

CHAPTER 4.0

Environmental Consequences

4.1 Introduction

This chapter assesses environmental impacts due to the implementation of the alternatives described in Chapter 2. The baseline affected environment, or existing condition, is described in Chapter 3.

4.1.1 Analytical Assumptions

The following impacts analysis was conducted with the following assumptions:

- Funding and personnel will be available to implement all management actions and BMPs described in Chapter 2.
- Any requirement for the obligation of funds for projects in this PRMP shall be subject to the availability of funds appropriated by Congress, and none of the proposed management actions and BMPs shall be interpreted to require obligation or payment of funds in violation of any applicable federal law, including the Anti-Deficiency Act, 31 U.S.C. § 1341, et seq.
- The laws, regulations, and policies that direct BLM management would be applied consistently for all alternatives.
- The PRMP is expected to be in effect for 15 to 20 years.
- Short-term impacts are those expected to occur within 1 to 5 years after implementation of a management action or BMP. Long-term impacts are those that would occur after the first 5 years of implementation.

4.1.2 Types of Effects

The potential impacts from those actions that would have direct, indirect, and cumulative effects were considered for each resource. Effects and impacts as used in this document are synonymous and could be beneficial or detrimental.

4.1 Introduction

Direct effects are caused by the action and occur at the same time and place as the action. Indirect effects are caused by the action and occur later in time or further in distance, but are still reasonably foreseeable. Cumulative impacts are those effects resulting from the incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions (regardless of which agency or person undertakes such actions). Cumulative impacts could result from individually insignificant but collectively significant actions taking place over a period of time.

Section 1502.16 of the CEQ regulations forms the scientific and analytic basis for the comparisons of alternatives as described under Section 1502.14—Alternatives including the Proposed Action. The environmental consequences section consolidates the discussions of those elements required by sections 102(2)(C)(i), (ii), (iv), and (v) of NEPA which are within the scope of this EIS and as much of Section 102(2)(C)(iii) as is necessary to support the comparisons. The discussion will include the environmental impacts of the alternatives, including any adverse environmental effects which cannot be avoided, the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and any irreversible or irretrievable commitments of resources which would be involved in the proposal should it be implemented.

4.1.3 Summary of Critical Elements Addressed, Not Addressed, Not Affected, or Not Present

Critical elements identified in the BLM NEPA Handbook as amended by IM 99-178 addressed in this chapter include air quality, areas of critical environmental concern cultural resources, environmental justice, Native American religious concerns, threatened or endangered species, hazardous and solid wastes, drinking, ground or surface water quality, wetlands/riparian zones, wilderness, invasive, and nonnative species.

Critical elements not addressed and/or not present include farm lands (prime or unique), floodplains, and wild and scenic rivers.

4.2 Impacts on Air Resources

The potential impacts to air quality could be from OHV use, vehicle emissions, dust, construction and maintenance activities, and mineral activities.

4.2.1 Air Quality

A federal action is subject to a full conformity analysis when the total of direct and indirect emissions associated with the action equal or exceed emission rates set forth in 40 CFR Part 93. The threshold (*de minimis*) levels for requiring a full conformity analysis and the amount of emissions that could result in significant impacts could be based on the attainment statuses of criteria pollutants in the project air basins. These are presented in Table 4-1:

**TABLE 4-1
FEDERAL *DE MINIMIS* THRESHOLDS FOR THE SAN DIEGO AIR BASIN (SDAB)**

Pollutant	SDAB	
	Federal Designation	Threshold (tons/year)
Ozone* (VOCs)	Non-Attainment, Basic	100
Ozone* (NOx)	Non-Attainment, Basic	100
PM ₁₀	Unclassifiable	N/A
PM _{2.5}	Unclassifiable	N/A
CO	Maintenance	100

*Emission thresholds are given for ozone precursor elements, VOCs, and NOx based on the attainment status of ozone.

These threshold levels are used to determine the potential significance of activities on BLM-administered lands in the Planning Area. The major sources of air pollutants in the Planning Area would include OHV activity, pleasure driving, gold mining, and facility maintenance and construction. These sources were modeled and the estimated annual criteria air emissions are summarized in Table 4-2 with a comparison of yearly emissions to the *de minimis* thresholds for the San Diego Air Basin (SDAB). These annual air emissions are general estimates assumed for all alternatives.

**TABLE 4-2
ESTIMATED ANNUAL AIR QUALITY EMISSIONS**

	VOCs	NOx	PM₁₀	PM_{2.5}	CO
OHV exhaust (motorcycles and ATVs) tons/year	3.7	0.1	0.1	0.1	9.5
OHV fugitive dust (motorcycles and ATVs) tons/year	-	-	26.9	-	-
OHV exhaust & fugitive dust (car/truck/SUV) tons/year	0.9	1.2	1,208.5	n.i.	8.8
Pleasure driving exhaust & fugitive dust (tons/year)	0.2	0.3	304.3	n.i.	2.5
Gold mining	-	-	160.3	-	-
General maintenance/construction for road and facilities	0.2	1.2	0.4	n.i.	1.4
Total Pollutant Emissions (tons/year)	5.0	2.8	1,700.5	0.1	1.4
Federal SDAB <i>de Minimis</i> Thresholds (tons/year)	100	100	N/A	N/A	100

VOCs = volatile organic compound

NOx = oxides of nitrogen

PM₁₀ = particulate matter (less than 10 microns)

PM_{2.5} = particulate matter (less than 2.5 microns)

CO = carbon monoxide

n.i.: not included in the model

General maintenance and construction includes typical equipment for such activities as BLM road maintenance of unpaved roads and graveling dirt roads; facility maintenance and enhancement, such as improvements to the Airport Mesa shooting area, new campgrounds, and installation of several pit toilets in recreation areas.

Lesser emission-generating activities on BLM-administered lands in the Planning Area include: infrequent events such as the dual sport (motorcycle) event through Oriflamme and Chariot Canyon, the equestrian endurance/competition ride, and the Fat Tyre Bicycle Race from Julian to Chariot Canyon; Department of Homeland Security Customs and Border Protection U.S. Border Patrol (USBP) maintenance of drag roads and the border fence; minor earthwork for compaction in revegetation work; and transmission lines monitored by helicopters approximately once a month.

As seen in Table 4-2, the estimated annual emissions are well below the *de minimis* thresholds. Consequently, this DRMP is exempt from the conformity determination requirements of the Environmental Protection Agency's conformity rule. A record of non-applicability (RONA) has been prepared and is included as Appendix J.

Discretionary construction activities would incorporate best management practices (BMPs) to control dust, as described in Appendix D.

As discussed in Section 4.2.5, the major contributors of air emissions in the vicinity of the Planning Area, such as freeway traffic, are not from activities occurring on BLM-administered lands in the Planning Area. Project emissions are primarily located in remote areas, and would not result in a cumulative impact. As discussed in Section 4.2.2, prescribed burning would result in a net decrease in emissions compared to wildfire occurrence.

4.2.2 Emissions from Wildfire and Prescribed Burn

The most effective method of controlling wildfire emissions is, of course, to prevent the occurrence of wildfires by various means at the land manager's disposal. A frequently used technique for reducing wildfire occurrence is "prescribed" or "hazard fuel reduction" burning. This type of managed burn involves combustion of litter and underbrush to prevent fuel buildup under controlled conditions, thus reducing the danger of a wildfire. Although some short-term air pollution is generated by this preventive burning, the net amount is believed to be a relatively smaller quantity than that produced by wildfires (EPA 1996, Section 13.1).

4.2 Impacts on Air Resources

Prescribed fire in the Planning Area is estimated at an average of 1,000 acres per year. Table 4-3 gives an estimate of annual emissions due to prescribed fire. Although these emissions exceed *de minimis* thresholds, they are not considered a significant impact since prescribed fire is consistent with the San Diego Air Pollution Control District's Natural Events Action Plan (NEAP) (SDAPCD 2005) and the California Fire Plan. According to the Natural Events Policy, EPA intends to treat federal Fire Management Plans as "acceptable plans for mitigating the public health impacts of smoke from wildland fires on federal lands."

**TABLE 4-3
ESTIMATED ANNUAL AIR QUALITY EMISSIONS FROM PRESCRIBED BURNING**

	VOCs	NOx	PM₁₀	PM_{2.5}	CO
(tons/year)	228	72	181	156	1,383

VOCs = volatile organic compound
NOx = oxides of nitrogen
PM₁₀ = particulate matter (less than 10 microns)
PM_{2.5} = particulate matter (less than 2.5 microns)
CO = carbon monoxide

4.2.3 Odors

There are no odor sources in the Planning Area in proximity to sensitive receptors. Livestock grazing and campground toilets exist, but are located in rural areas. Livestock grazing is also minimal and widely dispersed on BLM-administered lands within the Planning Area and thus does not result in a concentration of odor that would result from a feed lot.

4.2.4 Greenhouse Gas

The California Global Warming Solutions Act of 2006 (AB 32) is one of the first laws in the United States that mandates regulation of greenhouse gases at a state level. The United States Supreme Court ruled that the Environmental Protection Agency (EPA) has the authority to regulate greenhouse gases under the Clean Air Act (Massachusetts vs. EPA, 05-1120). California is in the process of implementing AB 32. This includes the Greenhouse Gas Inventory and Mandatory Reporting portion of the Act. Preliminary analysis of Forest and Rangeland emissions indicates that these sources represent approximately 1.2 percent of the total statewide 1990 greenhouse gas emissions and concludes that statewide there will be little change from 1990 levels (California Air

Resources Board, May 23, 2007). Of the sources evaluated in this inventory the category of Forest and Rangeland emissions is the most similar to conditions and activities occurring on BLM-administered lands within the Planning Area.

Quantities of greenhouse gas emissions generated by use and maintenance of BLM-administered lands in the Planning Area under Alternatives B through E are anticipated to be equal to or less than those generated under the existing plan (Alternative A). No new quantifiable generation of greenhouse gas would occur as a result of the RMP-level decisions in this plan; total miles of route designations are the same as current levels and motorized miles are less or the same in all alternatives. It is assumed that use of the roads on BLM-administered lands in the Planning Area would be the same under Alternatives B through E as under the existing plan (Alternative A). Furthermore, under all Alternatives (A through E) vegetation enhancement (e.g., restoration of illegal trespass, invasive plant removal, and the elimination of grazing under the Preferred Alternative) may increase the long-term quality or quantity of vegetation which acts as a carbon sink to decrease net emissions. All alternatives (A through E) evaluate the potential for future development of renewable energy resources. The development of renewable sources of energy could reduce the irreversible/irretrievable commitment of nonrenewable energy resources, particularly greenhouse gas generating energy sources.

4.2.5 Differences between Alternatives

The differences in criteria pollutant emissions between alternatives are minor, and are captured by the general emissions estimates in Table 4-2. Estimated emissions presented in Tables 4-2 and 4-3 would occur under all alternatives.

4.2.6 Unavoidable Adverse Impacts

Unavoidable adverse impacts include sources not under BLM management such as: vehicle emissions from county and state roads (Interstate Highway 8, Highway 78, Sunrise Highway, and S-2), emissions from the Carrizo Railroad, county and state road maintenance, natural wildland fire and fire suppression with heavy equipment. Smoke generated from wildfires, managed natural fires, and prescribed burns would be unavoidable, but impacts would be short-term. High-pollutant emissions associated with wildland fire are typically exempt from thresholds under a natural events clause.

4.2.7 Cumulative Impacts

No cumulative impacts resulting from land use decisions in the PRMP/FEIS pertaining to air quality have been identified.

4.3 Impacts on Soil Resources

Soils within the Planning Area are susceptible to impacts from compaction, erosion, and mass movement.

4.3.1 Impacts Resulting in Compactions, Erosion, and Mass Movement

Compaction has the potential to occur from mechanical forms of vegetation treatments, such as fire suppression with heavy equipment or habitat restoration activities, although compaction due to habitat restoration would be minimal since the majority of work would be done with hand tools. Compaction also has the potential to occur from the use of heavy equipment in discretionary construction activities (i.e., ROW facilities and new access roads, recreational facilities, wildlife and range improvement projects, mining activities, and grazing proximate to livestock and wildlife waters). Concentrated visitor use of trails (equestrian, mountain biking and OHV), designated camping, and day-use areas result in increased soil compaction, which in turn could severely limit soil productivity. Equestrian trails range in width from 4 to 6 feet. McCain Valley Road is approximately 18 feet wide, and the single lane roads are approximately 12 feet in width. OHV routes are on average 5-7 feet wide. The restoration of compacted soils is also a potential action under all alternatives.

Erosion has the potential to occur from livestock grazing; vegetation management, including prescribed burn and non-native invasive plant species removal; motorized and non-motorized use of unpaved routes and trails; construction activities (i.e., right-of-way facilities and new access roads, recreational facilities, wildlife and range improvement projects, and mining activities) which result in removing all vegetation leaving bare soil; mineral activities and associated access routes, and sediment from mining and processing activities; and other surface disturbing activities. Concentrated visitor use of trails (equestrian, mountain biking, and OHV), designated camping, and day-use areas could also result in increased soil erosion, which in turn could severely limit soil productivity. Restoration activities, such as revegetation, would reduce the potential for erosion. As discussed in Section 2.3.3.2, erosion measures would be incorporated into projects on a case-by-case basis, and erosion would be minimized through the restoration of damaged riparian areas and the promotion of healthy native plant groundcover.

4.3 Impacts on Soil Resources

Mass movement (i.e. landslides, slumping) has a limited potential for occurrence, but could occur due to a large wildfire event followed by heavy rain. This potential would be limited by following burned area emergency response plans. There is also the potential for rockfall along roadcuts. Mass movements of these types could result in a cumulative significant loss in soil productivity in the Planning Area.

4.3.2 Differences between Alternatives

The main differences between alternatives lie in what activities will be allowable and in what areas these activities will be permitted. Construction of new wildlife waters would be authorized on a case-by-case basis under Alternatives B, D, and E. In Alternative C, there would be no construction of new wildlife waters. Under Alternatives C and E, all BLM-administered lands would be unavailable for livestock grazing, and the lands available for livestock grazing would be reduced under Alternative B. Mineral development permitting varies across the alternatives, with the most restrictions under Alternative C and the most allowable uses under Alternative D. Alternative A calls for reseeded eroding sites or allowing for natural revegetation in the Oriflamme land treatment site, the McCain Valley campgrounds, and "Competition Hill" and the installation of erosion control structures where desirable. Under Alternatives B through E the restoration of closed routes of travel would occur.

4.3.3 Unavoidable Adverse Impacts

There is potential for erosion and compaction along routes of travel and continued surface disturbance in the existing (and new) campgrounds. However, the concentration of visitor use and their associated impacts to soils is normally preferred over allowing high levels of dispersed visitor use to continue impacting a wider area.

Although BMPs would reduce adverse soil impacts due to disturbance from other discretionary facilities and maintenance activities, there could be a certain amount of unavoidable effect.

Law enforcement or emergency search and rescue activities, including USBP activities, and human entry of the area by undocumented immigrants could potentially result in soil compaction and erosion which would be an unavoidable adverse impact.

4.3.4 Short-term Use and/or Long-term Productivity

The use of routes of travel and existence of improved facilities would result in a long-term loss of productivity from a relatively short-term use.

4.3.5 Cumulative Impacts

No cumulative impacts resulting from land use decisions in the PRMP/FEIS pertaining to soil resource management have been identified.

4.3 Impacts on Soil Resources

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4.4 Impacts on Water Resources

Impacts on surface water is discussed in terms of water quality (sedimentation, turbidity, and chemical/inorganic and microorganism composition) and water quantity. Impacts on ground water are discussed in terms of water quality, (dissolved solids and chemical/inorganic and microorganism composition) and quantity.

4.4.1 Surface Water

Fencing of riparian areas would reduce disturbance of riparian waters by prohibiting access by pedestrians and vehicles. Vegetation management by means of prescribed burning would temporarily denude vegetation and result in the potential for sedimentation of surface water. Dust-generating activities such as motorized and non-motorized use of unpaved travel routes, construction, and mineral extraction activities have the potential to impact water quality through increased sedimentation from soil erosion.

There is the potential for mass soil movement where a large wildfire event is followed by heavy rains. Such mass soil movement could deposit ash and sediment in surface waters. Following burned area emergency response plans would minimize this potential.

Vegetation management that includes the removal of non-native invasive plant species with higher water demands than native species (e.g. tamarisk) could decrease the demands on surface water. Construction activities, mineral extraction activities, and range and wildlife improvements could increase the use of surface water.

4.4.2 Groundwater

Vegetation management that includes the removal of non-native invasive plant species with higher water demands than native species (e.g. tamarisk) could decrease the demands on groundwater. Construction activities, mineral extraction activities, range and wildlife improvements, and recreational facility improvements that would rely on well water could increase the demands on groundwater. Filling CAL FIRE holding tanks for suppression of wildfire and prescribed burn activities is an additional demand on groundwater.

Quality of groundwater could be affected by historic mineral activities and associated processing activities (acid-producing abandoned mine lands); and illegal dumping or accidental spills. Restoration (e.g., fencing of riparian areas) could result in the reduction of any input of biological contaminants (e.g. fecal bacteria) into the groundwater.

4.4.3 Differences between Alternatives

The main differences between alternatives lie in what activities will be allowable and in what areas these activities will be permitted. Construction of new wildlife waters would be authorized on a case-by-case basis under Alternatives B, D, and E. In Alternative C, there would be no construction of new wildlife waters. Construction of new wildlife waters would increase the quantity of available surface water, but has the potential to decrease groundwater stores. Under Alternatives C and E, all BLM-administered lands would be closed for livestock grazing, and the lands available for livestock grazing would be reduced under Alternative B. A reduction in livestock grazing would reduce the amount of water used. Mineral development permitting varies across the alternatives, with the most restrictions under Alternative C and the most allowable uses under Alternative D. Alternative A calls for reseeding eroding sites or allowing for natural revegetation of approximately 100 acres in the Oriflamme land treatment site, the McCain Valley campgrounds, and "Competition Hill" and the installation of erosion control structures where desirable.

4.4.4 Unavoidable Adverse Impacts

Run-off from authorized activities (e.g., routes of travel, mining, grazing) could result in unavoidable adverse impacts to surface water quality.

Use authorizations that draw surface or ground waters (e.g., recreational activities, grazing/wildlife watering systems) could result in unavoidable adverse impacts to water quantity.

Fire (e.g., wildfire and vegetation management prescribed) could result in unavoidable adverse impacts to surface water quality from the introduction of ash and sediment to waters. Filling CAL FIRE holding tanks for wildfire suppression and prescribed fire activities could result in unavoidable adverse impacts to ground water quantity.

Law enforcement or emergency search and rescue activities, including USBP activities, could result in unavoidable adverse impacts to surface water quality where activities might require entry into riparian areas. Human entry and use of the area by undocumented immigrants could result in unavoidable adverse impacts to surface water quality through litter deposition and entry into riparian areas.

Although the groundwater basins in the Planning Area are considered “low use,” the potential exists for immeasurable cumulative decreases to groundwater quantity.

Climate changes, including extended drought cycles, could potentially decrease the availability of surface and groundwater.

4.4.5 Cumulative Impacts

No cumulative impacts resulting from land use decisions in the PRMP/FEIS pertaining to water resource management have been identified.

4.4 Impacts on Water Resources

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4.5 Impacts on Vegetative Resources

Impacts could occur to terrestrial and riparian vegetation, priority plant species, and desired plant communities from the following: 1) direct loss of vegetative resource; 2) increase in non-native invasive species, and 3) change in cover species composition and structure, including density and vegetation.

The desired plant communities on BLM-administered lands within the Planning Area are mixed riparian woodland, mixed conifer woodland, desert wash, desert fan-palm oasis, enriched desert scrub, oak woodlands, and semi-desert chaparral. There are a number of priority plant species that are rare, unusual, or key species not listed as BLM sensitive or threatened and endangered by the federal or California governments (see Table 2-2). These species are worthy of special treatment as they indicate ecological health, biological diversity, and unique habitats. The introduction or spread of invasive weed species could result in impacts to vegetation resources.

4.5.1 Terrestrial and Riparian Vegetation

Native terrestrial and riparian vegetation loss would be temporary or permanent based on the size and scale of the surface-disturbing activity and could include, but is not limited to, construction of new recreational facilities, mining-related activities, road building, and construction/maintenance of ROWs. Temporary losses are impacts from construction or other surface-disturbing activities that would recover post-activity. Permanent losses would include conversion of vegetation from construction of permanent facilities and structures. Vegetation loss would be minimal in WAs, WSAs, and ACECs, which are designated to protect sensitive resource values. Exclusion and avoidance areas would help to direct projects into areas that would have reduced impact on vegetation resources.

