking areas. Note: where parking would be reduced other access modes, such as transit or trail access, would be considered.
	Dispersed winter parking	Same	Increase	Increase	Same
Aquatic and Terrestrial Invasive Species Management	Strategy	Current level	Increase from current level and incorporate AIS	Increase from Current Level and incorporate AIS	Focus on High Priority Species
	Aquatic Invasives				
	Monitoring (miles)	1	1	1	1
	Prevention (miles)	292	292	292	292
Eradication (miles)	0	0.5 -1	0.5 - 1	0.5	

Program Strategy	Strategy (& Unit of Measure)	Alternative A No Action	Alternative B Proposed Action	Alternative C	Alternative D
	Terrestrial Invasives				
	Monitoring (acres)	5-20	5-40	5-40	5-40
	Prevention (acres)	4,566	4,566	4,566	4,566
	Eradication (acres)	0	5-40	5-40	5
	Monitoring (sites)	50-500	50-500	50-500	50-500
	Prevention (sites)	21	26	26	26
	Eradication (sites)	0-15	0-15	0-15	0-15
	Strategy	Current direction	Greatest expansion of allowable area	Expands allowable area	Greatest expansion of allowable area
Managed Wildfire	Natural ignitions allowed to burn for management objectives, assuming WUI is treated	Desolation Wilderness only	All NFS lands except Defense Zone	All NFS lands except WUI (Defense and Threat Zones)	All NFS lands except Defense Zone
	Strategy	Collaborative Fuels Strategy per 2004 SNFPA ROD	Collaborative Fuels Strategy w/ exceptions to diameter limits and canopy cover requirements	Collaborative Fuels Strategy w/ exceptions to diameter limits and canopy cover requirements	Collaborative Fuels Strategy per 2004 SNFPA ROD
Forest Vegetation Management: Wildland Urban Interface (WUI)	Thinning & Fuel Reduction (Acres/year)	Mech. 500	Mech. 500	Mech. 500	Mech. 250
		Hand 1,500	Hand 1,500	Hand 1,500	Hand 1,750
		Total 2,000	Total 2,000	Total 2,000	Total 2,000
Prescribed Burning (Acres/year in the WUI)		Underburn 300	Underburn 300	Underburn 600	Underburn 600
		Pile burn 1,500	Pile burn 1,500	Pile burn 1,500	Pile burn 1,500
		Total 1,800	Total 1,800	Total 2,100	Total 2,100

Program Strategy	Strategy (& Unit of Measure)	Alternative A No Action	Alternative B Proposed Action	Alternative C	Alternative D
Forest Vegetation Management: General Conservation, Santini-Burton, & Backcountry	Strategy	Treatments as currently planned under SNFPA	Treatments as proposed w/ exceptions to diameter limits and canopy cover requirements	Similar to Alt. B with more acres treated at greater reduction in stand density	Similar to Alt. A with emphasis on use of fire (prescribed & unplanned).
	Forest Structure Restoration (acres/year) establish new age classes in the form of openings from 1-10 acres w/in existing forest stands	Mech. 75 Hand 25 Total 100	Mech. 75 Hand 25 Total 100	Mech. 175 Hand 25 Total 2000	Hand & Rx Fire 100
	Forest Type Conversion (acres/year) Generally, converting Fir to Jeffrey pine or Mixed Conifer in the form of openings, also results in forest structure change	Mech. 40 Hand 10 Total 50	Mech. 40 Hand 10 Total 50	Mech. 75 Hand 25 Total 100	Hand & Rx Fire 50
	Forest Stand Resiliency (acres/year) Generally thinning w/in existing forest type	Mech. 100 Hand 400 Total 500	Mech. 100 Hand 400 Total 500	Mech. 200 Hand 800 Total 1,000	Hand & Rx Fire 300
	Prescribed Burning (Acres/year) in addition to WUI	100 acres/year	100 acres/year	200 acres/year	Acres included in the above treatments.