Impacts to native terrestrial and riparian vegetation could include both degradation and enhancement depending on the activities or decisions implemented. Degradation could be caused by activities that would change vegetative composition or structure. Enhancement could be caused by activities (e.g., vegetative management) that result in the restoration of a desirable native vegetative composition and improved seeding, germination, growth, and recruitment. Some of the vegetative management activities (e.g., prescribed fire, non-native invasive plant species removal, mechanical vegetation removal) and wildfire suppression activities would result in temporary degradation to

4.5 Impacts on Vegetative Resources

terrestrial and riparian vegetation, but the overall result would be enhancement of vegetative quality due to restoration of natural ecosystem function. Impacts to vegetation from collection of dead and downed wood for personal campground use would be negligible due to the small density of campsites within the Planning Area. In addition, as stated in Section 2.3.5.4.3, an adaptive management approach, including closure to firewood collection, would be implemented if monitoring indicated that there was resource degradation from this activity. As the collection of dead and downed wood is restricted to the campground areas, this action will not impact the majority of the BLM-administered lands within the Planning Area.

Range and wildlife habitat improvement projects (e.g., livestock tanks, wildlife waters) could concentrate livestock and game animals in areas where populations are water dependent resulting in increased utilization and degradation of vegetative resources in adjacent areas. Likewise, in areas where populations are not water dependent, man-made water sources can be used to disperse wildlife and livestock to allow more efficient use of existing resources. Impacts to terrestrial vegetation from grazing activities (e.g., overgrazing, trampling of vegetation and soil, introduction of non-native invasive plant seed) would vary depending on timing, intensity, and duration of grazing.

OHV use could result in destruction of vegetation along trails edges and areas where vehicles are allowed to pull off routes. OHVs could also cause soil compaction, which would reduce seeding and germination in these areas.

4.5.2 Non-native Invasive Plant Species

Human activity and supplemental feeding for livestock and horses could result in the introduction and spread of non-native invasive plant species, resulting in degradation of native terrestrial and riparian vegetation. OHV use and other surface-disturbing activities could promote the spread of invasive plant species by denuding native plant cover and discouraging native plant development. Equipment used during construction activities could introduce non-native invasive species.

4.5.3 Desired Plant Communities

The following desired plant communities could be impacted by BLM activities: mixed riparian woodland, oak woodland, semi-desert chaparral, and desert fan–palm oasis. The activities that could result in impacts to each community are described below.

Mixed riparian woodland: Treatment for control of non-native invasive plant species (especially tamarisk) would result in a benefit to mixed riparian woodland communities by promoting recovery of native vegetation.

Oak woodland: Camping activity and repeated livestock grazing activity beneath oaks could cause soil compaction, which results in decreased water percolation into the soil and lower success of seedlings. Mechanical vegetative management activities (e.g., fuel reduction) could result in loss of snags and thinning of trees.

Semi-desert chaparral: Vegetative management activities (e.g., mechanical and prescribed burn fuel reduction) could result in beneficial effects due to reduced vegetative understory and exposure of soils.

Desert fan palm oasis: Treatment for control of non-native invasive plant species (especially tamarisk) would result in a benefit to desert fan palm oasis communities by promoting recovery of native vegetation.

4.5.4 Differences between Alternatives

Table 4-4 displays the impacts on vegetation resources by alternative. Some BLM land use plan decisions and authorized activities would be beneficial through vegetation protection and enhancement (e.g., habitat restoration and riparian area rehabilitation), while others would be adverse by authorizing discretionary activities that could result in detrimental effects to vegetation. The designation of land as unavailable to livestock grazing in Alternatives C and E (preferred) would remove any potential impacts to oak woodlands from grazing activity.

4.5 Impacts on Vegetative Resources

**TABLE 4-4
IMPACTS TO VEGETATION RESOURCES BY ALTERNATIVE**

	A	B	C	D	E
Special Designations (acres)¹					
WAs/WSAs	62,296	62,296	62,296	62,296	62,296
ACECs ¹	26,479	14,956	29,660	12,792	14,956
Discretionary Land Use Authorizations					
Livestock grazing (acres)					
Available	65,438	31,135	0	65,438	0
Unavailable	37,431	71,734	102,869	37,431	102,869
Total Acres	102,869	102,869	102,869	102,869	102,869
Mineral Resources-Leasables (acres)					
Land available for geothermal leasing	33,132	675	0	31,823	7,607
Lands and Realty Authorization (including Renewable Energy) (acres)					
Land available for disposal	1,715	1,080	0	1,080	490
Land available for wind energy development	33,130	0	0	20,442	6,931
Existing withdrawals (WAs)	48,333	48,333	48,333	48,333	48,333
Existing withdrawals (PLOs)	18,319	18,319	18,319	18,319	18,319
Proposed withdrawals ²	11,300	0	29,221	0	12,592
Exclusion Areas for Renewable Energy ³	0	54,479	95,587	26,217	88,345
Exclusion Areas for all Land Use Authorizations except Renewable Energy ³	0	13,532	64,702	13,532	64,702
Avoidance Areas for Renewable Energy ³	0	55,888	14,797	0	0
Avoidance Areas for all Land Use Authorizations except Renewable Energy ³	0	86,048	57,579	0	31,662
Transportation and Access					
OHV Management Area Designations (acres)					
Open	0	0	0	0	0
Closed	61,712	61,712	74,314	61,712	61,712
Limited	41,157	41,157	28,554	41,157	41,157
Total Acres	102,869	102,869	102,869	102,869	102,869
Implementation Level Decisions					
Routes of Travel Designations (miles)					
Motorized	106.4	90.8	76.1	106.4	90.8
Non-motorized	78.8	94.4	109.1	78.8	94.4
Total Mileage Designated	185.2	185.2	185.2	185.2	185.2
Allowable route pulloff distance from edge of designated route and area of potential disturbance	300 feet (13,905 acres)	100 feet (4,635 acres)	25 feet (1,159 acres)	300 feet (13,905 acres)	25 feet (1,159 acres)

¹ These areas, because of the prescriptive protective management direction, would remain relatively unaltered or improved from their existing condition. Total acreage of ACECs includes private in-holdings located within the boundary of the ACEC. BLM's land use decisions and management actions only apply to BLM-administered lands within the ACEC.

² Proposed withdrawals are based on the mineral entry withdrawals identified in Table 2-13 and exclude overlap with WAs. Acreages of ACECs exclude the private in-holdings located within the ACEC boundaries. These areas do overlap the PLO boundaries, as the PLOs do not withdraw lands from mineral entry.

³ Exclusion and avoidance areas are based on the land use decisions proposed by alternative in Table 2-21.

4.5.5 Unavoidable Adverse Impacts

Severe and frequent wildfire occurrences in the Planning Area would result in surface disturbance associated with suppression activities causing loss of vegetation resources until natural regeneration or restoration activities occur. These could result in an adverse impact to vegetation resources in the BLM-administered lands within the Planning Area.

Law enforcement or emergency search and rescue activities, including USBP activities, occurring in areas supporting priority plant species and desired plant communities could result in unavoidable adverse impacts to these resources. Human entry and use of the area by undocumented immigrants could result in unavoidable adverse impacts to vegetation resources through litter deposition and trampling of vegetation.

Climate changes, including extended drought cycles, could potentially decrease the availability of surface and groundwater; thereby affecting the health of the vegetation communities within the Planning Area.

4.5.6 Irreversible/Irretrievable Commitment of Resources

Any lands disposed of could reduce the vegetative resources on BLM-administered lands in the Planning Area, depending on the use of that land once it leaves federal ownership.

4.5.7 Short-term Use and/or Long-term Productivity

Vegetated areas converted to permanent facilities or structures would result in a net loss of vegetation as long as those facilities or structures remain.

4.5.8 Cumulative Impacts

No cumulative impacts resulting from land use decisions in the PRMP/FEIS pertaining to vegetation resource management have been identified.

4.5 Impacts on Vegetative Resources

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4.6 Impacts on Wildlife Resources

BLM manages habitat for wildlife and therefore activities that result in surface disturbance to vegetation could result in impacts to wildlife habitat. Fish are not addressed in this section, since there are no fisheries located on BLM-administered land in the Planning Area and the amount of water reaching fisheries habitat downstream, such as San Felipe Creek and the Salton Sea, is negligible.

4.6.1 General Wildlife

Habitat loss is defined as temporary or permanent conversion of habitat to an unusable form for wildlife species. The level of loss is dependent upon the size and scale of the surface disturbing activity and could include, but is not limited to, construction of new recreational facilities, mining-related activities, road building, and ROWs. Temporary losses are impacts from construction or other surface-disturbing activities that would recover post-activity. Permanent losses include conversion of habitat from construction of permanent facilities and structures. Habitat loss would be minimal in WAs, WSAs, and ACECs, which are designated to protect sensitive resource values. Exclusion and avoidance areas would also help to protect sensitive resources (including wildlife habitat) by directing projects into less sensitive areas.

The collection of dead and downed wood for personal campfire use in the campgrounds could result in a reduction of this habitat component within the vicinity of the campgrounds. If monitoring indicates potential resource degradation, closure to firewood collection would be implemented using adaptive management. As the collection of dead and downed wood is restricted to the campground areas, this action will not impact the majority of the BLM-administered lands within the Planning Area.

Habitat would be fragmented when a barrier preventing wildlife movement is sufficient to separate a species from portions of its habitat. Renewable energy or mining projects involving large areas of surface disturbance could result in fragmentation when the scale or level of the project is sufficient to prevent wildlife movement or to convert large areas into unsuitable habitat, leaving blocks of suitable habitat unconnected or fragmented. Range improvement fencing projects would be constructed to BLM design standards which include measures to facilitate wildlife movement.

4.6 Impacts on Wildlife Resources

Habitat quality is measured by the degree to which the habitat meets the minimum needs of an animal's environment, including food, water, and cover. Impacts to habitat quality could include both degradation and enhancement depending on the activities or decisions implemented. Degradation could be caused by activities that would decrease access by wildlife to food, water, and cover. Enhancement could be caused by activities (e.g. vegetative management) that result in an increase to quality and/or quantity of food, water, and cover. Some of the vegetative management activities (e.g., prescribed fire, non-native invasive plant species removal, mechanical vegetation removal) and wildfire suppression activities would result in temporary degradation to habitat, but overall would result in enhancement of habitat quality due to restoration of natural ecosystem function and increased quality of forage. Impacts to habitat quality from grazing activities could vary depending on timing, intensity, and duration of grazing. Grazing activities could also result in increased competition between livestock and wildlife for resources. Human activity could spread non-native invasive plants resulting in degradation of native habitat. Range and wildlife habitat improvement projects (e.g., livestock tanks, wildlife waters) would increase the amount of available water.

Recreational activities could result in degradation of wildlife habitat and mortality to individual animals through vehicle impacts and trampling. Construction activities could result in mortality through crushing and destruction of individual animals, nests, or burrows. Utility structures (e.g., powerlines, wind turbines, communication towers) could result in bird and bat strike or electrocution. Undesirable species could be attracted into the Planning Area by human activities. Ravens and other predators can be attracted by illegal dumping and littering and could result in increased nest predation. Brown-headed cowbirds are attracted to disturbed areas where vegetation density has been reduced (e.g., OHV recreation areas, cattle grazed lands), which could result in increased nest parasitism and competition for resources of migratory songbirds present in the Planning Area.

4.6.2 Raptors

Foraging habitat could be impacted by vegetation management (e.g., prescribed fire, mechanical fuels reduction/vegetation management) and wildfire suppression activities which could temporarily reduce the prey base within the foraging areas; with the rate of vegetative recovery depending on the vegetation community burned, the hydrology, soil type, and intensity of the fire. Post fire, forage quality could increase for raptors due to the stimulation of vegetation and the reduction of the vegetative understory and the return of the prey source. Manual and mechanical vegetation management would result in an increase in foraging area by reducing the vegetative understory while minimizing

adverse effects to the prey base. Non-native invasive species removal could result in benefits to foraging habitat by promoting the success of native vegetative communities. Other ground disturbing activities (such as discretionary construction) could alter or eliminate habitat areas for prey species thereby degrading raptor foraging habitat.

Nesting habitat could be impacted by vegetation management and fire management activities taking out potential nesting trees; surface disturbing activities eliminating nesting habitat; and recreation-related disturbances interfering with nesting behavior due to startle effects.

Wind energy and other utility development could result in an increased mortality of individuals (e.g., birdstrike).

4.6.3 Non-game Migratory Birds

Vegetative management and wildfire suppression activities (e.g., fire, manual, mechanical) that result in narrow, linear surface disturbance could benefit some non-game migratory bird species by exposing new and additional foraging habitat for edge-dwelling species. In particular, linear surface disturbance could benefit some non-game migratory bird species by opening the shrub canopy and encouraging annual growth which will support more seed-eating birds as well as birds feeding on insects supported by the new annual growth. However, clearing of dense vegetation could also attract brown-headed cowbirds and result in increased nest parasitism of non-game migratory birds. Broad-scale vegetation management activities, such as prescribed fire, could temporarily reduce the forage base within the foraging areas through conversion of large amounts of foraging habitat to early successional stages; with the rate of vegetation recovery depending on the vegetation community burned, the hydrology, soil type, and intensity of the fire. Post fire, forage quality could increase for non-game migratory birds due to the stimulation of vegetation. Grazing activities could result in the reduction of available food resources for non-game migratory bird species and attract brown-headed cowbirds, resulting in increased nest parasitism. Non-native invasive plant species' removal could result in benefits to foraging habitat by promoting the success of native vegetative communities. Other ground-disturbing activities (such as discretionary construction) could alter or eliminate foraging habitat.

4.6 Impacts on Wildlife Resources

Invasive species (e.g., tamarisk) removal could result in benefits to non-game migratory birds by increasing the availability of surface water. Range and wildlife habitat improvement projects (e.g., livestock tanks, wildlife waters) would increase the amount of available water for non-game migratory birds. However, wildlife waters could also increase the presence of predator species, such as coyotes and bobcats.

Vegetative management and wildfire suppression activities (e.g., fire, manual, mechanical) could temporarily reduce the amount of cover available for non-game migratory bird species. Non-native invasive plant species' removal would result in the restoration of native vegetative communities, providing increased quality and quantity of habitat for these species. Other ground-disturbing activities (e.g., discretionary construction) could alter or eliminate available cover.

Wind energy and other utility development could result in increased mortality (e.g., birdstrike) to individuals. Motorized vehicle travel could result in birdstrike or destruction of ground nests.

4.6.4 Bats

Vegetative management and wildfire suppression activities (e.g., fire, manual, mechanical, grazing) that result in narrow, linear surface disturbance could impact bat species by exposing new and additional habitat for foraging. Broad-scale vegetation management activities, such as prescribed fire, could temporarily reduce the forage base within the foraging areas with the rate of recovery depending on the vegetation community burned, the hydrology, soil type, and intensity of the fire. Post fire, forage quality could increase for bats due to the stimulation of the ecosystem by encouraging new plant growth which would support an increase in insects available for forage. Non-native invasive plant species' removal could result in benefits to foraging habitat by promoting the success of native vegetative communities and increasing the prey base. Other ground-disturbing activities (e.g., discretionary construction) could alter or eliminate foraging habitat.

Invasive species' (e.g., tamarisk) removal could result in benefits to bats by increasing the availability of surface water. Range and wildlife habitat improvement projects (e.g., livestock tanks, wildlife waters) would increase the amount of available water.

Vegetative management and wildfire suppression activities (e.g., fire, manual, mechanical) could reduce the amount of roosting habitat available for tree-roosting bat species. Backfilling of abandoned mine shafts or adits would eliminate bat roosting habitat. Installation of a bat friendly closure device at the entrance of abandoned mine shafts or adits (e.g., gates or cable nets) in accordance with typical management actions could cause bats to abandon a gated roost site in favor of a non-gated mine shaft or adit. However, gating of abandoned mines would eliminate disturbance of bat roosting habitat by human intrusion. In some cases, abandoned mines are also archaeological sites and therefore subject to all applicable laws and regulations regarding cultural resources.

Wind energy and other utility development could result in increased mortality to individuals (e.g., bat strike, powerline electrocution).

4.6.5 Game Animals (Birds and Mammals)

Vegetative management and wildfire suppression activities (e.g., fire, manual, mechanical) that result in narrow, linear surface disturbance could benefit game animals by opening the understory and stimulating growth of annual vegetation used by these species as forage. Broad-scale vegetation management activities, such as prescribed fire, could temporarily reduce the forage base within the foraging areas with the rate of recovery depending on the vegetation community burned, the hydrology, soil type, and intensity of the fire. Post-fire, forage quality and palatability could increase for game animals due to the stimulation of vegetation. Grazing activities could result in competition for available food resources with game animals. Non-native invasive plant species' removal could result in benefits to foraging habitat by promoting the success of native vegetative communities. Other ground-disturbing activities (e.g., discretionary construction) could alter or eliminate foraging habitat.

Invasive species' (e.g., tamarisk) removal could result in benefits to game animals by increasing the availability of surface water. Range and wildlife habitat improvement projects (e.g., livestock tanks, wildlife waters) would increase the amount of available water. In areas where water resources are a limiting factor, construction of these waters would concentrate game animals resulting in increased competition for vegetative resources in adjacent areas and a higher rate of disease transmission. In areas where water resources are not a limiting factor, construction of wildlife waters would promote population dispersal into underutilized areas. Wildlife waters could also increase the presence of predator species, such as coyotes and bobcats.

4.6 Impacts on Wildlife Resources

Vegetative management and wildfire suppression activities (e.g., fire, manual, mechanical) could reduce the amount of cover available for game animals. Non-native invasive plant species removal would result in the restoration of cover by native vegetative communities. Other ground disturbing activities (e.g., discretionary construction) could include damage or removal of vegetation potentially altering or eliminating available cover.

4.6.6 Differences between Alternatives

Table 4-5 displays the impacts on wildlife resources by alternative. Some BLM Land Use Plan (LUP) decisions and authorized activities would be beneficial through habitat protection and enhancement, while others would be adverse by authorizing discretionary activities that could result in detrimental effects to habitat.

**TABLE 4-5
IMPACTS TO WILDLIFE RESOURCES BY ALTERNATIVE**

	A	B	C	D	E
Special Designations (acres)¹					
WAs/WSAs	62,296	62,296	62,296	62,296	62,296
ACECs ²	26,479	14,956	29,660	12,792	14,956
Discretionary Land Use Authorizations					
Livestock grazing (acres)					
Available	65,438	31,135	0	65,438	0
Unavailable	37,431	71,734	102,869	37,431	102,869
Total Acres	102,869	102,869	102,869	102,869	102,869
Mineral Resources-Leasables (acres)					
Land available for geothermal leasing	33,132	675	0	31,823	7,607
Lands and Realty Authorization (including Renewable Energy) (acres)					
Land available for disposal (acres)	1,715	1,080	0	1,080	490
Land available for wind energy development	33,130	0	0	20,442	6,931
Potential Development Areas for Wind Energy	12,608	29	29	6,238	3,265
Existing withdrawals (WAs)	48,333	48,333	48,333	48,333	48,333
Existing withdrawals (PLOs)	18,319	18,319	18,319	18,319	18,319
Proposed withdrawals (acres) ³	11,300	0	29,221	0	12,592
Exclusion Areas for Renewable Energy ⁴	0	54,479	95,587	26,217	88,345
Exclusion Areas for all Land Use Authorizations except Renewable Energy ⁴	0	13,532	64,702	13,532	64,702

**TABLE 4-5
IMPACTS TO WILDLIFE RESOURCES BY ALTERNATIVE
(CONT.)**

	A	B	C	D	E
Lands and Realty Authorization (including Renewable Energy) (acres) (cont.)					
Avoidance Areas for Renewable Energy ⁴	0	55,888	14,797	0	0
Avoidance Areas for all Land Use Authorizations except Renewable Energy ⁴	0	86,048	57,579	0	31,662
Transportation and Access					
OHV Management Area Designations (acres)					
Open	0	0	0	0	0
Closed	61,712	61,712	74,314	61,712	61,712
Limited	41,157	41,157	28,554	41,157	41,157
Total Acres	102,869	102,869	102,869	102,869	102,869
Implementation Level Decisions					
Routes of Travel Designations (miles)					
Motorized	106.4	90.8	76.1	106.4	90.8
Non-motorized	78.8	94.4	109.1	78.8	94.4
Total Mileage Designated	185.2	185.2	185.2	185.2	185.2
Allowable route pulloff distance from edge of designated route and area of potential disturbance	300 feet (13,905 acres)	100 feet (4,635 acres)	25 feet (1,159 acres)	300 feet (13,905 acres)	25 feet (1,159 acres)

¹ These areas, because of the prescriptive protective management direction, would remain relatively unaltered or improved from their existing condition.

² Total acreages of ACECs include private in-holdings located within the boundaries of the ACECs. BLM's land use decisions and management actions only apply to BLM-administered lands within the ACEC.

³ Proposed withdrawals are based on the mineral entry withdrawals identified in Table 2-13 and exclude overlap with WAs. These areas do overlap the PLO boundaries, as the PLOs do not withdraw lands from mineral entry.

⁴ Exclusion and avoidance areas are based on the land use decisions proposed by alternative in Table 2-21.