Program Strategy	Strategy (& Unit of Measure)	Alternative A No Action	Alternative B Proposed Action	Alternative C	Alternative D
Developed Recreation	Strategy	Maintains existing & allows expansion up to PAOT capacity as described in the developed recreation prescriptions (estimated 10% expansion above current).	Maintains existing & allows expanding existing facilities in permit areas before building new ones in General Conservation MA (estimated 5% above of current) on higher capability lands.	Maintains existing & allows expanding existing facilities in existing permit areas and in General Conservation MA (estimated 15% above current) on higher capability lands.	Maintains existing & allows reduction and relocation of facilities (estimated -15% of current) within permit area; forest plan amendment required in expansion general conservation areas.
	Permitted such as Resorts, Campgrounds, Beaches (acres) Existing acres 1,300	Potential Increase 130 Up to 1,430	Potential Increase 65 Up to 1,365	Potential Increase 195 Up to 1,495	Potential Decrease 195 Down to 1,105
	Overnight (accommodation units) Existing units 1,072	Potential Increase 107 Up to 1,179	Potential Increase 54 Up to 1,126	Potential Increase 161 Up to 1,233	Potential decrease 161 Down to 911
	Day Use (parking spaces) Existing spaces 2,260	Potential Increase 226 Up to 2,486	Potential Increase 113 Up to 2,373	Potential Increase 339 Up to 2,599	Potential decrease 339 Down to 1,921
	Ski Areas (operational footprint acres) Existing acres 3,491	Potential Increase 4,570 Up to 8,061	Potential Increase 174 Up to 3,665	Potential Increase 524 Up to 4,015	Potential Increase -524 Down to 2,967
Recreation Setting	Strategy (acres by ROS class)	Mix of Recreation Opportunity Spectrum Classes, based on 1982 land status (138,700 acres)	Proposed updates to reflect current conditions and land acquisitions (154,784 acres)	Proposed updates to reflect current conditions & additional SPNM for proposed wilderness	Proposed updates to reflect current conditions & additional SPNM for proposed wilderness & backcountry additions
	Urban	0	0	0	0
	Rural	11,900	16,081	16,081	15,966
	Roaded Natural	55,700	39,812	39,812	36,430
	Semi-Primitive Motorized	17,600	20,370	20,370	16,457

Program Strategy	Strategy (& Unit of Measure)	Alternative A No Action	Alternative B Proposed Action	Alternative C	Alternative D
	Semi-Primitive Non-Motorized	53,500	78,521	78,521	85,931
Species Refuge Areas	Strategy	Active restoration	Increased active restoration	Increased active restoration	Manage existing populations
	Populations or sub-populations maintained or restored				
	Lahontan Cutthroat Trout (number)	Maintain 2 LCT subpopulations, restore 7 sub-populations.	Maintain 2 LCT subpopulations, restore 7 sub-populations.	Maintain 2 LCT subpopulations, restore 7 sub-populations.	Maintain 2 LCT subpopulations, restore 7 sub-populations.
	Sierra Nevada Yellow-Legged Frog (number)	Maintain 1 SNYLF sub-population, restore 9	Maintain 1 SNYLF sub-population, restore 9	Maintain 1 SNYLF sub-population, restore 9	Maintain 1 SNYLF sub-population, restore 9
	Tahoe Yellow Cress (stem counts)	Maintain 3 TYC core, 3 high priority, 2 medium populations	Maintain 3 TYC core 3 high priority populations, 2 medium priority. Restore/enhance 2	Maintain 3 TYC core, 3 high priority populations, 2 medium priority. Restore/enhance 2	Maintain 3 TYC core, 3 high priority, 2 medium populations
California Spotted Owl and Northern Goshawk PACs and HRCAs	Strategy	Management direction per 2004 SNFPA ROD	Active management in PACs and HRCAs	Active management in PACs and HRCAs	Management direction per 2004 SNFPA ROD
	Protected PACs & HRCAs (acres)	23,843	24,000	24,000	24,000
	Restored PACs & HRCAs (acres)	0	5,000 – 24,000	5000-24,000	0
Watershed and Aquatic Habitat Restoration	Strategy	Continued active restoration of currently planned projects plus additional potential	Continued active restoration of currently planned project plus additional potential	Continued active restoration of currently planned projects plus additional potential	After currently planned projects completed, rely on natural processes for recovery; no active restoration