4.6.7 Unavoidable Adverse Impacts

Illegal kill, harm, harassment, removal, or capture of game and non-game animals, including eggs, could result in unavoidable loss to individual animals.

Wildfire occurrences in the Planning Area, suppression activities and burned areas could result in an unavoidable impact to wildlife resources in the BLM-administered lands within the Planning Area.

Climate changes, including extended drought cycles, could potentially decrease the availability of surface water for use by wildlife within the Planning Area.

4.6 Impacts on Wildlife Resources

Law enforcement or emergency search and rescue activities, including USBP activities, occurring in areas supporting priority species could result in unavoidable adverse impacts to priority wildlife resources. These impacts could be caused by flushing wildlife from cover and disrupting natural processes, such as breeding behavior or foraging, and could result in direct or indirect mortality. Human entry and use of the area by undocumented immigrants could result in unavoidable adverse impacts to these species through litter deposition, trampling of habitat, and flushing of wildlife.

4.6.8 Irreversible/Irretrievable Commitment of Resources

Any lands disposed of would reduce the wildlife habitat on BLM-administered lands in the Planning Area, depending on the use of that land once it leaves federal ownership.

4.6.9 Short-term Use and/or Long-term Productivity

Habitat converted to permanent facilities or structures would result in a net loss of wildlife habitat as long as those facilities or structures remain in use.

4.6.10 Cumulative Impacts

No cumulative impacts resulting from land use decisions in the PRMP/FEIS pertaining to wildlife resource management have been identified.

4.7 Impacts on Special Status Species

The general habitat impacts for all special status species are described above in the Wildlife (Section 4.2.5) and Vegetative (Section 4.2.4) resources sections. The information below refers specifically to the special status species found within BLM-administered lands in the Planning Area.

4.7.1 Impacts on Federally Listed Species

There are seven plant and wildlife species in the Planning Area listed under the federal Endangered Species Act including Nevin's barberry, San Bernardino blue grass, quino checkerspot butterfly, least Bell's vireo, SWFL, Peninsular bighorn sheep, and Laguna Mountains skipper. Only one of these species, the Peninsular bighorn sheep, is a permanent resident. The least Bell's vireo and SWFL are transitory in the area. Nevin's barberry, San Bernardino blue grass, and Laguna Mountains skipper are not expected to be found on BLM-administered public lands within the Planning Area, although these species are found on U.S. Forest Service lands nearby. The quino checkerspot butterfly has suitable habitat in certain areas, but has not yet been detected on BLM-administered public lands within the Planning Area. Three additional listed species, Mexican flannelbush, arroyo toad, and unarmored three-spine stickleback, are not expected to occur on BLM-administered lands within the Planning Area, as there is no suitable habitat present for any of these species.

4.7.1.1 Quino Checkerspot Butterfly

Degradation could be caused by activities that would alter vegetative composition and promote competition with primary host plants (*Plantago* spp. and *Antirrhinum* sp.). Other vegetative management activities (e.g., non-native invasive plant species removal) could promote host plant development. OHV use, wildfire suppression activities, and other surface-disturbing activities could promote the introduction and spread of non-native invasive plant species, discouraging larval host plant and nectar source; result in soil compaction; destroy host plants; increase erosion and fire frequency; and cause egg and larval mortality. OHV activity could result in a benefit where the activity opens up the canopy in an otherwise dense plant community, thereby creating additional habitat for host plants and larva (USFWS 2003). Wildfire suppression activities also have the potential for opening up the canopy providing additional habitat. Human activity, supplemental feeding for livestock and horses, and use of heavy equipment for construction activities, could also result in the introduction and spread of non-native

4.7 Impacts on Special Status Species

invasive plant species, resulting in degradation of quino checkerspot habitat. Enhancement to quino checkerspot butterfly habitat could be caused by mechanical fuels management to reduce fire frequency and severity. Impacts to habitat quality from grazing activities could vary depending on timing, intensity, and duration of grazing (USFWS 2003). Cattle could impact habitat by preferential feeding on native forbs, increasing nitrification, and degrading cryptogamic soil crusts and reducing soil mychorrhizae, accelerating soil erosion, and transporting and depositing non-native invasive plant seeds.

Critical habitat for quino checkerspot butterfly is designated and is located in the southern portion of the Planning Area. Approximately 127 acres of critical habitat occur on BLM-administered lands on and adjacent to Round Mountain. There are no grazing allotments or OHV routes within the critical habitat. Critical habitat would be withdrawn under Alternative C. Mineral entry would be allowed in this critical habitat in Alternatives A, B, and D. Locatable mineral entry would be allowed in critical habitat in Alternative E, although it would be closed to leasable and salable mineral entry. However, this parcel is land-locked by state parks and private lands, and has no vehicular access, thus the potential for these acres to be impacted from mining activities is low.

There are 171,605 acres of designated critical habitat for quino checkerspot butterfly, located in San Diego and Riverside Counties. Of the total critical habitat, 74,575 acres are within San Diego County; 24,175 acres of them are on federal land; 9,395 acres are on county or state land; and 41,005 acres are on private land. A total of 34,024 acres of critical habitat is designated on federal lands in San Diego and Riverside Counties. There are 127 acres found on BLM-administered lands within the Planning Area, which represents less than one-tenth of one percent of the total critical habitat and approximately two-tenths of a percent of the critical habitat in San Diego County. Federal lands in San Diego County represent 32 percent of critical habitat within the county, local and state ownerships represent 13 percent, and private holdings represent 54 percent.

Given the isolation and lack of access to the BLM-administered lands located in quino checkerspot butterfly critical habitat and given the level of protection afforded to critical habitat under Alternative E, BLM management activities would not adversely impact quino checkerspot butterfly critical habitat under the proposed action.

4.7.1.2 Peninsular Bighorn Sheep

According to USFWS (2000), human activities could result in disturbance to Peninsular bighorn sheep. This could be construed as habitat loss when the effect is repeated often enough to result in a permanent avoidance of the area by the species. Human activities include, but are not limited to, hiking, mountain biking, horseback riding, camping, hunting, dog walking, and use of off-road vehicles (USFWS 2000).

Mineral entry could result in effects to this species, as approximately 2,500 acres of critical habitat is designated outside every other special designated areas. Mineral entry would be allowed in critical habitat under Alternatives A, B, and D. Locatable mineral entry would be allowed in critical habitat in Alternative E, although it would be closed to leasable and salable mineral entry. Critical habitat would be withdrawn under Alternative C. Only the portion of critical habitat that occurs within the ACECs would be closed to leasable and salable resource development under Alternative B.

Livestock, particularly domestic sheep, could adversely impact Peninsular bighorn sheep by being a vector for potential diseases, such as blue-tongue virus, and by transportation and deposition of invasive non-native plant species' seeds. Adherence to the nine-mile rule for separation of domestic and wild sheep is intended to prevent these impacts. In addition, grazing would be eliminated from critical habitat in Alternatives B, C, and E, which totals approximately 2,500 acres outside of other special designated areas. Alternatives A and D would make all current allotments available to grazing. As bighorn sheep have been documented using the water source developed within the Canebrake allotment, grazing in this area could result in a significant impact to bighorn sheep from contact with livestock, under Alternatives A and D.

Invasive non-native plant species (e.g., tamarisk) could out-compete native food sources, thereby reducing sheep forage and surface water availability. Tamarisk could grow in thick impenetrable stands that block access to water sources, and create ambush areas for predators (USFWS 2000). Vegetation management activities in targeted riparian areas would result in the removal of tamarisk and enhance the availability of forage and water (USFWS 2000).

Repeated suppression of wildfires in an area could result in dense stands of vegetation that reduce visibility for the sheep, causing them to avoid the area (USFWS 2000).

4.7 Impacts on Special Status Species

There are 844,897 acres of designated critical habitat for the Peninsular bighorn sheep located in San Diego, Riverside, and Imperial Counties (USFWS 2001a). A total of 244,008 acres of critical habitat are designated on federal lands, 451,034 acres on state/local lands, and 18,184 acres on tribal and other allotted trust lands in San Diego, Riverside, and Imperial Counties. Approximately 85 percent of all critical habitat is under local, state, and federal protection. Of the total critical habitat, 467,519 acres are within San Diego County: 49,699 acres on federal land; 377,677 acres on local or state land; and 40,143 acres on private land. Critical habitat on BLM-administered lands within the Planning Area accounts for five percent of the total critical habitat and 10 percent of the critical habitat within San Diego County.

Given the large amount of critical habitat protected throughout the range of the species and given the level of protective measures built into each of the alternatives presented in this document (see Sections 2.3.7.2, 2.3.14.4, 2.3.15.4.2, and 2.3.18), there would be no significant cumulative effects to this species.

4.7.1.3 Laguna Mountains Skipper

Degradation of this species' habitat could be caused by activities that would alter vegetative composition and promote competition with the primary host plant for this species. Other vegetative management activities (e.g., non-native invasive plant species removal, restoration) could promote host plant development.

OHV use, wildfire suppression activities, and other surface-disturbing activities could promote the introduction and spread of non-native invasive plant species, discouraging larval host plant and nectar source; result in soil compaction; destroy host plants; increase erosion and fire frequency; and cause egg and larval mortality. OHV activity could result in a benefit where the activity opens up the canopy in an otherwise dense plant community, thereby creating additional habitat for host plants and larva (USFWS 2003). Wildfire suppression activities also have the potential for opening up the canopy providing additional habitat.

Human activity, supplemental feeding for livestock and horses, and use of heavy equipment for construction activities, could also result in the introduction and spread of non-native invasive plant species, resulting in degradation of Laguna Mountains skipper habitat. Enhancement to Laguna Mountains skipper habitat could be caused by

mechanical fuels management to reduce fire frequency and severity. Impacts to habitat quality from grazing activities could vary depending on timing, intensity, and duration of grazing (USFWS 2003). Cattle could impact habitat by preferential feeding on native forbs, increasing nitrification, and degrading cryptogammic soil crusts and reducing soil mychorrhizae, accelerating soil erosion, and transporting and depositing non-native invasive plant seeds.

4.7.1.4 Least Bell's Vireo and Southwestern Willow Flycatcher

Illegal kill, harm, harassment, removal, or capture of birds, including eggs, could result in unavoidable loss to individual animals.

Wildfire occurrences, suppression activities, and burned areas could result in an unavoidable impact to these species in the BLM-administered lands within the Planning Area.

There is no critical habitat for these species on BLM-administered lands in the Planning Area. Given the protective measures built into the alternatives presented in this document for both of these species (see Section 2.3.7.2) and the fact that actions within the Planning Area would not affect critical habitat, there are no cumulative effects expected for these two species.

4.7.1.5 Mexican Flannelbush, Nevin's Barberry, and San Bernardino Blue Grass

These species are not known and not expected to occur on BLM-administered lands within the Planning Area; therefore actions on BLM-administered lands within this Planning Area would have no effect on this species.

4.7.2 Impacts on State Listed Species

4.7.2.1 Barefoot Gecko

Human activities could result in disturbance to the barefoot gecko through direct impact or degradation of the gecko's habitat. Human activities include, but are not limited to, hiking, mountain biking, horseback riding, camping, hunting, dog walking, and use of off-road vehicles.

Surface-disturbing authorizations and mineral resource activities would result in impacts to the rock formations potentially supporting the gecko could impact this species through direct mortality or indirect loss of habitat through habitat conversion.

Wildfire occurrences, suppression activities, and burned areas could result in an unavoidable impact to these species in the BLM-administered lands within the Planning Area.

4.7.2.2 Swainson's Hawk

Illegal kill, harm, harassment, removal, or capture of birds, including eggs, could result in unavoidable loss to individual animals.

Wildfire occurrences, suppression activities, and burned areas could result in an unavoidable impact to these species in the BLM-administered lands within the Planning Area.

4.7.2.3 Laguna Mountains Aster

This species is not known and not expected to occur on BLM-administered lands within the Planning Area; therefore actions on BLM-administered lands within this Planning Area would have no effect on this species.

4.7.3 Impacts on BLM Sensitive Species

4.7.3.1 BLM Sensitive Plants

The following impacts would apply to all of the BLM sensitive plant species found or expected to occur on BLM-administered lands within the Planning Area. These species are Jacumba milkvetch, delicate clarkia, Tecate tarplant, Laguna Mountains alumroot, San Diego sunflower, Mountain Springs bush lupine, southern jewelflower, and Parry's tetracoccus.

Human activities could result in disturbance to these plant species through direct impact to the plants or degradation of native habitat. Human activities include, but are not limited to, hiking, mountain biking, horseback riding, camping, hunting, dog walking, and use of off-road vehicles.

Vegetation enhancement activities would improve the quality of native habitat and its ability to support these species. Surface disturbing authorizations and mineral resource activities could result in an impact to this species through habitat conversion. Livestock could adversely impact these species, though this would only apply under Alternatives A, B, and D. Under Alternatives C and E, all current allotments would be unavailable to grazing.

Wildfire occurrences, suppression activities, and burned areas could result in an unavoidable impact to these species in the BLM-administered lands within the Planning Area.

4.7.3.2 Golden Eagle

Illegal kill, harm, harassment, removal, or capture of birds, including eggs, could result in unavoidable loss to individual animals.

Human activities could result in disturbance to this species through direct impact to or degradation of native habitat. This could be construed as habitat loss when the effect is repeated often enough to result in an abandonment of a nest or permanent avoidance of

4.7 Impacts on Special Status Species

the area by the species. Human activities include, but are not limited to, hiking, mountain biking, horseback riding, camping, hunting, dog walking, and use of off-road vehicles.

Surface disturbing authorizations and mineral resource activities could result in an impact to this species through habitat conversion.

Wildfire occurrences, suppression activities, and burned areas could result in an unavoidable impact to these species in the BLM-administered lands within the Planning Area.

4.7.3.3 Gray Vireo

Human activities could result in disturbance to this species through direct impact to or degradation of native habitat. Human activities include, but are not limited to, hiking, mountain biking, horseback riding, camping, hunting, dog walking, and use of off-road vehicles.

Vegetation enhancement activities would improve the quality of native habitat and its ability to support these species. Surface disturbing authorizations and mineral resource activities could result in an impact to this species through habitat conversion.

Wildfire occurrences, suppression activities, and burned areas could result in an unavoidable impact to these species in the BLM-administered lands within the Planning Area.

4.7.3.4 BLM Sensitive Bats

The following impacts would apply to all of the BLM sensitive bat species found or expected to occur on BLM-administered lands within the Planning Area. These species are small-footed myotis, long-eared myotis, and Townsend's western big-eared bat.

Human activities could result in disturbance to these bat species through direct impact to the animals or degradation of native habitat. Human activities include, but are not limited to, hiking, mountain biking, horseback riding, camping, hunting, dog walking, and use of off-road vehicles.

Surface-disturbing authorizations and mineral resource activities could result in an impact to this species through habitat conversion. Livestock could adversely impact these species, though this would only apply under Alternatives A, B, and D. Under Alternatives C and E, all current allotments would be unavailable to grazing.

Wildfire occurrences, suppression activities, and burned areas could result in an unavoidable impact to these species in the BLM-administered lands within the Planning Area.

4.7.4 Differences between Alternatives

**TABLE 4-6
IMPACTS TO SPECIAL STATUS SPECIES HABITAT BY ALTERNATIVE**

	A	B	C	D	E
Special Designations (acres)¹					
WAs/WSAs	62,296	62,296	62,296	62,296	62,296
ACECs	26,479	14,956	29,660	12,792	14,956
Discretionary Land Use Authorizations					
Livestock grazing (acres)					
Available	65,438	31,135	0	65,438	0
Unavailable	37,431	71,734	102,869	37,431	102,869
Total Acres	102,869	102,869	102,869	102,869	102,869
Mineral Resources-Leasables (acres)					
Land available for geothermal leasing	33,132	675	0	31,823	7,607
Lands and Realty Authorization (including Renewable Energy) (acres)					
Land available for disposal (acres)	1,715	1,080	0	1,080	490
Land available for wind energy development	33,130	0	0	20,442	6,931
Potential Development Areas for Wind Energy	12,608	29	29	6,238	3,265
Existing withdrawals (WAs)	48,333	48,333	48,333	48,333	48,333
Existing withdrawals (PLOs)	18,319	18,319	18,319	18,319	18,319
Proposed withdrawals (acres) ²	11,300	0	29,221	0	12,592

4.7 Impacts on Special Status Species

**TABLE 4-6
IMPACTS TO SPECIAL STATUS SPECIES HABITAT BY ALTERNATIVE
(CONT.)**

	A	B	C	D	E
Lands and Realty Authorization (including Renewable Energy) (acres) (cont.)					
Exclusion Areas for Renewable Energy ³	0	54,479	95,587	26,217	88,345
Exclusion Areas for all Land Use Authorizations except Renewable Energy ³	0	13,532	64,702	13,532	64,702
Avoidance Areas for Renewable Energy ³	0	55,888	14,797	0	0
Avoidance Areas for all Land Use Authorizations except Renewable Energy ³	0	86,048	57,579	0	31,662
Transportation and Access					
OHV Management Area Designations (acres)					
Open	0	0	0	0	0
Closed	61,712	61,712	74,314	61,712	61,712
Limited	41,157	41,157	28,554	41,157	41,157
Total Acres	102,869	102,869	102,869	102,869	102,869
Implementation Level Decisions					
Routes of Travel Designations (miles)					
Motorized	106.4	90.8	76.1	106.4	90.8
Non-motorized	78.8	94.4	109.1	78.8	94.4
Total Mileage Designated	185.2	185.2	185.2	185.2	185.2
Allowable route pulloff distance from edge of designated route and area of potential disturbance	300 feet (13,905 acres)	100 feet (4,635 acres)	25 feet (1,159 acres)	300 feet (13,905 acres)	25 feet (1,159 acres)

¹ These areas, because of the prescriptive protective management direction, would remain relatively unaltered or improved from their existing condition.

² Proposed withdrawals are based on the mineral entry withdrawals identified in Table 2-13 and exclude overlap with WAs. These areas do overlap the PLO boundaries, as the PLOs do not withdraw lands from mineral entry.

³ Exclusion and avoidance areas are based on the land use decisions proposed by alternative in Table 2-21.

4.7.5 Unavoidable Adverse Impacts

4.7.5.1 Federally Listed Species

4.7.5.1.1 Quino Checkerspot Butterfly

The Recovery Plan developed by USFWS (2003) identifies several unavoidable adverse impacts that would impact this species as described below. Increases in soil nitrogen (from burning fossil fuels, production of fertilizers, and cultivation of nitrogen-fixing crops) could promote invasive non-native plant invasion. Increase in atmospheric carbon dioxide concentration could promote plant growth and photosynthetic rates and increase the chaparral canopy resulting in canopy closure and reduction of habitat favored by the

quino checkerspot butterfly. The PRMP/FEIS does not propose to authorize activities that would result in these impacts.

Climate change could contribute to the regional extirpation of populations of quino checkerspot butterfly. Suspicion is that drier winter–spring cycles have altered the host plant availability (USFWS 2003).

Law enforcement or emergency search and rescue activities, including USBP activities, occurring in areas supporting the butterfly could result in unavoidable adverse impacts either directly through crushing of the adult butterfly, eggs, or larva or indirectly through degrading the host plants and supporting habitat. Human entry and use of the area by undocumented immigrants could result in unavoidable adverse impacts to this species through litter deposition and trampling.

4.7.5.1.2 Peninsular Bighorn Sheep

“Prolonged drought is a natural factor that could have negative impacts on desert [sic.] bighorn sheep populations either by limiting water sources, or by affecting forage quality” (USFWS 2000). Illegal kill, harm, harassment, removal, or capture of sheep could result in unavoidable loss to individual animals. Wildfire occurrences, suppression activities, and burned areas could result in an unavoidable impact to wildlife resources in the BLM-administered lands within the Planning Area.

Law enforcement or emergency search and rescue activities, including USBP activities, occurring in areas supporting priority species could result in unavoidable adverse impacts by flushing wildlife from cover and disrupting natural processes such as breeding behavior or foraging. These actions could result to direct or indirect mortality. Human entry and use of the area by undocumented immigrants could result in unavoidable adverse impact to this species through flushing of the sheep.

4.7.5.1.3 Laguna Mountains Skipper

Climate changes, including extended drought cycles, could potentially decrease the availability of water that supports the host and nectar plants for this species within the Planning Area.

4.7 Impacts on Special Status Species

Law enforcement or emergency search and rescue activities, including USBP activities, occurring in areas supporting the butterfly could result in unavoidable adverse impacts either directly through crushing of the adult butterfly, eggs, or larva or indirectly through degrading the host plants and supporting habitat. Human entry and use of the area by undocumented immigrants could result in unavoidable adverse impacts to this species through litter deposition and trampling.

4.7.5.1.4 Least Bell's Vireo and Southwestern Willow Flycatcher

Climate changes, including extended drought cycles, could potentially decrease the availability of water that supports the riparian habitat for these species within the Planning Area.

Law enforcement or emergency search and rescue activities, including USBP activities, occurring in areas supporting these birds could result in unavoidable adverse impacts through flushing from cover and disrupting natural processes such as breeding behavior or foraging. Human entry and use of the area, including entry by undocumented immigrants, could impact sensitive resources through trampling of habitat. These actions could result in direct or indirect mortality.

4.7.5.2 State Listed Species

4.7.5.2.1 Barefoot Gecko

Climate changes, including extended drought cycles, could potentially decrease the availability of water to support this species and its food source within the Planning Area.

Law enforcement or emergency search and rescue activities, including USBP activities, occurring in areas supporting this species could result in unavoidable adverse impacts through flushing from cover and disrupting natural processes such as breeding behavior or foraging. Human entry and use of the area, including entry by undocumented immigrants, could impact sensitive resources through trampling of habitat. These actions could result in direct or indirect mortality.

4.7.5.2.2 Swainson's Hawk

Climate changes, including extended drought cycles, could potentially decrease the availability of water to support this species and its habitat within the Planning Area.

Law enforcement or emergency search and rescue activities, including USBP activities, occurring in areas supporting these birds could result in unavoidable adverse impacts through flushing from cover and disrupting natural processes such as breeding behavior or foraging. Human entry and use of the area, including entry by undocumented immigrants, could impact sensitive resources through trampling of habitat. These actions could result in direct or indirect mortality.

4.7.5.2.3 Laguna Mountains Aster

This species is not known and not expected to occur on BLM-administered lands within the Planning Area; therefore actions on BLM-administered lands within this Planning Area would have no effect on this species.

4.7.5.3 BLM Sensitive Species

4.7.5.3.1 BLM Sensitive Plants

The following unavoidable adverse impacts would apply to all of the BLM sensitive plant species found or expected to occur on BLM-administered lands within the Planning Area. These species are Jacumba milkvetch, delicate clarkia, Tecate tarplant, Laguna Mountains alumroot, San Diego sunflower, Mountain Springs bush lupine, southern jewelflower, and Parry's tetracoccus.

Climate changes, including extended drought cycles, could potentially decrease the availability of water that supports this species and its habitat within the Planning Area.

Law enforcement or emergency search and rescue activities, including USBP activities, occurring in areas supporting this plant could result in unavoidable adverse impacts through trampling. Other human entry and use of the area, including entry by

4.7 Impacts on Special Status Species

undocumented immigrants, could also impact sensitive resources through trampling of habitat. These actions could result in direct or indirect mortality.

4.7.5.3.2 Golden Eagle

Climate changes, including extended drought cycles, could potentially decrease the availability of water to support this species and its habitat within the Planning Area.

Law enforcement or emergency search and rescue activities, including USBP activities, occurring in areas supporting these birds could result in unavoidable adverse impacts through flushing from cover and disrupting natural processes such as breeding behavior or foraging. Human entry and use of the area, including entry by undocumented immigrants, could impact sensitive resources through trampling of habitat. These actions could result in direct or indirect mortality.

4.7.5.3.3 Gray Vireo

Climate changes, including extended drought cycles, could potentially decrease the availability of water to support this species and its habitat within the Planning Area.

Law enforcement or emergency search and rescue activities, including USBP activities, occurring in areas supporting these birds could result in unavoidable adverse impacts through flushing from cover and disrupting natural processes such as breeding behavior or foraging. Human entry and use of the area, including entry by undocumented immigrants, could impact sensitive resources through trampling of habitat. These actions could result in direct or indirect mortality.

4.7.5.3.4 BLM Sensitive Bats

The following unavoidable adverse impacts would apply to all BLM sensitive bat species found or expected to occur on BLM-administered lands within the Planning Area. These species are small-footed myotis, long-eared myotis, and Townsend's western big-eared bat.

Climate changes, including extended drought cycles, could potentially decrease the availability of water to support this species and its habitat within the Planning Area.

Law enforcement or emergency search and rescue activities, including USBP activities, occurring in areas supporting these bats could result in unavoidable adverse impacts through flushing from cover and disrupting natural processes such as breeding behavior or foraging. Human entry and use of the area, including entry by undocumented immigrants, could impact sensitive resources through destruction or trampling of habitat. These actions could result in direct or indirect mortality.

4.7.6 Irreversible/Irretrievable Commitment of Resources

Any lands disposed of could reduce the wildlife habitat on BLM-administered lands in the Planning Area, depending on the use of that land once it leaves federal ownership.

4.7.7 Short-term Use and/or Long-term Productivity

Habitat converted to permanent facilities or structures would result in a net loss of wildlife habitat as long as those facilities or structures remain in use.

4.7.8 Cumulative Impacts

4.7.8.1 Federally Listed Species

4.7.8.1.1 Quino Checkerspot Butterfly

Given the isolation and lack of access to the BLM-administered lands located in quino checkerspot butterfly critical habitat and given the level of protection afforded to critical habitat under Alternative E, BLM management activities would have no cumulative effect on this species.

4.7.8.1.2 Peninsular Bighorn Sheep

Given the large amount of critical habitat protected throughout the range of the species and given the level of protective measures built into each of the alternatives proposed in this document (see Sections 2.3.7.2, 2.3.14.4, 2.3.15.4.2, and 2.3.18), there would be no significant cumulative effects to this species.

The Recovery Plan prepared for this species was developed in cooperation with BLM, USFS, CDFG, CDPR, and Agua Caliente Band of Cahuilla Indians. Given that these land management entities within the range of the species have agreed to meet the goals and objectives of the Plan, there would be no cumulative adverse effect anticipated from activities on the BLM-administered lands within the Planning Area relating to approved RMP.

4.7.8.1.3 Laguna Mountains Skipper

BLM has volunteered assistance to the County of San Diego during the preparation of the East County Multiple Species Conservation Program (ECMSCP) Plan. This process is intended to develop a habitat conservation plan for the county-administered lands in the eastern portion of the county. The ECMSCP Plan is a cooperative effort among the county, the USFWS, and CDFG. Implementation of this program will result in the issuance of a permit to the County for incidental “take” of threatened and endangered species in locations outside designated conservation areas. The overall effect of the ECMSCP Plan is the creation of a large connected preserve that addresses the regional habitat needs for a number of species (County of San Diego 2007). The BLM lands will contribute to the size and configuration of these reserves.

The ECMSCP Plan will potentially provide coverage for many of the 254 sensitive species found in the eastern portion of the county. All of the federally and state listed species and nine of the 13 BLM sensitive species found within the Planning Area are included on the draft list of species proposed for coverage under the ECMSCP.

While the ECMSCP is still in the planning phase, the focus by specific stakeholders and other interested land owners and entities on the protection of habitat to support the 254 sensitive species with the ECMSCP Study Area will serve to reduce any cumulative impacts on the Special Status Species from activities located within the Planning Area. Given the large amount of land within the Planning Area owned and managed by USFS,

California State Parks, and the proposed development of the ECMSCP Plan, there are no cumulative adverse effects proposed for the BLM Sensitive Species. For most or all of these species, the effects would be beneficial.

4.7.8.1.4 Least Bell's Vireo and Southwestern Willow Flycatcher

Given the protective measures built into the alternatives presented in this document for both of these species (see Section 2.3.7.2) and the fact that actions within the Planning Area would not affect critical habitat, there are no cumulative effects expected for these two species.

4.7.8.1.5 Mexican Flannelbush, Nevin's Barberry, and San Bernardino Blue Grass

As these species do not occur on BLM lands in the Planning area, there would be no significant cumulative effects to this species.

4.7.8.2 State Listed Species

4.7.8.2.1 Barefoot Gecko

As there are no proposed large-scale mining operations or other activities that would result in the impact to or large-scale conversion of the habitat of this species, there are no anticipated cumulative effects to this species from the actions contained in the PRMP/FEIS.

4.7.8.2.2 Swainson's Hawk

BLM has volunteered assistance to the County of San Diego during the preparation of the ECMSCP Plan. This process is intended to develop a habitat conservation plan for the County-administered lands in the eastern portion of the County. The ECMSCP Plan is a cooperative effort among the County, the USFWS, and CDFG. Implementation of this program will result in the issuance of a permit to the County for incidental "take" of threatened and endangered species. The overall effect of the ECMSCP Plan is the creation of a large connected preserve that addresses the regional habitat needs for a number of species.

4.7 Impacts on Special Status Species

The ECMSCP Plan will potentially provide coverage for many of the 254 sensitive species found in the eastern portion of the county. All of the federally and state listed species and nine of the 13 BLM sensitive species found within the Planning Area are included on the draft list of species proposed for coverage under the ECMSCP.

While the ECMSCP is still in the planning phase, the focus by specific stakeholders and other interested land owners and entities on the protection of habitat to support the 254 sensitive species with the ECMSCP Study Area will serve to reduce any cumulative impacts on the Special Status Species from activities located within the Planning Area. Given the large amount of land within the Planning Area owned and managed by UFS, California State Parks, and the proposed development of the ECMSCP Plan, there are no cumulative effects proposed for the BLM Sensitive Species.

4.7.8.2.3 Laguna Mountains Aster

This species is not known and not expected to occur on BLM-administered lands within the Planning Area; therefore actions on BLM-administered lands within this Planning Area would have no effect on this species.

4.7.8.3 BLM Sensitive Species

BLM has volunteered assistance to the County of San Diego during the preparation of the ECMSCP Plan. This process is intended to develop a habitat conservation plan for the County-administered lands in the eastern portion of the County. The ECMSCP Plan is a cooperative effort among the county, the USFWS, and CDFG. Implementation of this program will result in the issuance of a permit to the County for incidental “take” of threatened and endangered species. The overall effect of the ECMSCP Plan is the creation of a large connected preserve that addresses the regional habitat needs for a number of species.

The ECMSCP Plan will potentially provide coverage for many of the 254 sensitive species found in the eastern portion of the county. All of the federally and state listed species and nine of the 13 BLM Sensitive species found within the Planning Area are included on the draft list of species proposed for coverage under the ECMSCP. The four BLM sensitive species not included on this draft list (southern jewelflower, Parry’s tetracoccus, long-eared myotis, and small-footed myotis) have similar habitat needs as

several others included on the list and it would be assumed that they would benefit from the protective measures delineated in the Plan.

While the ECMSCP is still in the planning phase, the focus by specific stakeholders and other interested land owners and entities on the protection of habitat to support the 254 sensitive species with the ECMSCP Study Area will serve to reduce any cumulative impacts on the Special Status Species from activities located within the Planning Area. Given the large amount of land within the Planning Area owned and managed by UFS, California State Parks, and the proposed development of the ECMSCP Plan, there are no cumulative effects proposed for the BLM Sensitive Species.

4.7 Impacts on Special Status Species

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4.8 Impacts on Wildland Fire Ecology

Primary impacts to wildland fire ecology are characterized as those actions that limit or enhance the ability to suppress fire, or that alter naturally occurring fire regimes. The Planning Area is situated in a transition zone between two highly flammable fuel types (chamise/semi-desert chaparral and desert scrub communities). Combined with a scattered heavy grass component and dry climatic conditions, this fuel type is characterized by extreme fire behavior potential throughout most of the year. The potential for large fire occurrence is a constant threat for private communities in the area. CAL FIRE is the primary fire protection agency for BLM-administered lands in the Planning Area. The fire suppression objective is to suppress all vegetation fires to 10 acres or less upon initial attack, based on “assets at risk analysis” which favors protection of structures in the urban interface. CAL FIRE and BLM operate under a Cooperative Fire Protection Plan which states that CAL FIRE is to consider BLM’s resource protection standards to select the least cost/least damaging suppression strategy.

4.8.1. Increased Fire Risk

4.8.1.1. Livestock Grazing Management

Removal of forage by livestock, especially removal of light fuels in the form of grasses and forbs, can reduce the potential of a site to carry fire and result in fewer fires of lower intensity or lower rates of spread. A history of grazing, especially improper grazing, can convert ecological types. Conversion of grasslands or ecological types with naturally high grass components to types with higher woody species can result in lower fire frequencies but higher fire intensities when these converted types do burn. In these cases, wildfires might not burn as often, but the likelihood of a catastrophic fire increases.

4.8.1.2 Lands and Realty Management

Continued use of the existing communication sites and utility ROW and potential reasonable foreseeable development of any lands and realty-related uses is expected to temporarily affect fuels and fire because of ground disturbance and increased opportunities for accidental human caused-ignition during construction, operation, and maintenance. More improvements and structures would do the following:

4.8 Impacts on Wildland Fire Ecology

- Affect suppression and costs by placing on the ground more features that could require protection from a wildfire;
- Present more hazards, such as flight hazards from overhead power lines or explosion hazards of buried gas pipelines; and
- Create restrictions to prescribed burning.

4.8.1.3 Recreation Management

Areas with more potential development and recreation use could affect fire management by increasing the risk of accidental human-caused ignitions. Increased visitation, camping, and OHV use increases potential for cigarettes, campfires, and sparks emitted by OHVs to ignite fires.

4.8.1.4 Special Status Species Management

The presence of special status species and high value riparian habitat would limit the applicability of fuels reduction treatments which in turn increase the risk of wildfire in these areas due to uncharacteristically high and volatile fuel loads.

4.8.1.5 Public Health and Safety

International border issues such as undocumented immigration, illegal drug trafficking, and associated crime results in increased potential of human caused fire. This in turn raises the risk to personal firefighter safety.

4.8.2 Limitations to Fire Suppression Tactics

- In WAs and WSAs, when wildland fire suppression is required, minimum impact suppression tactics identified in the Interagency Standards for Fire and Aviation Operations would be applied.
- Fire management activities along the Pacific Crest National Scenic Trail (NST) would avoid or minimize adverse impacts to existing resources and values identified in the legislative designation of the trails. For ACECs, the desired conditions and

management prescriptions would be considered in implementing fire management activities (see ACEC section of this chapter).

- Wildland fire suppression activities would utilize methods with lesser ground disturbance to minimize potential adverse impacts on special status species, critical habitat, desired plant communities, and cultural resources.
- Currently under the Operating Plan, use of mechanized equipment is allowable in Special Designations (e.g., WAs, WSAs, ACECs) subject to the following: 1) dozer use in WAs and WSAs require the approval of the BLM State Director, and 2) dozer use in ACECs is subject to approval by the BLM Field Manager.
- Use of fire retardants or chemicals adjacent to waterways would be in accordance with the *Environmental Guidelines for Delivery of Retardant or Foam near Waterways* (Interagency Standards for Fire and Aviation Operations).

4.8.3 Beneficial/Enhancement

4.8.3.1 Vegetation Resource Management

Vegetation resource management would provide beneficial impacts to wildfire management under most circumstances and alternatives within this PRMP. The planning area is a non-fire use area, defined as an area that is not historically fire dependant, and where wildfires are suppressed and not allowed to burn to treat vegetation. Historic and native vegetation in the area is not fire dependant, and naturally caused wildfires were very infrequent. Vegetation treatments proposed under all alternatives would reduce hazardous fuel loads. Prescribed fire would reduce risk and potential intensity of a wildfire where these fuel treatments are applied. Restoration efforts to restore undesired and exotic-invasive plant communities would decrease the volatility of fuels, reducing the frequency of wildfires.

4.8.3.2 Lands and Realty Management

ROWS, utility corridors, and other such authorizations inadvertently create fuel breaks and provide access routes for wildfire suppression. Stipulations specific to each authorization reduces the potential threat of accidental ignition of wildfires during construction or maintenance.

4.8.4 Differences between Alternatives

Impacts to wildland fire management would be similar under each of the alternatives, with the exception of impacts from livestock grazing. Livestock grazing would be eliminated under Alternatives C and E, resulting in higher fire frequency and lower risk of catastrophic wildfire.

4.8.5 Unavoidable Adverse Impacts

The presence of sensitive cultural and natural resources limit the ability to suppress wildland fire. The impacts of these resources on the fire program are unavoidable and sometimes adverse.

Climate changes, including extended drought cycles, could increase the potential for wildland fires in frequency and intensity.

4.8.6 Cumulative Impacts

No cumulative impacts resulting from land use decisions in the PRMP/FEIS pertaining to wildland fire management have been identified.

4.9 Impacts on Cultural Resources

Cultural resources (also referred to as heritage resources or heritage assets) are subject to a variety of impacts. Primary concern is typically focused on the potential adverse impacts; however, beneficial impacts could also occur. For the purposes of this document, adverse impacts could be characterized as actions that result in the degradation or destruction of significant cultural resources. Significant resources are those that are eligible for nomination to the NRHP or those that have been placed on the register. Significant heritage resources are sometimes referred to as historic properties. These are typically historic structures, historic sites, or prehistoric archaeological sites. However, a number of other types of heritage resources exist: historic districts, archaeological districts, traditional cultural properties, and cultural landscapes. Since heritage resources are finite and non-renewable, prevention of adverse impacts is always preferred. However, avoiding adverse impacts is sometimes impractical. The management actions described for Cultural Resources in Chapter 2 are intended to reduce or offset adverse impacts to cultural resources. The analysis of potential impacts to cultural resources, both adverse and beneficial, was based on review of existing literature and the expertise of BLM resource specialists.

4.9.1 Loss or Degradation of Cultural Resources

Loss or degradation of NRHP listed or eligible cultural resources could occur from natural deterioration such as that caused by water or wind erosion or human-caused damage such as the results of OHV use or camping on archeological sites, or illegal collecting. Loss of a cultural resource is defined as the physical destruction of the integrity of the resource. The integrity is dependent upon the criteria of NRHP significance. Degradation occurs when changes to cultural properties' significance or preservation value occurs.

Any ground-disturbing activity has the potential to cause the inadvertent loss and/or degradation of archaeological sites or other cultural resources. For example, vegetation management and treatment methods, including fire, mechanical, and chemical, typically have detrimental effects on heritage resources. However, these interactions are complex. Fire could clear chaparral and increase ground visibility thus providing the beneficial effect of enabling archaeologists to see sites that were previously hidden. The same fire could also damage or destroy a rock art panel.

4.9 Impacts on Cultural Resources

Discretionary and construction actions, such as road building, ROWs, mineral activities, and certain recreational activities, such as off-highway vehicle use, would involve ground-disturbing actions that could cause the inadvertent loss and/or degradation of cultural resources, particularly if the resource was subsurface and previously undetected. However, these activities could also result in the discovery of an otherwise undetectable resource.

Livestock grazing could result in the degradation of cultural resources through trampling of surface artifacts and features. Range and wildlife improvement projects (e.g., livestock tanks and wildlife waters) could concentrate livestock and wildlife in areas, thereby increasing the potential for trampling.

Land disposal is a permanent loss in terms of BLM management and oversight. Cultural resources that would have been considered in the BLM planning/NEPA process may or may not be considered under State of California and county regulations. Land disposal could therefore have an adverse impact to cultural resources, if any exist on the disposed property. Land acquisitions provide additional management of cultural resources in the Planning Area. Land acquisition would therefore have a beneficial effect on any cultural resources that exist within the acquired property.

Loss or degradation of cultural resources would be minimal in WAs, WSAs, and ACECs, designated to protect sensitive resource values. Exclusion and avoidance areas would help direct projects and activities into areas that would have reduced impact on cultural resources. The management objectives of VRM Classes I and II strive to preserve or retain the existing characteristic landscape, so they could provide coincidental benefits to heritage resource sites.

It should be pointed out that land managers have multiple ways to try to minimize impacts to heritage resources. These measures are based on the kinds of threats to the resources and the natural environment of the site. For example, if livestock grazing is taking place on a known archaeological or historic site, managers can fence the site to exclude the livestock or move stock tanks or mineral licks which may attract animals away from the site area. If OHVs are running over a site, managers can try to re-route traffic away from the site, place post and cable barriers around the site, fence the site, or close the area to vehicular traffic. If camping is impacting a site, the site could be fenced, signed, and interpreted for the public.

Many changes in land use and permitted new uses are considered undertakings under NEPA and the NHPA. In these cases, impacts to heritage resources are considered in the permit process. If impacts cannot be mitigated, then the site is often excavated in a data recovery program to offset estimated project damage to the site. Sometimes off-site mitigation measures are conducted. This might be additional archival research, and additional ancillary studies (e.g., pollen studies, trace protein analysis, thermoluminescence dating). In addition to these or instead of them, on Historic Period sites, an oral history program might be conducted along with additional archival research.