Program Strategy	Strategy (& Unit of Measure)	Alternative A No Action	Alternative B Proposed Action	Alternative C	Alternative D
	Stream restored (miles)	82	82	82	70
	SEZ restored (acres)	3,338	3,338	3,338	3,087
Backcountry Management Area	Strategy	Retain Current Inventoried Roadless Areas (IRA) in Backcountry	Retain Current Inventoried Roadless Areas in Backcountry	Retain Current Inventoried Roadless Areas in Backcountry minus Dardanelles	Retain Current Inventoried Roadless Areas in Backcountry minus Dardanelles and Freel Peak. Recommend additional areas to Backcountry (motorized use ok on existing roads and trails only)
	(acres)	41,813	41,813	27,862	25,151
Recommended Wilderness Area	Strategy	No new recommendations	No new recommendations	Recommend Dardanelles IRA	Recommend Dardanelles IRA & Freel IRA
	(recommended acres)	0	0	13,952	28,854
Notes:					
<p>The intent of this table is to display the key differences between the alternatives. Those plan components related Strategies (Land Allocation, designation of special areas, acres available for certain activities) are shown in this table as opposed to desired conditions or standards and guidelines. Many programs, strategies will stay the same between the alternatives such as the amount of congressionally designated wilderness or fire suppression policies. Those strategies that do not vary between alternatives are not shown in this table. The numbers associated with the units of measure fall into three categories explained below:</p> <ol style="list-style-type: none"> 1. Numbers represent anticipated or <u>estimated annual accomplishments</u> as a strategic difference between alternatives 2. Numbers represent <u>upper and lower limits</u> to resources as strategic difference between alternatives 3. Numbers represent <u>land allocation</u> acreage differences between alternatives 					

Table 2-2 Comparison of Alternatives by Management Area

Management Areas		Alternatives			
		A	B	C	D
W	Wilderness	24,660	24,660	24,660	24,660
RW	Recommended Wilderness	0	0	13,952	28,854
BC	Backcountry (IRA)	41,813	41,813	27,861	25,151
GC	General Conservation	75,432	75,432	75,432	63,240
SB	Santini-Burton Parcels	12,925	12,925	12,925	12,925
NFS Lands Total Acres		154,830	154,830	154,830	154,830

Table 2-3 Comparison of Alternatives by Environmental Consequences on Resources

Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments	
Access & Travel Management (ATM)	Parking	Managed parking (winter)	Current (few managed)	Comparable to current availability but managed	Greater than current but managed	Less than current but managed		
		Managed parking (summer)	Current (few managed)	Comparable to current availability but managed	Greater than current but managed	Less than current but managed		
	Trails	Miles open to mechanized use	217 Includes 30 miles of unauthorized trails that are suitable for adoption.	217	207 Note trails would be shared with motorized and non-motorized uses outside of wilderness areas and include developed bike paths	207	207	While more overall miles of trail would be open to mechanized use in Alt. C, those trails would be fully or highly developed trails. Alt. B would support the most single track mountain bike trails.
		Miles of hiking trails	388 This includes 40 miles of unauthorized trails that are eligible for adoption	378	370 Less hiking trails would be available due to use specific trails such as mountain bike or motorcycle trails.	388	388	Adoption of existing unauthorized trails is dependent upon project specific analysis.

Lake Tahoe Basin Management Unit

Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
	Roads Maintenance Level	Miles Unclassified Special Uses	32	0	Increase in Maintenance Level 3's 4's & 5's. Greater access to pax veh.	Increase in Maintenance Level 1's & 2's. Greater access to high clearance veh.	
	Decommissioned	miles	TBD	10	20	20	
	ML1 –closed	miles	30	45	30	50	
	ML2 – high clearance vehicles	miles	148	150	138	148	Note: some roads are not open to public motor vehicle use. Open miles are reflected in Miles Open to OHV and High Clearance Vehicles.
	ML3 – passenger car	miles	64	69	76	64	
	ML4 – moderate degree of user comfort	miles	20	20	30	10	
	ML5- high degree of user comfort	miles	0	0	0	0	

Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
	Total	miles	294	294	294	294	
OHV and OSV	Miles of Roads open to OHV and High Clearance Vehicles	miles	115	115	110	130	
	Miles of Trails open to OHV	miles	15	15	20	10	
	OSV Open to OSV	acres	Current Open Areas	No Change	No Change	Open Areas in Freel Peak Roadless Closed	
Air Quality	Human Health	Wildfire emissions	Pollution emissions would be similar to recent years and produce negligible short term impacts; long term impacts would be moderate because the potential for large and intense wildland fire events would continue to increase.	Negligible short term impacts due to decreased acres burned; long term moderate beneficial impacts due to higher probability of maintaining carbon in forest biomass.	Negligible short term impacts due to increased ability to control fire emission timing and quantity; long term beneficial impacts.	Minor short term and long term adverse impacts due to increased emissions from increased use of prescribed fire.	
	Forest Health	Forest resilience	Anthropogenic emission sources would be the primary air pollutant stressor to forest Health.	Negligible long term beneficial impacts by promoting forest resiliency to fire.	Minor adverse impacts from increased tree removal.	Moderate beneficial impacts from increased use of prescribed fire.	

Lake Tahoe Basin Management Unit

Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
	Visibility	Wildfire emissions	No short term impacts but moderate long term due to decreased control of emissions during wildfire events.	Both short and long term minor beneficial impacts due to increased ability to control fire emissions.	Both short and long term minor beneficial impacts due to increased ability to control fire emissions.	Both short and long term minor beneficial impacts due to increased ability to control fire emissions.	
	Climate Change	Strategies to reduce GHGs and sequester carbon	Lack of management strategies to respond to a changing climate, reducing GHGs and enhancing carbon sequestration lead to moderate long term impacts.	Includes management strategies to adapt to climate change and would have minor beneficial impacts.	Includes management strategies to adapt to climate change and would have minor beneficial impacts.	Includes management strategies to adapt to climate change and would have minor beneficial impacts.	

Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
Aquatic Habitat & Species	Streams, Lakes, Wetlands and Meadows	Trend in habitat condition	Condition and function a) improve as result of restoration and enhancement, b) stays at baseline in roadless, wilderness and other areas where grazing has been removed, or c) decreases where impacted by land uses, especially where expansion of recreation increases potential for AIS transference.	Condition and function a) improve as result of restoration and enhancement, b) stays at baseline in roadless, wilderness and other areas where grazing has been removed, or c) decreases where impacted by land uses, especially recreation, roads and trails and permitted livestock grazing. Impacts on aquatic habitat are less than Alt. A.	Condition and function a) improve as result of restoration and enhancement, b) stays at baseline in roadless, wilderness and other areas where grazing has been removed, or c) decreases where impacted by land uses, especially recreation, roads and trails and permitted livestock grazing. Impacts on aquatic habitat are the more than Alt. A .	Condition and function will both improve as a result of restoration and enhancement and is expected to decline where legacy impacts are allowed to persist. Effects are compounded where impacted by land uses, especially recreation, roads and trails and permitted livestock grazing. Impacts on aquatic habitat are less than A but potentially more than B (due to AIS threats).	

Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
	Lahontan Cutthroat Trout	Trend in abundance Trend in habitat condition	The species distribution is expected to increase as recovery/restoration strategies progress. LCT may face increased threats with expansion of recreation facilities, trails and subsequent human interaction on occupied habitat.	The species distribution is expected to increase as recovery strategies progress. LCT may face increased threats with expansion of recreation facilities, trails and subsequent human interaction on occupied habitat at levels less than Alt. A.	The species distribution is expected to increase as recovery strategies progress. LCT may face increased threats with expansion of recreation facilities, trails and subsequent human interaction on occupied habitat at levels comparable to Alt. A and more than Alt. B.	The species distribution is expected to increase as recovery strategies progress. LCT may face increased threats with expansion of recreation facilities, trails and subsequent human interaction on occupied habitat at levels less than Alt.'s A, and C.	

Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
	Sierra Nevada Yellow Legged Frog	Trend in abundance Trend in habitat condition	The species distribution is expected to increase as recovery/restoration strategies progress. SNYLF may face increased threats with expansion of recreation facilities, trails and human interaction and potential for increase AIS in subsequent human interaction in occupied habitat.	The species distribution is expected to increase as recovery strategies progress. SNYLF may face increased threats with expansion of recreation facilities, trails and subsequent human interaction and potential for increase AIS in occupied habitat at levels less than Alt. A.	The species distribution is expected to increase as recovery strategies progress. SNYLF may face increased threats with expansion of recreation facilities, trails and subsequent human interaction and potential for increase AIS in occupied habitat at levels less than Alt. A.	The species distribution is expected to increase as recovery strategies progress. LCT may face less threat than in Alt.'s A, B and C with a decrease of recreation facilities and trails. AIS in occupied habitat at levels comparable to Alt. A and more than Alt. B.	
	Tui Chub and Rams-horn	Trend in abundance Trend in habitat condition	The species distribution is expected to stay at baseline conditions or decrease with a potential increased distribution of existing and new AIS. Otherwise, the species will be susceptible to potential impacts on sensitive shore zone and lake-stream interface habitats.	The species distribution is expected to stay at baseline conditions or increase with continued emphasis on AIS prevention, control and eradication. Potential impacts to sensitive habitat are expected to be less than Alt. A.	The species distribution is expected to stay at baseline conditions or increase with continued emphasis on AIS prevention, control and eradication. Potential impacts to sensitive habitat are expected to be more than Alt. A.	The species distribution is expected to stay at baseline conditions or increase with continued emphasis on AIS prevention, control and eradication. Potential impacts to sensitive habitat are expected to be less than Alt.'s A and C.	

Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
Botanical Resources	Threatened or Endangered Species	Trend in habitat condition	Stable or Increasing due to active management of habitat.	Stable or Increasing due to active habitat restoration and less recreation development than Alternative C.	Stable or decreasing due to the most amount of recreation development of all alternatives.	Stable or decreasing due to no active habitat restoration.	TYC and Whitebark pine
	Sensitive Species	Trend in abundance	Stable to increasing	Stable or Increasing due to active habitat restoration and less recreation development than Alternative C.	Stable or decreasing due to the most amount of recreation development of all alternatives.	Stable or decreasing due to no active habitat restoration.	Sensitive Species
	Terrestrial Invasives	Trend in abundance	May have higher potential for introduction and spread due to mechanical fuels treatments, but with implementation of appropriate project design features would be within acceptable level of risk.	Same as Alternative A.	Slightly more risk due to more mechanical treatment over the life of the plan.	Less risk of introduction and spread due to less mechanical treatment.	Terrestrial

Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
Built Environment	Amount of Built Environment	Trend in deferred maintenance and building	This alternative would continue the existing trends of restroom replacement, installation of site BMPs and addressing deferred maintenance through decommissioning or capital improvement.	Same as Alternative A.	Allows for a potential increase in the built environment if funding allows.	Allows for the greatest decrease in the built environment and would reduce deferred maintenance.	
Climate Change	Ability to implement adaptation and mitigation strategies		Allows for addressing adaptation and mitigation strategies for climate change but not as well as C or B.	Best overall in addressing adaptation and mitigation strategies for climate change.	Allows for addressing adaptation and mitigation strategies for climate change but not as well as B.	Reliance on natural processes does not allow managers flexibility to implement strategies in addressing climate change.	

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Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
Cultural Resources	Sites protected and maintained	sites	Fuels reduction treatments could have impacts on cultural sites.	Same as Alternative A.	Less sites protected and maintained than A and B because historic structures in recommended wilderness may not be maintained. Less entries required for fuels treatments would reduce the risk of impacts.	Less sites protected and maintained than A and B because historic structures in recommended wilderness may not be maintained. Underburning and the management of natural ignitions would have the most risk of impacting cultural sites.	
Fire & Fuels	Fire type (surface fire)	Acres	2,650	2,650	3,300	2,450	WUI Zones include Urban-SB, DZ & TZ Restoration treatments outside WUI zones also contribute
	Reducing Fire Return Interval Departure (FRID)	Acres	1,900	1,900	2,300	2,550	Not specific to any zone.

Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
Forest Vegetation	Forest Structure & Forest Type Conversion	Acres	Current standards: openings limited to 7 acres, generally 1-2 acres	Larger openings and greater number than Alt A. Mostly 2-5 acres in size with some as much as 10 acres, but no more than 50 acres/year	Similar to B, but up to 100 acres/year	Similar to A, but more hand thin, which might not result in sufficient opening as trees get larger.	Excludes Wilderness
	Forest Stand Resiliency-Thinning	Acres	Thin to current standards for diameter and canopy. Old Growth continues to be at risk to senescence	Exceptions to exceed diameter and canopy limits for the purpose of enhancing old growth & increase resiliency to fire and beetles	Similar to B with thinning to lower density.	Similar to A, but unable to meet density for resiliency with greater use of hand thin	Excludes Wilderness
Interpretive Services; Conservation Education and Visitor Services			The overall program capacity and delivery fluctuates with annual budgets. The program will interpret direction and emphasis reflected in the final Forest Plan, regardless of alternative selection.	Same for all alternatives. There are no programmatic differences between the alternatives.	Same for all alternatives. There are no programmatic differences between the alternatives.	Same for all alternatives. There are no programmatic differences between the alternatives.	

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Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
Lands	Land Acquisition and Land Adjustment Program.		The objectives and accomplishments of the land acquisition and land adjustment program will remain the same under all four alternatives and will not be affected by the alternatives.	The objectives and accomplishments of the land acquisition and land adjustment program will remain the same under all four alternatives and will not be affected by the alternatives.	The objectives and accomplishments of the land acquisition and land adjustment program will remain the same under all four alternatives and will not be affected by the alternatives.	The objectives and accomplishments of the land acquisition and land adjustment program will remain the same under all four alternatives and will not be affected by the alternatives.	
	Land Special Uses Program.		The number and type of lands uses authorized will not change under any alternative.	The number and type of lands uses authorized will not change under any alternative.	The number and type of lands uses authorized will not change under any alternative.	The number and type of lands uses authorized will not change under any alternative.	
	Land Boundary and Title Program.		Assuming an equal level of funding for all alternatives, Alternatives A would result in a similar level of accomplishments in maintaining land boundaries and preventing and resolving encroachments.	Same as Alternative A.	Alternative C with a more active forest management approach would result in an increase in accomplishments with the most proactive boundary and title program.	Alternative D with a lower level of active forest management would result in a lower level of boundary and title accomplishments.	

Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
	Land Withdrawals.		None of the alternatives would affect the goal of retaining existing administrative withdrawals as long as they are needed.	Same as Alternative A.	Alternative C could result in additional acres under statutory withdrawal if the recommendation for wilderness designation for the Dardanelles Roadless Area is implemented.	Alternative D could result in the most acres under statutory withdrawal if the recommendation for wilderness designation for both the Dardanelles and Freel Roadless Areas is implemented.	
Management Indicator Species			This alternative will not alter the existing bioregional trend in habitats and ecosystem components, nor will it lead to a change in the distribution of MIS across the Sierra Nevada Region.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	
Natural Hazards			No differences between the alternatives.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	

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Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
Noise			With noise mitigations, such as allowed uses and time of day there would be no effect from noise.	Same as Alternative A.	Same as A. However, Alternative C would result in the highest overall noise generation because it has the highest amount of mechanical treatment and passenger vehicle access.	Same as A. However, Alternative D would result in the lowest overall noise generation because it allows the least mechanical treatment and is the most restrictive on motorized use.	
Recreation	Visitor Demand	Ability to meet projected demand	Some recreation sites full in peak season, some unmet demand	Some recreation sites full in peak season, more unmet demand than Alt A	Fewer recreation sites full in peak season, least unmet demand of Alternatives	Most recreation sites full in peak season, most unmet demand of Alternatives	
	Developed Permitted Recreation	Acres	1,430 +130	1,365 +65	1,495 +195	1105 -195	
	Developed Overnight	Accommodation Units	1179 +107	1126 +54	1233 +161	911 -161	
	Developed Day Use	Parking Spaces	2486 +226	2373 +113	2599 +339	1921 -339	

Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
	Developed Ski Areas	Operational Footprint Acres	8061 +4570	3665 +174	4015 +524	2967 -524	Alternative A represents existing Alpine Skiing Prescription
Scenic Quality	Minimum Scenic Integrity	Acres	Current Conditions and Adopted Visual Quality Objectives met or exceeded. Short term decrease in foreground scenic integrity due to management activities.	Current Conditions and Minimum Scenic Integrity met or exceeded. Short term decrease in foreground scenic integrity due to management activities. Higher Integrity than A.	Current Conditions and MSI met or exceeded. Short term decrease in foreground scenic integrity due to management activities. Higher Integrity than A or B.	Current Conditions and MSI met or exceeded. Short term decrease in foreground scenic integrity due to management activities. Highest Levels of Integrity expected.	Scenic integrity: effects related to vegetation management, developed recreation expansion, Special Area designation.
	Minimum Scenic Stability	Acres	Currently unstable and loss of key attributes.	Stability is maintained or improved compared to Alternative A. Key attributes are maintained or restored.	Same as B, but stability and key attributes improve more rapidly.	Least amount of stability due to lower overall resilience. Higher susceptibility to insect, disease and fire.	Restoration of valued scenic attributes in terrestrial vegetation (Big trees by veg.type, aspen restoration, & meadow restoration).
Social and	Labor Income	\$1,000	\$143,722	\$149,473	\$160,974	\$126,471	

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Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
Economic	Employment	# Jobs	3,593	3,755	4,081	3,105	
	NF Expenditures	\$1,000	\$33,570	\$33,570	\$33,570	\$33,570	Based on 2008 LTBMU Budget
	Payments to Counties/States	\$1,000	\$2,313	\$2,313	\$2,313	\$2,313	
Soil Quality	Compaction Erosion Soil organic matter and forest floor Severe burning	Acres	Soil quality maintained at sustainable level. Alternatives A and B would have similar risk of impacts due to wildfire	Soil quality slightly improved over Alternative A. Alternatives A and B would have similar risk of impacts due to wildfire.	Soil quality slightly decreased as compared to Alternative A, but still at sustainable level. Alternative C would have the least risk of impacts due to wildfire.	Soil quality slightly increased as compared to Alternatives A and B. Alternative D would have the greatest potential for soil impacts due to wildfire.	

Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
Terrestrial Habitat & Species	Wet meadows, Montane riparian, Lakeside marsh and shore habitat, Aspen		Potential for positive trend in condition from restoration and enhancement.	Positive trend in condition expected because of restoration and enhancement as well as vegetation treatments that may more rapidly achieve improved condition more than other alternatives.	Positive trend in condition expected because restoration and enhancement of habitat.	Potential for positive trend in condition from restoration and enhancement and reduction in roads, trails, and recreation infrastructure. Decreasing trend expected where restoration no longer implemented, inadequate vegetation treatments, shifting recreation use because of inability to meet demand, and increased OHV trails.	
	Jeffrey pine, white fir-mixed conifer, red fir, Lodgepole pine, subalpine conifer		Continued stability with potential for decreasing trend where vegetation management is limited in ability to improve stand resiliency, reduce potential for stand-replacing fire, and reduce continued homogenization of the landscape.	Continued stability expected with potential for positive trend where vegetation treatments improve stand resiliency, habitat heterogeneity, and stand structural diversity.	Continued stability expected with potential for positive trend where vegetation treatments improve stand resiliency, habitat heterogeneity, and stand structural diversity.	Continued stability with potential for decreasing trend where vegetation management is limited in ability to improve stand resiliency, reduce potential for stand-replacing fire, and reduce continued homogenization of the landscape.	

Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
	Montane chaparral		Potential for decreasing trend where vegetation treatments aren't targeting creation/maintenance and habitat is becoming converted to forest; and where recreation, roads, and trails are expanded.	Potential for increasing trend where forest type conversion and structure restoration create/maintain habitat.	Potential for increasing trend where forest type conversion and structure restoration create/maintain habitat.	Potential for decreasing trend where vegetation treatments aren't targeting creation/maintenance and habitat is becoming converted to forest.	
	Cliff and Cave Habitat		Potential for decreasing trend because lack of protection measures for caves and for cliffs if not occupied by nesting peregrine falcons.	Positive trend in condition expected because of protection of cave and cave-surrogate habitat as well as cliff habitat for multiple sensitive species.	Positive trend in condition expected because of protection of cave and cave-surrogate habitat as well as cliff habitat for multiple sensitive species.	Potential for decreasing trend because lack of protection measures for caves and for cliffs if not occupied by nesting peregrine falcons	

Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
	Willow flycatcher and bald eagle		Potential for positive trend in productivity from restoration and enhancement and vegetation treatments.	Productivity expected to increase because of habitat restoration efforts, species refuge areas include desired conditions for willow flycatcher and raptors and critical habitat elements, and vegetation treatments that may more rapidly achieve improved condition than other alternatives.	Productivity expected to increase because of habitat restoration efforts and species refuge areas include desired conditions for willow flycatcher and raptors and critical habitat elements.	Potential for positive trend in productivity from restoration and enhancement and reduction in roads, trails, and recreation infrastructure.	

Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
	California spotted owl, northern goshawk, great gray owl		Continued stability expected.	Productivity expected to increase because of PAC habitat restoration efforts (but indirect potential for adverse effects) and vegetation treatments that may more rapidly achieve improved condition than other alternatives.	Productivity expected to increase because of PAC habitat restoration efforts (but potential for indirect adverse effects).	Continued stability expected.	
	American marten, Pacific fisher, California Wolverine, Sierra Nevada Red Fox		Continued stability expected.	Continued stability expected where exists.	Continued stability where exist.	Continued stability where exist. Potential for positive trend in productivity from reduction in roads, trails, and recreation infrastructure.	

Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
	Townsend's big-eared bat		Productivity expected to remain stable with potential to increase where restoration improves foraging habitat; potential to decrease without cave and cave-surrogate protection measures.	Productivity expected to increase because of restoration of foraging habitat and protection of cave and cave-surrogate habitat under BEZ approach.	Productivity expected to increase because of restoration of foraging habitat and protection of cave and cave-surrogate habitat under BEZ approach.	Productivity expected to remain stable with potential to increase where currently planned restoration improves foraging habitat; potential to decrease where restoration not implemented and without cave and cave-surrogate protection measures.	
Water Quality	TMDL milestones & 303(d) listings		TMDL milestones are achieved, and no additions to 303(d) list.	Same as Alternative A.	Same as Alternative A.	Achievement of long term (greater than 15 years) TMDL milestones may be delayed.	Alternative D would have the greatest potential for water quality impacts due to wildfire; Alternative C would have the least risk, and Alternatives A and B would have similar risk.
Water Quantity	% of water rights verified & maintained, surface and groundwater resources protected & maintained.		100% of USFS water rights are maintained. Groundwater and surface water resources continue to be protected and enhanced.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	

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Resource	Indicator	Unit of Measure	Alt. A	Alt. B	Alt. C	Alt. D	Comments
Watershed Condition	Watershed Condition Class (HUC 6)	Watershed Condition Class	Watersheds in condition class 1 and 2 are maintained. Ward and Upper Truckee watersheds continue to move toward Condition Class 1.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A for 10-15 years. Greater risk of inability to maintain or improve Watershed Condition Class.	
SEZ & Geomorphic Condition	Functioning condition	Miles/acres	Measurable improvement in geomorphic stability & floodplain connectivity.	Same as Alternative A.	Same as Alternative A.	Measurable improvement through projects currently planned in geomorphic stability & floodplain connectivity, but less than A, B & C in long term.	
Wilderness	Existing and Recommended	Acres	24,670	24,670	24,670 +13,952 Total 38,622	24,670 +28,854 Total 53,524	