4.9.2 Differences between Alternatives

There should be little difference between alternatives in terms of direct impacts to cultural resources because these impacts would be avoided or adequately mitigated pursuant to the NHPA, NEPA, and other federal mandates. However, there may be some differences, especially with regard to indirect loss or degradation. This is because alternatives vary in the sizes of protection-oriented management decisions (Table 4-7). These differences primarily exist in terms of levels of allowable livestock grazing, OHV activities, land disposal, mineral entry, and vehicle traffic. In general terms, reducing the

**TABLE 4-7
IMPACTS TO CULTURAL RESOURCES BY ALTERNATIVE**

	A	B	C	D	E
Special Designations (# of cultural resources)					
WAs/WSAs					
Listed on National Register	0	0	0	0	0
Not evaluated	218	218	218	218	218
Recommended eligible	37	37	37	37	37
Recommended not eligible	3	3	3	3	3
ACECs					
Listed on National Register	158	163	163	158	163
Not evaluated	102	72	114	60	72
Recommended eligible	22	14	24	12	14
Recommended not eligible	0	2	2	0	2
Discretionary Land Use Authorizations (# of cultural resources)					
Livestock grazing					
Available					
Listed on National Register	156	150	0	156	0
Not evaluated	283	108	0	283	0
Recommended eligible	46	14	0	46	0
Recommended not eligible	6	3	0	6	0
Unavailable					
Listed on National Register	10	20	163	10	163
Not evaluated	141	302	396	141	396
Recommended eligible	26	51	64	26	64
Recommended not eligible	0	3	6	0	6

**TABLE 4-7
IMPACTS TO CULTURAL RESOURCES BY ALTERNATIVE (CONT.)**

	A	B	C	D	E
Mineral Resources-Leasables (# of cultural resources)					
Land available for geothermal leasing					
Listed on National Register	161	1	0	161	1
Not evaluated	154	29	0	146	58
Recommended eligible	24	1	0	21	5
Recommended not eligible	3	0	0	3	0
Lands and Realty Authorization (including Renewable Energy) (# of cultural resources)					
Land available for disposal					
Listed on National Register	0	0	0	0	0
Not evaluated	6	4	0	4	2
Recommended eligible	2	0	0	0	0
Recommended not eligible	0	0	0	0	0
Existing withdrawals (WAs)					
Listed on National Register	0	0	0	0	0
Not evaluated	209	209	209	209	209
Recommended eligible	36	36	36	36	36
Recommended not eligible	2	2	2	2	2
Existing withdrawals (PLOs)					
Listed on National Register	163	163	163	163	163
Not evaluated	214	214	214	214	214
Recommended eligible	34	34	34	34	34
Recommended not eligible	3	3	3	3	3
Proposed withdrawals					
Listed on National Register	158	0	163	0	163
Not evaluated	102	0	295	0	72
Recommended eligible	21	0	53	0	13
Recommended not eligible	0	0	5	0	2
Land available for wind energy development					
Listed on National Register	161	0	0	0	0
Not evaluated	154	0	0	54	29
Recommended eligible	24	0	0	8	4
Recommended not eligible	3	0	0	1	0
Exclusion Areas from Renewable Energy Development					
Listed on National Register	0	163	163	163	163
Not evaluated	0	189	393	87	365
Recommended eligible	0	29	64	14	60
Recommended not eligible	0	4	6	3	6
Exclusion Areas from all land use authorizations other than for Renewable Energy					
Listed on National Register	0	0	11	0	11
Not evaluated	0	10	250	10	250
Recommended eligible	0	1	47	1	47
Recommended not eligible	0	1	3	1	3
Avoidance Areas from Renewable Energy Development					
Listed on National Register	0	11	163	0	0
Not evaluated	0	246	101	0	0
Recommended eligible	0	47	12	0	0
Recommended not eligible	0	3	3	0	0
Avoidance Areas from All Other Land Use Authorizations Other than for Renewable Energy					
Listed on National Register	0	163	163	0	163
Not evaluated	0	360	224	0	114
Recommended eligible	0	63	38	0	20
Recommended not eligible	0	6	4	0	3

**TABLE 4-7
IMPACTS TO CULTURAL RESOURCES BY ALTERNATIVE (CONT.)**

	A	B	C	D	E
Transportation and Access (# of cultural resources)					
OHV Management Area Designations					
Open	0	0	0	0	0
Closed					
Listed on National Register	0	0	163	0	0
Not evaluated	218	218	287	218	218
Recommended eligible	37	37	50	37	37
Recommended not eligible	3	3	5	3	3
Limited					
Listed on National Register	2	2	2	2	2
Not evaluated	114	114	114	114	114
Recommended eligible	15	15	15	15	15
Recommended not eligible	1	1	1	1	1
Implementation Level Decisions (# of cultural resources)					
Routes of Travel Designations					
Motorized					
Listed on National Register	20	20	4	20	20
Not evaluated	29	29	24	29	29
Recommended eligible	4	3	2	4	3
Recommended not eligible	0	0	0	0	0
Non-motorized					
Listed on National Register	8	8	24	8	8
Not evaluated	18	18	24	18	18
Recommended eligible	7	8	9	7	8
Recommended not eligible	0	0	0	0	0

Note: Due to unavailable GIS data, this table does not include 19 sites on the National Register located on BLM-administered lands within the Planning Area.

levels of these activities also reduces the likelihood of impacts to cultural resources. Alternative A (No Action) continues the present management approach and provides a baseline with which to compare other alternatives.

Alternative C provides the greatest blanket protection for cultural resources by proposing the highest acreage for ACECs and Exclusion Areas, the least areas available for grazing, the highest number of acres closed to OHV activities, the smallest allowable route pull-off distance, the least amount of land disposal, the largest amount of land withdrawn from mineral entry, and the least number of miles of routes of travel designated as motorized.

Alternative E is next in levels of protection-oriented management decisions. It has the same number of acres in WAs and WSAs, approximately 50 percent less acreage in ACECs, the same acreage unavailable for grazing, approximately 12,500 fewer acres

4.9 Impacts on Cultural Resources

closed to OHV activities, the same allowable route pull-off distance, 490 more acres identified for disposal, approximately 16,500 less acres proposed for withdrawal from mineral entry, and approximately 15 more miles of routes of travel designated as motorized.

The ranking of Alternatives A, B, and D is less straightforward in terms of protection-oriented management decisions and cultural resources impacts. All three have the same number of acres in WAs and WSAs. While the In-Ko-Pah ACEC in Alternative A is largest in acreage, this boundary includes overlap between the WAs and WSAs, which is eliminated in Alternative B and D. In addition, Alternative B expands the boundary of the In-Ko-Pah ACEC to the west and south to incorporate the Peninsular bighorn sheep critical habitat and expands Table Mountain to the north to incorporate critical habitat and to connect to the Table Mountain WSA. This expansion therefore increases the protection of cultural resources. With regard to acres unavailable for livestock grazing, Alternative B has approximately 72,000 acres, while Alternatives A and D have approximately 38,000 acres each. All three alternatives have the same amount of area closed to OHV activities. Alternative B stipulates a 100-foot route pull-off distance, while Alternatives A and D stipulate 300 feet. Alternative A proposes to dispose of approximately 635 more acres than Alternatives B and D. Alternative A proposes to withdraw from mineral entry some 10,500 more acres than Alternatives B and D. Finally, Alternative B proposes to designate approximately 16 less miles of travel routes as motorized than Alternatives A and D.

4.9.3 Unavoidable Adverse Impacts

Unavoidable adverse impacts on cultural resources could occur as a result of natural events (e.g., wildfires, floods, etc.). These would primarily affect unknown sites and/or areas with high potential for cultural resources. Law enforcement or emergency search and rescue activities, including USBP activities, occurring in areas containing cultural resources could result in unavoidable adverse impacts to these resources. Human entry and use of the area, including entry by undocumented immigrants, could impact sensitive resources through trampling.

4.9.4 Irreversible/Irretrievable Commitment of Resources

Land disposals could result in irreversible and irretrievable commitment of cultural resources depending on the use of that land once it leaves Federal ownership. As suggested previously, this is because land in private ownership or under the purview of local jurisdictions may not receive the same level of environmental review and/or protection that it obtains under federal jurisdiction.

4.9.5 Cumulative Impacts

No cumulative impacts resulting from land use decisions in the PRMP/FEIS pertaining to cultural resource management have been identified.

4.9 Impacts on Cultural Resources

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4.10 Impacts on Paleontological Resources

Paleontological resources within the Planning Area are susceptible to impacts from OHV/transportation uses, mining and mineral extraction activities, land use authorizations, land tenure decisions, vegetation treatments (e.g., prescribed fire), and recreation. These impacts could lead to the disturbance, destruction, or loss of paleontological resources. Protective land use designations, such as ACECs, VRM Classes I and II, closed OHV areas, WSAs, and wilderness designations would have coincidental beneficial impacts by protecting known and unknown paleontological resources. The analysis of potential impacts to paleontological resources was based on review of existing literature and the expertise of BLM resource specialists.

4.10.1 Loss or Degradation of Paleontological Resources

Loss or degradation of vertebrate fossils and scientifically significant invertebrate resources could occur from natural or human-caused deterioration, or potential conflict with other resource uses.

Ground- and subsurface-disturbing activities have the potential to cause the inadvertent loss and/or degradation of vertebrate fossils and scientifically significant invertebrate resources. Discretionary and construction actions, such as road building, ROWs, fire suppression activities, mineral activities, and recreational facilities, would involve excavation or ground disturbance that could cause the inadvertent loss and/or degradation of vertebrate fossils and scientifically significant invertebrate resources. However, these activities could also result in the discovery of an otherwise undetected resource. Livestock grazing could result in the degradation of vertebrate fossils and scientifically significant invertebrate resources through trampling of exposed deposits, though the potential of this is low as most deposits are not exposed.

Land disposal is a permanent loss in terms of BLM management and oversight. Vertebrate fossils and scientifically significant invertebrate resources that would have been considered in the BLM planning process may not be considered under State of California and county regulations. Land disposal could have an adverse impact to vertebrate fossils and scientifically significant invertebrate resources, if any exist on the disposed property. Land acquisitions provide additional management consideration and protection of vertebrate fossils and scientifically significant invertebrate resources in the

4.10 Impacts on Paleontological Resources

Planning Area. Land acquisition would have a beneficial effect on any vertebrate fossils and scientifically significant invertebrate resources that exist within the acquired property.

Loss or degradation of vertebrate fossils and scientifically significant invertebrate resources would be minimal in WAs, WSAs, and ACECs which were designated to protect sensitive resource values. Exclusion and avoidance areas would help to direct projects into areas that would have reduced impact on vertebrate fossils and scientifically significant invertebrate resources. The management objectives of VRM Classes I and II strive to preserve or retain the existing characteristic landscape, so they could provide coincidental benefits to vertebrate fossils and scientifically significant invertebrate resource sites.

4.10.2 Differences between Alternatives

See Table 4-8 on next page.

4.10.3 Unavoidable Adverse Impacts

Unavoidable adverse impacts on vertebrate fossils and scientifically significant invertebrate resources could occur as a result of natural events (e.g., fires, floods, etc.).

4.10.4 Irreversible/Irretrievable Commitment of Resources

Land disposals could result in irreversible and irretrievable commitment of vertebrate fossils and scientifically significant invertebrate resources, depending on the use of that land once it leaves federal ownership.

4.10.5 Cumulative Impacts

No cumulative impacts to paleontological resources are anticipated due to the fact that the paleontological resources occur in remote areas and are not common in the Planning Area.

**TABLE 4-8
POTENTIAL IMPACTS TO HIGH POTENTIAL AREAS OF PALEONTOLOGICAL RESOURCES BY
ALTERNATIVE**

	A	B	C	D	E
Special Designations (acres)¹					
WAs/WSAs	62,296	62,296	62,296	62,296	62,296
ACECs	26,479	14,956	29,660	12,792	14,956
Discretionary Land Use Authorizations					
Livestock grazing (acres)					
Available	65,438	31,135	0	65,438	0
Unavailable	37,431	71,734	102,869	37,431	102,869
Total Acres	102,869	102,869	102,869	102,869	102,869
Mineral Resources-Leasables (acres)					
Land available for geothermal leasing	33,132	675	0	31,823	7,607
Lands and Realty Authorization (including Renewable Energy) (acres)					
Land available for disposal (acres)	1,715	1,080	0	1,080	490
Land available for wind energy development	33,130	0	0	20,442	6,931
Existing withdrawals (WAs)	48,333	48,333	48,333	48,333	48,333
Existing withdrawals (PLOs)	18,319	18,319	18,319	18,319	18,319
Proposed withdrawals (acres) ²	11,300	0	29,221	0	12,592
Exclusion Areas for Renewable Energy ³	0	54,479	95,587	26,217	88,345
Exclusion Areas for all Land Use Authorizations except Renewable Energy ³	0	13,532	64,702	13,532	64,702
Avoidance Areas for Renewable Energy ³	0	55,888	14,797	0	0
Avoidance Areas for all Land Use Authorizations except Renewable Energy ³	0	86,048	57,579	0	31,662
Transportation and Access					
OHV Management Area Designations (acres)					
Open	0	0	0	0	0
Closed	61,712	61,712	74,314	61,712	61,712
Limited	41,157	41,157	28,554	41,157	41,157
Total Acres	102,869	102,869	102,869	102,869	102,869
Implementation Level Decisions					
Routes of Travel Designations (miles)					
Motorized	106.4	90.8	76.1	106.4	90.8
Non-motorized	78.8	94.4	109.1	78.8	94.4
Total Mileage Designated	185.2	185.2	185.2	185.2	185.2
Allowable route pulloff distance from edge of designated route and area of potential disturbance	300 feet (13,905 acres)	100 feet (4,635 acres)	25 feet (1,159 acres)	300 feet (13,905 acres)	25 feet (1,159 acres)

¹ These areas, because of the prescriptive protective management direction, would remain relatively unaltered or improved from their existing condition.

² Proposed withdrawals are based on the mineral entry withdrawals identified in Table 2-13 and exclude overlap with WAs. These areas do overlap the PLO boundaries, as the PLOs do not withdraw lands from mineral entry.

³ Exclusion and avoidance areas are based on the land use decisions proposed by alternative in Table 2-21.

4.10 Impacts on Paleontological Resources

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4.11 Impacts on Visual Resources

This section provides a discussion of the methodology and criteria used to assess impacts to visual resources that could occur as a result of implementing the ESDC PRMP alternatives. The assessment of impacts would utilize the Visual Contrast Rating (VCR) component of the BLM's Visual Resource Management (VRM) System.

BLM's responsibility to manage the scenic resources of public lands is established by both FLPMA and NEPA. The overall goal of the BLM's VRM system is to minimize visual impacts and ensure that mitigation measures are applied to potentially adverse visual impacts. The VCR System is a formal process utilized by BLM to identify and analyze the potential visual impacts of projects and management-related activities. The basic analysis in this rating system focuses on the degree to which a project impacts the visual quality of an area. This depends on the visual contrast created between a given surface-disturbing activity and the existing landscape. Visual contrast is measured by comparing the project/activity's features with the major features in the existing landscape. The basic design elements of form, line, color, and texture are used to make this comparison and describe the resulting visual contrast.

The analysis of potential impacts to visual resources was based on review of existing literature and the expertise of BLM resource specialists at the Field Office. Literature sources include but are not limited to the following:

- BLM Manual Section 8400 - Visual Resource Management. It is BLM's policy that it has a basic stewardship responsibility to identify and protect visual values on all BLM lands. The manual provides specific direction in inventorying, evaluating, and determining impacts to visual resources.
- Information Bulletin No. 98-135
- Instruction Memorandum No. 98-164.
- Instruction Memorandum No.2000-096 (Use of Visual Resource Management Class I Designation in WSAs; DOI BLM March 21, 2000.)

4.11 Impacts on Visual Resources

Visual resource impacts are measured in terms of the level of contrast in form, line, texture, and color in the landscape that result from a land disturbing activity. The level of acceptable contrast or change to the characteristic landscape ranges from minimal to high, depending on the location. The PRMP alternatives would establish landscape management classes ranging from Class I to IV, and all proposed projects/activities would adhere to the VRM class objectives as described in Chapter 2, Section 2.3.11.2.

Potential direct and indirect impacts to visual resources are categorized below in terms of loss, degradation/alteration, and enhancement/beneficial. Impacts from management actions and decisions would in effect be 'self-mitigating,' in that their final approval would be based on meeting the visual quality objectives of the VRM class in which they take place. Design guidelines to avoid, minimize, or reduce visual impacts are included in Appendix D, Typical Management Actions and Best Management Practices.

4.11.1 Temporary and Permanent Loss of Visual Resources

Vegetative treatments include thinning, mechanical removal, herbicide application or conversion; management of non-native and invasive species, vegetation removal along the International Border, revegetation and other landscape restoration efforts, riparian area management, fire management, and fuels reduction. Vegetation treatment activities could result in short-term adverse impacts to visual resources through temporary loss of vegetative cover. However, once desired vegetation objectives are achieved, impacts to VRM would be minimized or eliminated.

Activities include wildlife waters, fences, forage enhancement for wildlife, and associated elements. These actions could result in an adverse alteration to the visual landscape, unless designed to blend in with the surrounding landscape.

Decisions that could have an adverse impact to visual resources through the loss of vegetative cover and development of facilities include: agricultural leases; ROW use and development; utility corridor alignments, sites and associated structures; communication facility sites and associated structures; siting, construction, and appearance of other facilities, signs, buildings, and structures; and mineral extraction activities.

Disposal of BLM-administered lands in the Planning Area would potentially have an adverse impact on visual resources. Disposal of VRM Class II lands could result in the conversion of areas of relatively high visual quality to land uses and associated impacts that would reduce the visual quality of those lands. This would be particularly true, if the disposal lands were converted to land uses requiring mass grading.

4.11.2 Degradation/Alteration

The Pacific Crest NST could result in trail and trailhead construction activities which could have an adverse impact on visual resources; however, these activities and improvements are expected to be small-scale and designed to blend in with the surrounding landscape, and therefore would not have a long-term visual impact.

Concentrated visitor use of designated camping and day-use areas, along with the installation of recreation facilities and signs, could result in adverse impacts to visual resources of these areas. Impacts could include the loss of vegetative cover, increased litter, and increased vehicle and human presence. As the population in the San Diego County continues to increase, recreational activities on BLM-administered lands are also likely to increase, which could result in additional impacts to visual resources.

Since renewable energy generating facilities would be only authorized in VRM Classes III and IV there would be minimal effect on visual resources due to the relatively small amount of area classified as Classes III and IV, except in Alternative D.

4.11.3 Enhancement/Beneficial

Management guidance and directions for Special Designations in BLM land use planning including those for designated WAs, WSAs, ACECs, and NSTs (Pacific Crest NST), as shown in Table 2-10, could also provide coincidental benefits to visual resources. The management activities allowed in ACECs would be protective in nature and, as such, would be beneficial to visual resources. Existing WAs, WSAs, and the Pacific Crest NST would continue to be managed under VRM Class I objectives.

4.11 Impacts on Visual Resources

Vegetative treatments would generally be implemented to restore or enhance the natural conditions of the public lands, and would have beneficial impacts to visual resources independent of VRM designations. Restoration and/or enhancement of natural conditions would contribute to scenic quality by reducing visual contrast from pre-restoration conditions.

The view sheds of important cultural resources would be maintained when the settings significantly contribute to the resources' scientific, public, traditional, or conservation values. This management approach to cultural resources within the Planning Area would also have concurrent beneficial impacts to visual resources. Avoiding surface impacts and maintaining viewsheds would contribute to visual quality and enhance visitor experience by retaining natural conditions and not increasing visual contrast levels.

Within designated closed OHV areas, no motorized travel is allowable. Visual resources would be maintained or enhanced within the proposed OHV closed areas.

4.11.4 Differences between Alternatives

The range in differences in potential impacts to visual resources is reflected by Table 4-9, which shows the number of acres that each alternative would designate to the four VRM Classes, segregated by specific land areas.

These tables reiterate that designated WAs and WSAs would be assigned to Class I under all alternatives.

**TABLE 4-9
ACRES OF VRM CLASSES I-IV BY AREA AND ALTERNATIVE**

Name or Description of Land Area	A (acres)	B (acres)	C (acres)	D (acres)	E (acres)
Class I					
WAs	Designated WAs would be Class I under all alternatives. 48,333 acres (Total acres includes the portion of the In-Ko-Pah ACEC that overlaps the Carrizo Gorge WA.)				
WSAs	WSAs would be Class I under all alternatives. 13,963 acres				
VRM Class I Total:	62,296 acres, all alternatives				

**TABLE 4-9
ACRES OF VRM CLASSES I-IV BY AREA AND ALTERNATIVE
(CONT.)**

Name or Description of Land Area	A (acres)	B (acres)	C (acres)	D (acres)	E (acres)
Class II					
ACECs ¹	10,521	12,588	12,588	10,521	12,588
San Felipe	106	106	106	106	106
Sawtooth	849	849	849	849	849
Buck Canyon (non-WSA lands)	621	621	621	0	621
Volcan Mts.	1,714	1,714	1,714	0	1,714
Chariot Canyon	5,338	5,338	5,338	0	5,338
Oriflamme Mts. & Canyon	6,253	6,253	6,253	0	6,253
McCain Valley West	8,596	8,560	8,560	0	0
McCain Valley East (non-ACEC & non-WSA lands)	4,748	3,635	3,635	0	3,635
Cottonwood and Lark Canyon Campgrounds	51	0	51	0	0
Table Mountain (non-ACEC & non-WSA lands)	1,348	430	430	1,348	430
Airport Mesa	693	0	693	0	0
Round Mountain	116	116	116	0	116
VRM Class II Total:	40,954	40,210	40,954	12,824	31,650
Class III					
Cottonwood and Lark Canyon Campgrounds	0	51	0	0	0
McCain Valley West	0	0	0	0	8,560
Airport Mesa	0	693	0	0	693
VRM Class III Total:	0	744	0	0	9,253

**TABLE 4-9
ACRES OF VRM CLASSES I-IV BY AREA AND ALTERNATIVE
(CONT.)**

Name or Description of Land Area	A (acres)	B (acres)	C (acres)	D (acres)	E (acres)
Class IV					
Buck Canyon (non-WSA lands)	0	0	0	621	0
Volcan Mts.	0	0	0	1,714	0
Chariot Canyon	0	0	0	5,338	0
Oriflamme Mts. & Canyon	0	0	0	6,253	0
McCain Valley West	0	0	0	8,596	0
McCain Valley East (non-ACEC & non-WSA lands)	0	0	0	4,748	0
Round Mountain	0	0	0	116	0
Cottonwood and Lark Canyon Campgrounds	0	0	0	51	51
Airport Mesa	0	0	0	693	0
VRM Class IV Total:	0	0	0	28,130	51

¹ Acres of ACECs shown here vary by Alternative and exclude overlap with WAs and WSAs. It also excludes the private in-holdings within the ACEC boundaries as BLM's land use decisions only apply to BLM-administered lands and do not apply to these private lands

Alternatives A and C are identical in their designation of lands to Class II, and would not designate any acres to Class III or IV. Alternative B designates similar lands to Class II with the exception that the Cottonwood and Lark Canyon Campgrounds and Airport Mesa are designated as Class III lands. Alternative B does not designate any lands to Class IV. As the ACECs in Alternatives B and C are larger in acreage than Alternative A, Alternatives B and C provides the highest protection for scenic quality values, followed closely by Alternative A.

Alternative E would have approximately 10,000 fewer acres of Class II lands than Alternatives A, B, and C (this difference varies by alternative), because it designates the Lark Canyon and Cottonwood Campgrounds as Class IV and the Airport Mesa and McCain Valley West areas as Class III rather than Class II, due to considerations for allowable visual contrast of cultural modifications.

Alternative D only identifies two specific land areas as Class II lands, does not identify any land areas as Class III, and identifies many as Class IV lands. Therefore this alternative would provide the greatest allowance for visual contrast in any future proposals for cultural modifications.

4.11.5 Unavoidable Adverse Impacts

Unavoidable adverse impacts would potentially occur as a result of uncontrollable natural events (e.g., floods, storm events, wildfires) that create visual contrast levels exceeding the visual quality objectives of a given land area. Such events and the resulting impacts are beyond the scope of this analysis, because they are not related to PRMP decisions. Wildfire occurrences, suppression activities, and burned areas could result in an impact to the Visual Resource Class of the Planning Area. Similar unavoidable impacts would potentially occur as a result of non-discretionary activities on BLM-administered lands (e.g., when law enforcement, USBP enforcement, or emergency search and rescue activities occur in a visually sensitive area, unavoidable adverse impacts to visual resources could occur).

4.11.6 Irreversible/Irretrievable Commitment of Resources

Any BLM disposed lands could reduce the visual resource class designation, depending on the use of the land once it leaves federal ownership, and could result in an irreversible/irretrievable commitment of resources. The number of acres identified for disposal under each alternative is identified in Table 4-10.

**TABLE 4-10
ACRES OF POTENTIAL DISPOSAL LANDS BY VRM CLASSES I-V AND ALTERNATIVE**

VRM Class	A (acres)	B (acres)	C (acres)	D (acres)	E (acres)
I	0	0	0	0	0
II	1,715	1,080	0	40	40
III	0	0	0	0	450
IV	0	0	0	1,040	0
Total Lands for Disposal	1,715	1,080	0	1,080	490

4.11.7 Cumulative Impacts

Impacts on private or other lands that have more lenient visual quality objectives than adjacent BLM-administered lands would potentially result in cumulative impacts to visual resources and visitor experience on BLM-administered lands in the Planning Area.

4.12 Impacts on Special Designations

4.12.1 Impacts on Designated Wilderness Areas

Impacts on wilderness are those actions that reduce the wilderness characteristics of naturalness and opportunities for solitude or primitive forms of recreation. These values can be impacted by the use of motor vehicles and installation of structures causing surface disturbance and evidence of the man-caused modifications of the area.

4.12.1.1 Degradation of Wilderness Values

The primary potential impacts to the two designated wilderness areas within the Planning Area may occur due to the use of motor vehicles and heavy motorized equipment for fire suppression and construction and maintenance of structures as well as the structures themselves. Structures and associated impacts are generally attributable to domestic livestock and wildlife habitat projects. Wilderness values can be impacted by vegetation treatments (e.g., prescribed fire, chemical, and mechanical) for non-native invasive plant species removal, and fuel load management. Wilderness values can be impacted by vegetation treatments (e.g., prescribed fire, chemical, and mechanical) for non-native invasive plant species removal and fuel load management. Wildfire suppression activities and management responses could also impact wilderness values. Construction and maintenance of wildlife and range improvement facilities (e.g., wildlife waters) could degrade values for which these WAs were designated. Potential short-term impacts from these construction and maintenance activities would result from dust emissions and noise. Potential short-term impacts on naturalness and solitude could result from dust emissions and noise related to vehicle use and access to private lands in the area.

4.12.1.2 Differences between Alternatives

The only resource use for which there are quantifiable differences among the alternatives is livestock grazing. It should be noted that livestock grazing, where established at the time of designation of the two wilderness areas, shall be allowed to continue irrespective of impacts on the wilderness values cited above. However, there are differences in grazing intensity between the alternatives due to issues with other public land resources. The grazing of livestock has an impact on naturalness, in that the grazing impact of livestock is sometimes evident, there are structures associated with the management of the livestock, and ranchers are often present to, for example, tend

4.12 Impacts on Special Designations

the livestock or maintain range structures. Approximately 21,204 acres of the Sawtooth Mountains Wilderness and approximately 5,293 acres of Carrizo Gorge Wilderness are being grazed under Alternative A. The presence of livestock and associated presence of structures and ranchers would have an impact on the wilderness values of naturalness and solitude. Alternative B would eliminate grazing from critical habitat. This would reduce the extent of grazing and enhance the wilderness values, primarily naturalness, of the Sawtooth Wilderness. However, any new structures, such as fences, necessary to implement these alternatives would reduce the wilderness values. Alternatives C and E would eliminate grazing use from the wilderness areas and so have the least impact on wilderness values.

4.12.1.3 Unavoidable Adverse Impacts

Unavoidable adverse impacts on wilderness values of naturalness and solitude include aircraft traffic, vehicle traffic, and noise related to law enforcement, USBP enforcement, and search and rescue activities as well as litter and trampling of sensitive resources from unauthorized entry into these areas.

4.12.2 Impacts on Wilderness Study Areas

The primary potential impacts to the six WSAs within the Planning Area could occur from construction and maintenance of range and wildlife habitat improvement projects. The provisions of the BLM Handbook H-8550-1 *Interim Management Policy for Lands under Wilderness Review* (DOI BLM 1995) would continue to be upheld including restrictions on motorized access, infrastructure developments, and new commercial activities. All activities/authorizations allowed within the WSAs must meet the non-impairment criteria standard (not to impair the suitability of such areas for preservation as wilderness). All lands must be managed to prevent unnecessary or undue degradation.

WSAs are open to operation under the General Mining Law. There are no claims in any of the WSAs. Mineral potential is generally low, so no new claim locations are expected in WSAs. The WSAs are not available for oil and gas leasing. There are no sand or gravel operations in the WSAs. While not prohibited, any new authorizations for sand and gravel are subject to the non-impairment standard and are thus not anticipated. Therefore, no impacts are expected from mining, mineral leasing, or mineral sales activities.

4.12.2.1 Degradation of Wilderness Study Area Values

WSA values could be impacted by vegetation treatments (e.g. prescribed fire, chemical, and mechanical) for non-native invasive plant species removal and fuel load management. WSAs are open to operation under the General Mining Law; however, there are no mining claims in any of the WSAs. Mineral potential is generally low, so no new claim locations are expected in WSAs. The WSAs are not available for oil and gas leasing. There are no sand or gravel operations in the WSA. While not prohibited, any new authorizations for sand or gravel are subject to the non-impairment standard and are thus not anticipated. Therefore, no impacts are expected from mining, mineral leasing, or mineral sales activities. Wildfire suppression activities and management responses could also impact WSA values. Construction and maintenance of wildlife and range improvement facilities (e.g., wildlife waters) could degrade values for which these WSAs were designated. Potential short-term impacts from these construction and maintenance activities would result from dust emissions and noise. Existing mineral claims could have potential short and long-term effects on naturalness, solitude, and primitive unconfined recreation from noise disturbance and dust emission. Potential short-term effects on solitude would result from hunting activities or discharge of firearms. Potential short-term impacts on naturalness and solitude could result from dust emissions and noise related to OHV use in and adjacent to WSAs and access to private in-holdings.

4.12.2.2 Unavoidable Adverse Impacts

Unavoidable adverse impacts on WSA values of naturalness and solitude include aircraft traffic, vehicle traffic, and noise related to law enforcement, USBP enforcement, and search and rescue activities and litter and trampling of sensitive resources from unauthorized entry into these areas.

4.12.3 Impacts on National Scenic Trails

There is one NST, the Pacific Crest NST, within the Planning Area. The primary impacts to this trail would be caused by any actions that would compromise the ability to provide for the outdoor recreation needs of the public and promote the preservation of, public access to, travel within, and enjoyment of the open-air, outdoor, and scenic areas.

4.12.3.1 Degradation of National Scenic Trail Values

Potential impacts to the Pacific Crest NST could result from vegetation treatments and land uses (e.g., grazing). Any vegetation treatments that are undertaken to restore the condition of trails could have impacts to the overall scenic value of trails. Impacts could occur where existing OHV routes and trails cross the Pacific Crest NST, causing potential visitor conflicts and accidents.

4.12.3.2 Differences between Alternatives

Impacts to the Pacific Crest NST vary by alternative. Table 4-11 demonstrates the number of miles that occur within special designation areas and within the various OHV Management Area Designations. The table also shows how many routes intersect the Pacific Crest NST and identifies their classifications.

**TABLE 4-11
IMPACTS TO PACIFIC CREST NATIONAL SCENIC TRAIL BY ALTERNATIVE**

	A	B	C	D	E
Special Designations (miles of Pacific Crest NST that occur with those designated areas by alternative)					
WSAs	9.6	9.6	9.6	9.6	9.6
ACECs	0	0	0	0	0
Lands and Realty (miles of Pacific Crest NST that occur with those designated areas by alternative)					
Exclusion Areas for Renewable Energy ¹	0	14.1	14.1	14.1	14.1
Exclusion Areas for all Land Use Authorizations except Renewable Energy ¹	0	9.6	9.6	9.6	9.6
Avoidance Areas for Renewable Energy ¹	0	0	0	0	0
Avoidance Areas for all Land Use Authorizations except Renewable Energy ¹	0	4.4	4.4	0	4.4

**TABLE 4-11
IMPACTS TO PACIFIC CREST NATIONAL SCENIC TRAIL BY ALTERNATIVE (CONT.)**

	A	B	C	D	E
OHV Management Area Designations (miles of Pacific Crest NST that occur with those designated areas by alternative)					
Closed	9.6	9.6	9.6	9.6	9.6
Limited	4.2	4.2	4.2	4.2	4.2
Open	0	0	0	0	0
Implementation Level Decisions Routes of Travel Designations (number of intersections w/Pacific Crest NST)					
Non-motorized	0	1	1	0	1
Motorized	5	4	4	5	4

¹ Exclusion and avoidance areas are based on the land use decisions proposed by alternative in Table 2-20.

4.12.3.3 Unavoidable Adverse Impacts

- Non-discretionary surface disturbing activities on or immediately adjacent to the Pacific Crest NST would have an impact on the values for which this trail was designated.
- Wildfire could result in erosion and an impairment of visual resources.
- Illegal use of the trail, such as bicycles or motorized vehicles and littering.

4.12.4 Impacts on Areas of Critical Environmental Concern

The primary potential impacts to the two ACECs within the Planning Area could occur from any activity that could disturb the relevant and important values for which the ACEC was designated.

Management actions with potential to cause impacts include vegetation treatments, livestock grazing, range and wildlife habitat improvement and maintenance projects, OHV and route use, discretionary construction activities, land tenure, mining, and recreational activities.

4.12 Impacts on Special Designations

Beneficial impacts would occur from the protection of cultural resources and the protection and restoration of wildlife habitats.

4.12.4.1 Degradation of ACEC Values

Potential direct and indirect impacts to ACECs would result from the following management actions and LUP decisions: vegetation treatments, range and wildlife habitat improvement projects, land tenure adjustments, construction-related activities, mineral development and leasing, recreation, OHV Management Area Designations, routes of travel, and military training.

Impacts on sensitive resource values (cultural and ecological) within ACECs could result from vegetation treatments (e.g., prescribed fire, chemical, and mechanical) for non-native invasive plant species removal and fuel load management and wildfire suppression activities and management responses.

The construction and maintenance of rangeland and wildlife improvement facilities, including wildlife waters, could impact ACEC relevant and important values. Maintenance and/or installation of additional structures could result in impacts from construction related activities and subsequent differences in wildlife distribution and/or abundance.

ROW construction and use (including utility corridors and communication sites) and any other land uses could have impacts on ACEC relevant and important values. Impacts would be minimized through BLM-required mitigation measures and BMPs.

Acquisition of inholdings would protect ACEC relevant and important values by adding acquired lands under protective management.

Outside of avoidance or exclusion areas, potential impacts could occur to ACEC relevant and important values during authorized construction activities (e.g. new recreational facilities, mining-related activities, road building, construction on utility, and communication ROWs). Impacts would include the loss of vegetation and disturbance to

wildlife habitat, disturbance to natural systems or processes, and potential impacts to cultural resources.

“No surface occupancy” for leasables and renewable energy authorizations would protect sensitive cultural and ecological resources. Potential impacts could result from salable mineral activities within ACECs.

Potential impacts from recreation activities (e.g., OHV use) include disturbance of sensitive cultural or ecological resources. Potential impacts could occur from OHV use along routes of travel within ACECs. Impacts include disturbance, erosion, loss of vegetation, potential wildlife mortality from vehicle encounters, and increased visitation to sensitive resource areas (including cultural and wildlife).

Military rotary aircraft overflights could impact wildlife resources. Special ground training maneuvers could impact cultural and ecological resources causing degradation in the values of ACEC areas.

4.12.4.2 Differences between Alternatives

**TABLE 4-12
IMPACTS TO ACECs BY ALTERNATIVE**

	A	B	C	D	E
Potential ACEC Designations (acres) ¹					
In-Ko-Pah ACEC (acres)	22,186	9,743	23,430	8,499	9,743
Table Mountain ACEC (acres)	4,293	5,213	6,230	4,293	5,213
Total ACEC (acres)	26,479	14,956	29,660	12,792	14,956
Livestock Grazing (acres within the ACECs) ²					
Available	14,285	4,883	0	10,244	0
Unavailable	9,760	7,709	27,096	277	12,592

**TABLE 4-12
IMPACTS TO ACECs BY ALTERNATIVE (CONT.)**

	A	B	C	D	E
Lands and Realty Authorizations (including Renewable Energy) (acres) ²					
ACEC Proposed for Withdrawal (acres)	11,300	0	14,351	0	12,592
Land Available for Disposal	1	20	0	1	0
Land Available for Wind Energy Development	9,557	0	0	0	0
OHV Management Area Designations (acres) ²					
Open	0	0	0	0	0
Closed	13,513	1	27,096	0	1
Limited	10,532	12,592	0	10,521	12,592
Implementation Level Decisions- Routes of Travel Designations (miles within the ACECS) ²					
Motorized	13.61	21.01	11.15	13.61	21.01
Non-motorized	24.65	25.89	37.48	22.99	25.89

¹ Total acreage of ACECs includes private in-holdings that fall within the boundaries of the ACECs. BLM's land use decisions and management actions only apply to BLM-administered lands within the ACEC.

² Acreages exclude the private in-holdings.

4.12.4.3 Unavoidable Adverse Impacts

Unavoidable adverse impacts on cultural and ecological resources could occur as a result of natural events (e.g., wildfires, floods, etc.) and range improvements and related activities (e.g., construction of waters and fencing, normal concentration of livestock around waters, and livestock trail networks).

Law enforcement or emergency search and rescue activities, including USBP activities, occurring in areas supporting priority species could result in unavoidable adverse impacts to priority wildlife resources. Human entry and use of the area, including entry by undocumented immigrants, could impact sensitive resources through litter deposition and trampling.

Illegal kill, harm, harassment, removal or capture of animals (game and non-game), including eggs, could result in loss to individual animals.

4.12.4.4 Cumulative Impacts

No cumulative impacts resulting from land use decisions in the PRMP/FEIS pertaining to special designation areas have been identified.

4.12 Impacts on Special Designations

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4.13 Impacts on Public Health and Safety

Impacts to public health and safety would be considered significant if implementation of an alternative would cause or potentially result in greater safety risks. Positive impacts could also result from implementation of an alternative that would minimize or significantly reduce certain health and safety issues.

- Abandoned mines—gating or backfilling abandoned mine shafts, adits, and pits would reduce human safety hazards.
- Hazardous materials—there are no known existing hazardous materials sites on BLM-administered lands within the Planning Area. Any future encounters will be handled pursuant to BLM regulations.
- International border issues—the USBP are responsible for patrol and enforcement of the International Border. There is approximately 6.5 miles of International Border present within the Planning Area, 0.5 miles of which occur on BLM-administered lands. There is a potential for cross-traffic encounters between the public and these agents during USBP enforcement activities.
- Unexploded ordnance—there are no known occurrences. Any encounters will be handled pursuant to BLM regulations.

4.13.1 Differences between Alternatives

Impacts to Public Health and Safety are not expected to vary by alternative.

4.13.2 Unavoidable Adverse Impacts

Inadvertent exposure to or encounters with any of these public health and safety hazards could result in serious injury or death which would be an unavoidable adverse impact.

4.13.3 Cumulative Impacts

No cumulative impacts to public health and safety issues resulting from land use decisions in the PRMP/FEIS have been identified.

4.14 Impacts on Livestock Grazing

The impacts for livestock grazing are: loss of grazing acreage or restrictions on grazing, loss of forage, and loss of water—natural and livestock waters.

Under Alternatives C and E, all BLM-administered lands would be unavailable for livestock grazing. Lands available for livestock grazing would be reduced under Alternative B. Under Alternative B, allotments would be adjusted to exclude grazing from the OHV management area in Lark Canyon and Table Mountain ACEC. Table 4-13 quantifies the acres available for grazing under each alternative.

Broad-scale vegetation management activities, such as prescribed fire, could temporarily reduce the forage base within grazing areas with the rate of recovery depending on the vegetation community burned, the hydrology, soil type, and intensity of the fire. Post fire, forage quality and palatability could increase due to the stimulation of vegetation.

Range improvement projects (e.g., livestock and wildlife waters) would increase the amount of available water. Alternatives A, B, and D allow for the authorization and maintenance of range improvement projects. Invasive species removal (e.g., tamarisk) could also increase the availability of surface water.

4.14.1 Grazing Criteria by Alternative

The criteria used to analyze grazing on BLM-administered public lands within the Planning Area are detailed in Section 2.3.14 and Appendix E. Table 4-14 identifies how the application of the livestock grazing criteria affects the availability of lands for livestock grazing by alternative.

4.14.2 Unavoidable Adverse Impacts

Climate changes, including extended drought cycles, could decrease the availability of forage. This could affect the ability to effectively graze livestock under Alternatives A, B, and D, where livestock grazing allotments are available for grazing. This could have no

**TABLE 4-13
IMPACTS FOR LIVESTOCK GRAZING OF PERENNIAL/EPHEMERAL ALLOTMENTS**

Allotment Number	Name	Total Acres	Alternative A (No Action)			Alternative B			Alternative C			Alternative D			Alternative E (Preferred)		
			Acres	AUMs	Acres	AUMs	Acres	AUMs	Acres	AUMs	Acres	AUMs	Acres	AUMs	Acres	AUMs	
07002	McCain Valley – In-Ko-Pah	10,704	10,704	1,023	3,705	354	0	0	10,704	1,023	0	0	0	0	0		
07002	McCain Valley – Tierra Blanca	9,793	9,793	89	8,467	77	0	0	9,793	89	0	0	0	0	0		
07002	McCain Valley – Mt. Tule	5,305	5,305	0	1,290	0	0	0	5,305	0	0	0	0	0	0		
07002	McCain Valley – Table Mountain	5,679	5,679	0	3,628	0	0	0	5,679	0	0	0	0	0	0		
07018	Banner Queen	4,132	4,132	0	4,132	0	0	0	4,132	0	0	0	0	0	0		
07020	Canebrake	6,820	6,820	0	464	0	0	0	6,820	0	0	0	0	0	0		
07037	Oriflamme	5,281	5,281	0	4,759	0	0	0	5,281	0	0	0	0	0	0		
07045	Vallecito	15,985	15,985	0	2,908	0	0	0	15,985	0	0	0	0	0	0		
07015	San Felipe	1,845	1,845	0	1,845	0	0	0	1,845	0	0	0	0	0	0		
TOTAL	-----	101,157*	101,157*	1,112	31,198	431	0	0	101,157*	1,112	0	0	101,157*	1,112	0		

*Figures may be slightly different elsewhere in the PRMP due to differences in acreage calculations in GIS applications.

**TABLE 4-14
ANALYSIS OF ACRES REMOVED FROM LIVESTOCK GRAZING**

Acreege Left after Applying Criteria	McCain Valley-Tierra Blanca									
	San Felipe	Banner Queen	Oriflamme	Vallecito	Canebrake	McCain Valley-Tierra Blanca	McCain Valley-In-Ko-Pah	McCain Valley-Table Mtn.	McCain Valley-Mt. Tule	
Apply Criterion #1	1,854	4,131	4,759	2,908	464	8,467	3,705	3,628	1,290	
Apply Criterion #2	1,854	4,131	4,759	2,908	464	8,467	3,705	~300	~2,000	
Apply Criterion #3	0	22.1	10.67	15.67	7.88	5.47	0	0	0	
Apply Criterion #4	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Apply Criterion #5	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Apply Criterion #6	1 water source	0 water sources	0 water sources	2 water sources	0 water sources	12 water sources	1 water source	0 water sources	0 water sources	
Apply Criterion #7	1 water source	0 water sources	0 water sources	2 water sources	0 water sources	12 water sources	1 water source	0 water sources	0 water sources	
Apply Criterion #7 (acres unusable due to steep slope)	741	3,973	6,273	6,796	3,615	5,890	7,445	890	900	
Apply Criterion #8	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	
Bottom Line Acreege Left after all criteria applied (Riparian area acreeges)	0	22.1	10.67	15.67	7.88	5.47	0	0	0	

4.14 Impacts on Livestock Grazing

effect under Alternatives C and E, where livestock grazing allotments are unavailable for grazing.

4.14.3 Cumulative Impacts

The ECFO does not administer any additional acres or AUMs of grazing lands outside of the Planning Area. However, the Cleveland National Forest administers 108,143 acres and 20,483 AUMs including the private in-holdings within the forest boundary. The loss of 64,498 acres of open lands would represent a loss of 38 percent of the available grazing on BLM (ECFO) and national forest service lands in the region. This could result in a cumulative effect to grazing in the region.

4.15 Impacts on Lands and Realty Program (including Renewable Energy)

Table 4-15 provides a breakdown of the proposed actions for lands and realty by alternative.

**TABLE 4-15
LANDS AND REALTY ALLOWABLE USES BY ALTERNATIVE**

	A	B	C	D	E
ROWs					
Roads/Ditches & Canals	1.61 miles (5.81 acres)	Considered and authorized on a case-by-case basis to meet public demand consistent with the exclusion and avoidance areas identified by alternative in Table 2-20.			
Oil and Gas; other energy pipelines	0	Considered and authorized on a case-by-case basis to meet public demand consistent with the exclusion and avoidance areas identified by alternative in Table 2-20.			
Electrical/ Telephone Lines	26.02 miles (336.80 acres)	Considered and authorized on a case-by-case basis to meet public demand consistent with the exclusion and avoidance areas identified by alternative in Table 2-20.			
Non-energy pipelines/ other linear pipelines	0.37 miles (4.40 acres)	Considered and authorized on a case-by-case basis to meet public demand consistent with the exclusion and avoidance areas identified by alternative in Table 2-20.			
Renewable Energy ROWs					
Wind Energy	17,000 acres, 4 met towers	Considered and authorized on a case-by-case basis to meet public demand consistent with the exclusion and avoidance areas identified by alternative in Table 2-20.			
Lands Available for Wind Energy Development by Alternative (acres)	33,130	0	0	20,442	6,931
Land Tenure					
Available for Disposal (acres)	1,715	1,080	0	1,080	490
Communication Sites					
Government Agency	2	Considered and authorized on a case-by-case basis to meet public demand consistent with the exclusion and avoidance areas identified by alternative in Table 2-20.			
Commercial Client	1	Considered and authorized on a case-by-case basis to meet public demand consistent with the exclusion and avoidance areas identified by alternative in Table 2-20.			
Site Permits					
Apiary	3 permits (8 sites, 840 hives)	Considered and authorized on a case-by-case basis to meet public demand consistent with the exclusion and avoidance areas identified by alternative in Table 2-20.			

4.15.1 Land Tenure (Disposals, Acquisitions, and R&PPs)

Disposals are lands identified as excess to the public's and Government's needs or more suited to private ownership and are sometimes offered for sale. Disposals would result in fewer acres available within the BLM transportation and access network.

Acquisition of lands through exchange, purchase, and donation is an important component of the BLM's land management strategy. BLM acquires land and interests in land, when it is in the public interest and consistent with publicly approved land use plans. The BLM's land acquisition program is designed to improve management of natural resources through consolidation of federal landownership patterns; increase recreational opportunities and preserve open space; secure key property necessary to protect endangered species and promote biological diversity; preserve archaeological and historical resources; and implement specific acquisitions authorized by acts of Congress. Acquiring access to landlocked parcels would result in increased use of these lands by the public.

Easements allow the government to obtain certain rights on private property that usually involve access or development. The lands remain in private ownership with limited rights owned by the government. Acquiring easements allows the landowner to maintain existing land uses, but provides access to "landlocked" public lands while allowing the BLM to construct road improvements for better management and increased public access.

4.15.2 Utility Corridors and Communications

A utility corridor is defined as a parcel of land (linear in character) that has been identified through the land use planning process as being a preferred location for existing and future utility rights-of-way and that is suitable to accommodate one or more rights-of-way which are similar, identical, or compatible.

All alternatives specify one utility corridor consistent with the Western Regional Corridor Study (Western Utility Group 1993). Under Alternative A (No Action) there is one existing utility corridor within the Planning Area south of Table Mountain that is a maximum of 1.5 miles long and approximately 2 miles wide, bounded by the Interstate 8 ROW to the

north.

Under Alternatives B, C, D, and E, the utility corridor would be a maximum of 1.5 miles long with a width of 1 mile, the northern boundary of which would be the southern boundary of the Interstate 8 ROW. As discussed in Section 2.3.18.4, all new utility ROWs, consisting of the following types, would be located only within the designated corridor: 1) new electrical transmission towers and cables of 161 kV or above; 2) all pipelines with diameters greater than 12 inches; 3) coaxial cables for interstate communications; and 4) major aqueducts or canals for interbasin transfers of water.

Alternative A has two communication sites. Alternatives B through E would consider and authorize applications for communication sites on a case-by-case basis emphasizing co-location and subleasing of facilities.

4.15.3 Renewable Energy

The PRMP allows for the development of renewable energy, although land use allocations for renewable energy vary by alternative. Under all alternatives, land use authorizations for renewable energy would be considered on a case-by-case basis to meet public demand. Under Alternatives B, C, D, and E solar or wind generating facilities would not be located in VRM Classes I and II. WAs and WSAs are exclusion areas under all alternatives. ACECs are exclusion areas under Alternatives B, C, D, and E.

Based on the wind energy potential model developed by PPM Energy (2006) and excluding the WAs and WSAs, there is a total of 12,788 acres of BLM-administered lands in the Planning Area that have the potential to support future wind energy projects under Alternative A. Under Alternatives B, D, and E, lands with potential to support future renewable energy development area reduced to 235 acres, 7,441 acres, and 4,468 acres respectively. Further excluding critical habitat for Peninsular bighorn sheep and quino checkerspot butterfly from the potential buildable land for wind energy, there are a total of 209 acres available under Alternative C.

The development of renewable sources of energy could reduce the irreversible/irretrievable commitment of nonrenewable energy resources.

4.15.4 Cumulative Impacts

There has been at least one recent project that consisted of the installation of wind energy towers on tribal lands within the Planning Area, and there is a potential that additional projects on private and tribal lands in the Planning Area could be approved during the life of this PRMP. Any new wind energy projects approved on BLM-administered lands within the Planning Area could result in a cumulative increase in renewable energy generated in the Planning Area.

4.16 Impacts on Minerals Program

Mineral resources are adversely impacted, when planning decisions limit access to or place limitations on the development of valuable mineral deposits.

4.16.1 Impacts on Locatable (Metallic and Non-metallic/Industrial) Minerals

WAs are withdrawn from the operation of the mining and mineral leasing laws under all alternatives. There are no valid rights attendant to mineral resources on public lands that have not been appropriated prior to designation of WAs. Impacts to mineral resources are expected from land use decisions identified in Table 2-13 where access to or availability of mineral resources is impeded, denied, or restricted, including increased costs associated with restoration of surface disturbance in these areas. These actions include the proposed withdrawal of both Table Mountain and In-Ko-Pah ACECs from mineral entry under Alternatives A, C, and E and the proposed withdrawal of critical habitat and all WSAs from mineral entry under Alternative C. The proposed withdrawals from mineral entry would prohibit access to and development of metallic and non-metallic/industrial minerals for new mineral locations on public lands, and increase costs associated with mitigation and design of access to private mineral interests in these areas. Where mining claims with verified valid existing rights are located in areas withdrawn from mineral entry, and these rights would need to be acquired to protect non-mineral resources, local, regional, or national economies would be negatively affected by locking these metallic and non-metallic/industrial minerals deposits from foreseeable future use.

4.16.2 Impacts on Leasable Resources

There is no potential for oil, gas, or coal resources, or other solid leasable minerals in the Planning Area and limited potential for the development of geothermal resources for low-temperature direct use permits.

In the event that an application is proposed for development of leasable resources on BLM-administered lands within the Planning Area, impacts to leasable resource activities would be in accordance with land use decisions presented in Table 2-13. This includes closing critical habitat to leasable resource development within ACECs under Alternative

B; closing critical habitat and ACECs under Alternative C and E; and closing all WSAs under Alternatives B, C, and E.

4.16.3 Impacts on Salable (Construction) Materials

There is limited potential for future development of salable resources from BLM-administered lands within the Planning Area. However, in the event that an application is proposed for development of salable resources on BLM-administered lands within the Planning Area, impacts to salable resource activities would be in accordance with land use decisions presented in Table 2-13. This includes closing critical habitat to salable resource development within the ACECs under Alternative B; closing critical habitat and ACECs under Alternative C and E; and closing all WSAs under Alternatives B, C, and E.

4.16.4 Cumulative Impacts

No cumulative impacts resulting from land use decisions in the PRMP/FEIS pertaining to mineral resource management have been identified.

4.17 Impacts on Recreation Program

4.17.1 Recreation Management Areas

Under all alternatives except Alternative A, 102,869 acres of Special Recreation Management Areas (SRMAs) would be created. BLM-administered lands outside of SRMAs are Extensive Recreation Management Areas (ERMA). Recreation management within ERMAs would be limited to custodial actions only. Therefore, the creation of SRMAs allows for more recreation management in these areas. Although Alternative A does not provide for any SRMAs, it covers 38,690 acres which were previously identified in the McCain Valley National Cooperative Land and Wildlife Management Area in accordance with the McCain Valley RAMP (DOI BLM 1979a).

Overall, the PRMP provides for a number and variety of recreational opportunities. The allowance and level of maintenance for recreation varies somewhat by alternative. Alternatives D and E call for improving staging areas outside WAs to wilderness trailheads. Alternative C creates the Sawtooth Undeveloped SRMA, which would be managed to intentionally maintain dispersed and undeveloped recreation opportunities such as hiking and backpacking, hunting, wildflower and wildlife viewing, rock hounding, and equestrian use. Alternatives B, D, and E create the Sawtooth Destination SRMA, which would be managed to promote the continued use of the lands for hiking and backpacking, hunting, wildflower and wildlife viewing, rock hounding, and equestrian use and would also accommodate limited OHV use, camping, and day-use outside of designated wilderness and WSAs. The development of a primitive campground/equestrian area is proposed for the Chariot Canyon Recreation Management Zone (RMZ) under Alternatives B, C, D, and E.

Intensive recreational use would result in a long-term loss of productivity by means of soil compaction and areas of denuded vegetation.

4.17.2 Transportation and Public Access

Alternative B would eliminate livestock grazing in the Lark Canyon OHV area, while Alternative D would reduce the OHV area to minimize the conflict between OHV use and livestock grazing. See Table 2-17, which summarizes the acres designated as open, closed, or limited for OHV use.

4.17 Impacts on Recreation Program

For WAs, the limitation on access is for mechanized transport and motorized access. For WSAs, the use of motor vehicles, motorized equipment or other forms of mechanical transport would not be allowed off boundary roads and existing ways. The Pacific Crest NST is closed to motorized vehicles and mountain bikes. Motorized access within ACECs is limited to existing or designated routes, except as authorized. Outside of these areas, OHV use is limited to existing or designated routes, except as authorized.

Access requiring authorization (uses requiring permits) could involve seasonal restrictions such as seasonal closures in Peninsular bighorn sheep critical habitat during lambing season.

Authorizations or leases could result in closure to areas for public access (i.e. geothermal, wind, solar) as a result of public health and safety concerns. Access for authorized uses such as minerals on split-estate lands where BLM manages the subsurface would not necessarily give public access across private lands, but grant access only to the authorized user.

PRMP level decisions (e.g., OHV Management Area Designations) and implementation-level decisions (e.g., individual route designations) would vary the number and length of routes designated by alternative (Table 4-16).

**TABLE 4-16
IMPACTS ON TRANSPORTATION AND PUBLIC ACCESS BY ALTERNATIVE**

	Alternative				
	A	B	C	D	E
OHV Management Area Designations (acres)					
Open	0	0	0	0	0
Closed	61,712	61,712	74,314	61,712	61,712
Limited	41,157	41,157	28,554	41,157	41,157
Total Acres	102,869	102,869	102,869	102,869	102,869
Routes of Travel (miles)					
Motorized	106.4	90.8	76.1	106.4	90.8
Non-motorized	78.8	94.4	109.1	78.8	94.4
Total Miles Designated	185.2	185.2	185.2	185.2	185.2

For WAs and the Pacific Crest NST, the limitation on access is for mechanized transport and motorized access. For WSAs, the use of motor vehicles, motorized equipment or other forms of mechanical transport would not be allowed off boundary roads and existing ways. These limitations provide an unavoidable adverse impact to transportation and access.

Alternatives A and D would also maintain the existing routes of travel classifications and thus would have no cumulative effect on this resource. Alternatives B and E would designate approximately 16 less miles of routes as motorized. Alternative C would decrease the amount of routes designated as motorized by 30 miles and increase the amount of non-motorized routes by 30 miles. However, some routes of travel that would not be designated are redundant; and alternatives exist on adjacent Forest Service lands, state parks lands, and on BLM-administered lands within the Planning Area, as well as other BLM-administered lands immediately adjacent to the Planning Area.

4.17.3 Cumulative Impacts

Alternatives A, B, D, and E would maintain the same OHV Management Area Designations while Alternative C would increase the acreage of closed areas from 61,712 acres to 74,314 acres. Alternatives B, C, and E would reduce the mileage of motorized routes of travel. This would represent a 15-percent decrease of motorized routes of travel under Alternatives B and E, and a 28-percent decrease of motorized routes of travel under Alternative C. Under Alternatives B, C, and E, implementation could result in a cumulative loss of OHV routes in the region and a cumulative increase for some other recreational activities, e.g., birding and hiking.

4.18 Social and Economic Impacts

This section of the report discusses the economic impacts associated with each of the proposed PRMP alternatives for the BLM's Planning Area. In general the level of economic activity on BLM-administered lands in the Planning Area is very low and represents a small portion of the \$215 million total output of the economy within the Planning Area (see Table 3-21). This is true for each of the BLM's program functions (e.g., agriculture, grazing, ROWs, renewable energy, minerals, and recreation). It is not expected that any of the proposed PRMP alternatives would result in any significant economic impacts. Furthermore, the level of economic output on BLM-administered lands in the Planning Area represents such a small portion of the economies of the ESDC or the county as a whole, that none of the proposed alternatives would result in a significant cumulative economic effect.

A possible exception would be the potential for large-scale wind energy development on BLM-administered lands within the Planning Area. The feasibility, size, and location of potential wind energy development are largely unknown. If and when a project is proposed to the BLM, the BLM and operator(s) would need to develop project-specific Plans of Development (PODs). Each POD would need to address the potential impacts (including economic and social impacts) of a proposed wind energy development.

4.18.1 Impacts on Livestock Grazing Program

4.18.1.1 Economic Impacts

It is unlikely that the PRMP alternatives for the livestock grazing program on BLM-administered lands within the Planning Area would have a significant economic impact, as the existing economic conditions do not represent a significant portion of either the eastern San Diego County economy or the economy of San Diego County as a whole (see Section 3.19.2). Furthermore, the proposed planning alternatives would result in a very small or no change in the economic impact.

A very small fraction of the economic activity within BLM-administered lands in Eastern San Diego County is generated by cattle operations. Likewise, cattle operations within BLM-administered lands in Eastern San Diego County involve and/or affect very few people. None of the proposed PRMP actions would therefore have an appreciable effect on socio-cultural conditions within the Planning Area.

4.18 Social and Economic Impacts

There are only two active livestock grazing sub-allotments on BLM-administered lands within the Planning Area. Both of these active sub-allotments are located in McCain Valley and combined they total 20,497 acres. No changes would occur in the livestock grazing allotments under Alternatives A and D, therefore, no economic impacts would result from these alternatives. Alternative B would result in a decrease of 8,325 acres (-40.6%) available for grazing. Alternatives C and E would remove all 20,497 acres of existing grazing activity.

The livestock grazing actions proposed in the alternatives would not result in significant economic impacts. All proposed alternatives would result in either no change or a very small change in the ESDC economy and would not be significant. To assist the BLM in land use planning, Table 4-17 below lists the impacts that would result for each 10,000-acre change in the amount of public land in active grazing allotments. The resulting annual impacts from a 10,000-acre change in active grazing area are very small (i.e., less than \$4,000 in total output and less than one-tenth of a job – 0.088 job) and are not significant for either the ESDC economy or the San Diego County economy.

**TABLE 4-17
ECONOMIC IMPACT PER 10,000 ACRES OF PUBLIC LAND AVAILABLE FOR LIVESTOCK
GRAZING WITHIN THE PLANNING AREA**

Economic Impacts per 10,000 Acres of Public Land Available for Grazing				
Impact Category	Direct	Indirect	Induced	Total
Dollar Value	\$6,199	\$4,696	\$464	\$11,359
Employment	0.049	0.034	0.005	0.088
Labor Income	\$315	\$915	\$137	\$1,367
Property Income	\$444	\$715	\$116	\$1,275
Tax Revenue	\$177	\$164	\$32	\$373
Value Added	\$667	\$2,072	\$286	\$3,025

Source: MIG IMPLAN/Pro and CIC Research, Inc. (2006)

Alternatives A and D – Economic Impact. Under Alternatives A and D the livestock grazing currently in place would continue unchanged. Table 4-18 provides the total economic impacts (direct, indirect, and induced) resulting from the current level of grazing. These total impacts represent the existing economic condition and are the same as presented in Table 3-22. The total output of \$23,281, the total employment of 0.18

jobs, and the total value added of \$6,199 represent an insignificant benefit to the economy of the Planning Area and the region as a whole.

**TABLE 4-18
ALTERNATIVES A AND D LIVESTOCK GRAZING ECONOMIC IMPACTS**

Economic Impacts - 20,497 Acres Averaging 131 Head				
Category	Direct	Indirect	Induced	Total
Dollar Value	\$ 12,705	\$ 9,625	\$ 951	\$ 23,281
Employment	0.10	0.07	0.01	0.18
Labor Income	\$ 646	\$ 1,875	\$ 281	\$ 2,802
Property Income	\$ 910	\$ 1,466	\$ 238	\$ 2,613
Tax Revenue	\$ 363	\$ 335	\$ 66	\$ 764
Value Added	\$ 1,367	\$ 4,246	\$ 586	\$ 6,199

Source: MIG IMPLAN/Pro and CIC Research, Inc. (2006)

Alternative B – Economic Impact. Alternative B would reduce the amount of grazing acreage from 20,497 acres actively grazed to an estimated 12,172 acres. The approximately 8,325-acre decrease (-41%) in grazing acreage for Alternative B would result in an insignificant decrease in total sales (direct, indirect, and induced) of \$9,455 within the ESDC economy (Table 4-19). Furthermore, the loss of employment under Alternative B would be negligible at 0.07 jobs, labor income loss would be \$1,138, and the loss of total value added within the ESDC economy would be \$2,518.

**TABLE 4-19
ALTERNATIVE B LIVESTOCK GRAZING ECONOMIC IMPACTS
RESULTING FROM CHANGE IN ACREAGE AVAILABLE**

Economic Impacts for Alternative B				
Impact Category	Direct	Indirect	Induced	Total
Dollar Value	\$7,545	\$5,716	\$565	\$13,826
Employment	0.059	0.042	0.006	0.107
Labor Income	\$384	\$1,113	\$167	\$1,664
Property Income	\$541	\$871	\$141	\$1,552
Tax Revenue	\$216	\$199	\$39	\$454
Value Added	\$812	\$2,521	\$348	\$3,681

Source: MIG IMPLAN/Pro and CIC Research, Inc. (2006)

Alternatives C and E – Economic Impact. Alternatives C and E would remove all grazing activity from the Planning Area. The resulting economic impact would be \$0 added to the economy from livestock grazing on BLM-administered lands in the Planning Area. Although Alternatives C and E would result in a 100-percent decrease in grazing acreage on BLM-administered lands in the Planning Area, the resulting economic impact would not be significant (Table 4-20). The economic impact (direct, indirect, and induced) would result in a loss of sales of \$23,281 within the economy of the Planning Area, a loss of employment of 0.18 jobs, a decrease in labor income of \$2,802, and a decrease in value added of \$6,199. These losses for the economy in the Planning Area are insignificant and represent less than 0.1 percent of the total value of animal production.

**TABLE 4-20
ALTERNATIVES C AND E LIVESTOCK GRAZING ECONOMIC IMPACTS
RESULTING FROM A 100 PERCENT DECREASE IN ACREAGE AVAILABLE**

Economic Impacts for Alternatives C and E as Compared to Alternative A*				
Impact Category	Direct	Indirect	Induced	Total
Dollar Value	(\$12,705)	(\$9,625)	(\$951)	(\$23,281)
Employment	(0.100)	(0.070)	(0.010)	(0.180)
Labor Income	(\$646)	(\$1,875)	(\$281)	(\$2,802)
Property Income	(\$910)	(\$1,466)	(\$238)	(\$2,614)
Tax Revenue	(\$363)	(\$335)	(\$66)	(\$764)
Value Added	(\$1,367)	(\$4,246)	(\$586)	(\$6,199)

* Negative amounts appear in parentheses.

Source: MIG IMPLAN/Pro and CIC Research, Inc. (2006)

In 2004 there were 28,000 head of cattle and calves in San Diego County delivered to market representing 210,000 hundred weight (cwt) and \$19.1 million total market value. The effect of livestock grazing under Alternatives A and D in the BLM-administered lands in Planning Area would be \$23,281. This represents one-tenth of a percent of the entire livestock economy in San Diego County. The effect from Alternative B is \$13,286. This represents less than one-tenth of a percent of the entire livestock economy in San Diego County. The effect from Alternatives C and E is \$0, which is a reduction of less than one-tenth of a percent of the entire livestock economy in San Diego County. These incremental contributions or reductions to the grazing economy do not indicate a cumulative impact.

4.18.1.2 Social Impacts

The economic data presented above show that livestock grazing on BLM-administered lands in the Planning Area has a very minor economic role in the region. Likewise, the community of livestock growers in the Planning Area is very small. To the persons involved, the ranching lifestyle may be quite important and a change of lifestyle may be perceived as very disturbing. A change in lifestyle may not be a necessary corollary of changes in acres available for grazing, however. There is considerable romanticism revolving around the ranching lifestyle, and to some seeing cowboys and cattle in the east San Diego backcountry may be a part of the recreational experience as well.

Under Alternatives C and E all grazing activity would be closed or unavailable, which would affect the 20,497 acres of active grazing within the Planning Area. Under Alternatives A and D, there would be no additional acres designated as unavailable. Under Alternative B there would be a decrease of 8,325 acres available for grazing. The total acreage under consideration supports approximately 131 head with a total direct and indirect annual dollar value (output) of about \$23,281 and total labor income of \$2,802 (see Table 4-18). It is unlikely that this sum amounts to a major proportion of income for the leasees. Similarly, it may be that leasees would be able to find alternative grazing areas for this small number of animals within BLM-administered lands in the Palm Springs/South Coast jurisdiction without a substantial change in lifestyle, social status, or cultural values. It is unlikely that reducing or eliminating grazing on BLM-administered lands in the Planning Area would have a significant adverse social impact.

Informal public input suggests that participants in some recreational activities, (e.g., hiking, birdwatching, hunting), and wildlife advocates may see the elimination or reduction of livestock grazing as beneficial. The reduction or elimination of grazing in the Planning Area may result in somewhat increased use by such groups which may offset negative perceptions of the ranch community. However, in total, the social impacts of reducing grazing or leaving it the same are minimal and would apparently affect very few people in the Planning Area. In most cases, the few people that it may influence would probably be affected in a minor way.

4.18.2 Impacts on Lands and Realty Program (including Renewable Energy)

4.18.2.1 Economic Impacts

Communication Sites

Communication sites under the Lands and Realty Program would not result in any significant economic impacts for all proposed planning alternatives. To date, only one new communication site, the USBP's Airport Mesa site, is under consideration. All proposed alternatives would result in either no change or a very small change in the economy within the Planning Area and would not be significant. Using the IMPLAN model output, Table 4-21 below describes the impacts that would result from a change of one communication site on BLM-administered lands. The resulting annual economic impacts per communication site are very small (i.e., less than \$14,000 in total annual output and less than \$7,000 in total value added) and are not significant for either the economy within the Planning Area or the San Diego County economy.

**TABLE 4-21
ECONOMIC IMPACT PER COMMUNICATION SITE FOR THE PLANNING AREA**

Economic Impacts per Communication Site				
Impact Category	Direct	Indirect	Induced	Total
Dollar Value	\$10,000	\$1,752	\$1,807	\$13,559
Employment	0.080	0.013	0.017	0.110
Labor Income	\$4,218	\$572	\$534	\$5,324
Property Income	\$5,013	\$855	\$1,113	\$6,981
Tax Revenue	\$61	\$73	\$126	\$260
Value Added	\$5,013	\$855	\$1,113	\$6,981

Source: MIG IMPLAN/Pro and CIC Research, Inc. (2006)

Rights-of-Way

After the initial development and construction impacts generated by a ROW user (e.g., SDG&E), the majority of annual economic impacts for ROWs are associated with the maintenance of paved and unpaved roadways, as well as the cleaning, inspection, and maintenance of transmission towers, lines, pipelines, and conduits. The average land development and construction cost may vary significantly with terrain and other factors. SDG&E is a major user of ROW on BLM-administered lands. A planning estimate of \$3 million to \$5 million per mile was used for the land development and construction of a utility transmission corridor based on data provided by SDG&E for eastern San Diego

County. The average annual cost per mile of maintained ROW ranges from \$30,000 to \$40,000 per mile within the Planning Area also based on data provided by SDG&E. The Planning Area has a relatively small amount of ROW encompassing 347 acres and approximately 28 linear miles. All proposed alternatives for ROW would result in either no change or a very small and insignificant change in the economy within the Planning Area and the San Diego County region.

Using the IMPLAN model output, Table 4-22 below describes the total economic impacts from development and construction that would result from a change of 100 acres of ROW (or about 8 miles of utility corridor) on BLM-administered lands. The resulting annual economic impacts per 100 acres are relatively small (i.e., less than \$1.6 million in total output) and are not significant for either the economy within the Planning Area or the San Diego County economy.

**TABLE 4-22
ECONOMIC IMPACT WITHIN THE PLANNING AREA PER 100 ACRES OF ROW
DEVELOPMENT AND CONSTRUCTION ON BLM-ADMINISTERED LANDS**

Economic Impacts per 100 acres of ROW Development/Construction				
Impact Category	Direct	Indirect	Induced	Total
Dollar Value	\$1,153,000	\$ 201,973	\$ 208,346	\$ 1,563,319
Employment	9.22	1.58	1.87	12.67
Labor Income	\$ 486,303	\$ 65,954	\$ 61,572	\$ 613,829
Property Income	\$ 84,620	\$ 24,199	\$ 52,320	\$ 161,140
Tax Revenue	\$ 7,039	\$ 8,463	\$ 14,480	\$ 29,982
Value Added	\$ 577,961	\$ 98,617	\$ 128,372	\$ 804,951

Source: MIG IMPLAN/Pro and CIC Research, Inc. (2006)

Using the IMPLAN model output, Table 4-23 below describes the annual total economic impacts from service and maintenance that would result from a change of 100 acres of ROW on BLM-administered lands. The resulting annual economic impacts per 100 acres are very small (i.e., less than \$400,000 in total output) and are not significant for either the economy within the Planning Area or the San Diego County economy.

TABLE 4-23
ECONOMIC IMPACT WITHIN THE PLANNING AREA PER 100 ACRES OF ROW
MAINTENANCE ON BLM-ADMINISTERED LANDS

Economic Impacts per 100 acres of ROW Maintenance				
Impact Category	Direct	Indirect	Induced	Total
Dollar Value	\$ 282,416	\$ 49,471	\$ 51,032	\$ 382,919
Employment	2.259	0.386	0.458	3.103
Labor Income	\$ 119,115	\$ 16,155	\$ 15,082	\$ 150,352
Property Income	\$ 20,727	\$ 5,927	\$ 12,815	\$ 39,469
Tax Revenue	\$ 1,724	\$ 2,073	\$ 3,547	\$ 7,344
Value Added	\$ 141,566	\$ 24,155	\$ 31,444	\$ 197,165

Source: MIG IMPLAN/Pro and CIC Research, Inc. (2006)

Renewable Energy

There are no solar energy sites on BLM-administered lands within the Planning Area and there are no proposals for solar energy development under the PRMP alternatives. Solar potential is likely discounted due to lack of large open flat spaces, topography, vegetative cover, boulders, and/or excluded areas due to critical habitat, and VRM classes. Therefore, no economic impacts were found for solar energy sites under any of the planning alternatives. However, any future proposed solar energy facilities would be required to address site-specific and species-specific issues during individual project reviews. The BLM and operators would need to develop project-specific PODs and contact appropriate agencies, property owners, and other stakeholders to identify potentially sensitive land uses, issues, and concerns specific to the region. Additional mitigation measures would be applied in the form of stipulations in the right-of-way authorization. The POD would include an analysis of the economic impacts based on the parameters of the proposed project.

There are no permanent wind energy facilities on BLM-administered lands within the Planning Area; however, there is a wind energy test site with a 3-year interim lease. The expected cost of developing a wind energy site on BLM-administered land is approximately \$900,000 per MW. These costs include \$720,000 per MW for the equipment and \$180,000 for site preparation and installation. The annual cost of maintenance of the site would be \$33,288 per MW (DOI BLM 2005a).

Any potential development of wind energy in the Planning area is expected to be small relative to total energy consumed in San Diego County and not expected to result in significant economic impacts. Any future proposed permanent wind energy facility would be required to address site-specific and species-specific issues during individual project reviews. The BLM and operators would need to develop project-specific PODs and must contact appropriate agencies, property owners, and other stakeholders to identify potentially sensitive land uses and issues, rules that govern wind energy development locally, and land use concerns specific to the region. Additional mitigation measures would be applied in the form of stipulations in the ROW authorization (DOI BLM 2005a). The POD would include an analysis of the economic impacts based on the parameters of the proposed project.

The total regional peak energy demand for San Diego County was forecasted at 4,813 MW by SDG&E for 2015. The baseline economic impacts per MW of wind energy power generation indicate that a wind energy farm of less than 500 MW (about 10% of regional peak demand) would not result in significant economic impacts to the economy of eastern San Diego County or the San Diego County region as a whole. In general, wind energy power generation would be beneficial to the Planning Area economy and the region. Using the IMPLAN model for the Planning Area, the resulting economic impact per MW of energy generation capacity are detailed in Tables 4-24 and 4-25.

**TABLE 4-24
INITIAL ONE-TIME ECONOMIC IMPACTS PER MEGAWATT FOR SITE PREPARATION AND
CONSTRUCTION OF A WIND ENERGY SITE IN THE PLANNING AREA**

Economic Impacts per MW of Generating Capacity				
Impact Category	Direct	Indirect	Induced	Total
Dollar Value	\$320,000	\$56,055	\$57,824	\$433,879
Employment	2.560	0.440	0.520	3.520
Labor Income	\$134,967	\$18,305	\$17,089	\$170,361
Property Income	\$23,485	\$6,716	\$14,521	\$44,722
Tax Revenue	\$1,954	\$2,349	\$4,019	\$8,322
Value Added	\$160,406	\$27,370	\$35,628	\$223,404

Source: MIG IMPLAN/Pro and CIC Research, Inc. (2006)

**TABLE 4-25
ANNUAL ECONOMIC IMPACTS PER MEGAWATT FOR
WIND ENERGY SITES WITHIN THE PLANNING AREA**

Economic Impacts per MW of Generating Capacity				
Impact Category	Direct	Indirect	Induced	Total
Dollar Value	\$33,288	\$3,729	\$8,266	\$45,283
Employment	0.380	0.030	0.070	0.480
Labor Income	\$20,650	\$1,260	\$2,443	\$24,353
Property Income	\$2,025	\$474	\$2,076	\$4,575
Tax Revenue	\$221	\$155	\$574	\$950
Value Added	\$22,895	\$1,889	\$5,093	\$29,877

Source: MIG IMPLAN/Pro and CIC Research, Inc. (2006)

4.18.2.2 Social Impacts

Land Tenure

As discussed above, land disposals and acquisitions anticipated by this PRMP are quite small and economically insignificant. While no disposals are proposed under Alternative C, 490 acres are proposed for disposal under Alternative E, 1,080 acres under Alternatives B and D, and 1,715 acres under Alternative A. It is not anticipated that these small land transactions could have any significant social impacts on communities within the Planning Area.

Easements and ROWs allow the government to obtain certain rights on private property that usually involve access or development. Most of these within the Planning Area are access roads. On BLM-administered lands within the Planning Area, these are relatively few and small in area (some 347 acres and 28 linear miles). All proposed alternatives would result in either no change or a very small change in existing situation (Table 4-23) and would not create significant social impacts.

Utility Corridors

A utility corridor is defined as a linear parcel of land identified for placement of one or more utilities (powerlines, pipelines, fiberoptic lines, etc.) There is only one joint use utility corridor presently traversing the Planning Area. The corridor runs east/west across a maximum of 1.5 miles of public land south of Table Mountain near Interstate 8. It has

an existing width of 2 miles. The corridor currently contains one 500-kV transmission line and several buried fiberoptic networks and telephone lines.

Alternative A (No Action) continues to utilize the one existing utility corridor. Under Alternatives B, C, D, and E, the utility corridor would be a maximum of 1.5 miles long with a width of 1 mile, the northern boundary of which would be the southern boundary of the Interstate 8 ROW. As discussed in Section 2.3.18.4, all new major utilities would be located only within the designated corridor.

Public input suggests that social impact issues relating to utility corridors are primarily related to the visual impacts of high voltage power lines. Under all alternatives, major utility ROWs would be placed within the existing utility corridor. This should minimize new visual impacts to already impacted areas. Visual impacts of Alternatives B, C, D, and E would be in a narrower existing utility corridor than that of Alternative A, so they would seem to have marginally less adverse social impacts than Alternative A.

Utility corridors have access roads in them, some of which are intensively used by OHV enthusiasts and campers to access backcountry areas. Additional utility lines or pipelines and their attendant ROW access roads may have positive social impacts for the OHV and backcountry camping communities.

Communication Sites

Alternative A has two communication sites. Alternatives B through E would consider and authorize applications for communication sites on a case-by-case basis emphasizing co-location and subleasing of facilities. As discussed above, communication sites under the Lands and Realty Program would not result in any significant economic changes. Only one new communication site, the USBP's Airport Mesa site, is currently proposed and under consideration. Communication sites typically have very small footprints, so social impacts would be focused on the visual pollution aspects. None of the proposed alternatives would result in significant social impacts.

Renewable Energy

Under all alternatives, land use authorizations for renewable energy would be considered on a case-by-case basis. Under Alternatives B, C, D, and E, solar or wind generating facilities would not be located in VRM Classes I and II. Renewable energy developments are excluded from WAs and WSAs under all Alternatives. ACECs are exclusion areas under Alternatives B, C, D, and E.

Social impacts of renewable energy relate primarily to visual impacts. Anecdotal evidence suggests that some people view wind or solar power generating facilities as a form of visual pollution. Some input expressed strong concerns about the potential use of McCain Valley for future wind energy development. Concerns relate to increased noise and dust from bigger roads that wind power operations might require and visual impacts of wind turbines and associated powerlines. There are also concerns about restricting off highway vehicles and better enforcement of existing rules within the McCain Valley area. However, the environmental community tends to look upon them as a way of reducing air and water pollution associated with fossil fuel production and use and input was also received in favor of potential future development of wind energy in the Planning Area. However, wind generating facilities are visually prominent and could be controversial from a social impacts point of view. Solar and wind facilities may alter access to some backcountry areas and may adversely impact recreational use of nearby areas as well. Both solar and wind facilities will result in a number of acres unavailable for other uses, but this is small in comparison to the Planning Area as a whole.

As discussed above, there are no solar electric generating facilities, existing or anticipated, in the Planning Area. Solar potential is likely discounted due to lack of large open flat spaces, topography, vegetative cover, boulders, and/or excluded areas due to critical habitat, and VRM classes. There is a test wind electric generating facility; however, no permanent wind power facilities currently exist on BLM-administered land in the Planning Area. Proposed solar and wind projects will be evaluated on a case-by-case basis in the Planning Area. Renewable energy does not vary by alternative in this PRMP. Overall, social impacts from renewable energy are not significant.

4.18.3 Impacts on Minerals Program

4.18.3.1 Economic Impacts

Impacts are assessed based on the loss of economic value for the local, regional, and national economies. The loss of economic value can be measured in terms of: 1) sales; 2) income (e.g. wages and salaries); 3) employment; and 4) taxes and tax base. These economic impacts can be further quantified in terms of direct, indirect, and induced impacts to determine the total economic impact on the economy. Please refer to Section 3.19.1.1.2 for a detailed description of the economic impact terms used in this report.

Impacts on Locatable (Metallic and Non-metallic/Industrial) Minerals

If a proposal to develop a gemstone operation is brought forth, operations are expected to employ less than 5 mine personnel with an annual payroll of from \$45,000 to \$180,000, initial capital purchases less than \$100,000, and annual purchases less than \$15,000. These values would be lost if the area is withdrawn from mineral development, and activity is not allowed under the plan alternatives. However, it should be noted that this level of economic impact (direct, indirect, and cumulative) would not be significant as a proportion of the local Planning Area economy or the region (San Diego County).

Impacts on Leasables

The market has demonstrated that economically viable development of leasable resources on BLM-administered lands in the Planning Area is not likely to be feasible. No significant impacts would result from any of the PRMP/FEIS alternatives.

Impacts on Salables

The market has demonstrated that economically viable development of salable resources on BLM-administered lands in the Planning Area is not likely to be feasible. No significant impacts would result from any of the PRMP/FEIS alternatives.

4.18.3.2 Social Impacts

Minerals are non-renewable and contribute to the standards of modern life. The balance to ensure social responsibility is to use these resources so that they balance other social

4.18 Social and Economic Impacts

needs and sustain the standards of living enjoyed by society today. Mineral resources are critical to supporting our social structure, where mineral aggregates are needed to support construction and associated infrastructure, energy minerals are needed for power supporting transportation and economic development, and chemicals from industrial minerals are needed to enhance and maintain our standard of living. Non-renewable mineral resources must be used in a sustainable way (access to and availability of deposits for development) to ensure that future generations can maintain the same or better standards of living that exist in society today.

Leasable resources consist primarily of oil, gas, coal, and geothermal. There are no commercial oil, gas, or coal extraction operations on BLM-administered lands in the Planning Area, and the potential for hydrocarbon resources is low to non-existent. Three areas have been tested for geothermal potential in the Planning Area with poor results and there are no commercial geothermal operations in the Planning Area. It is unlikely that there would be leasable resource extraction operations in the foreseeable future. Therefore no significant social impacts are anticipated resulting from any of the PRMP alternatives with regard to leasable resources.

Salable mineral resources relate primarily to sand and gravel extraction. There are no commercial sand and gravel extraction operations on BLM-administered lands within the Planning Area; therefore, no significant social impacts would result from any of the PRMP alternatives.

Locatable mineral resources include such metals as gold, silver, copper, uranium, and lead; non-metallic minerals such as asbestos, gypsum, borax, and mica; and gemstones such as turquoise, tourmaline, and diamonds. There are no commercial locatable resource extraction operations on BLM-administered lands within the Planning Area. The potential for future development of metallic and non-metallic/industrial minerals is considered low. There are no anticipated social impacts from any of the PRMP alternatives.

4.18.4 Impacts on Recreation Program

4.18.4.1 Economic Impacts

Recreational land uses within the Planning Area are an important source of revenues for the local economy. Total estimated visitor spending in the Planning Area (including non-BLM-administered lands) is a minimum of \$31.9 million annually and represents more than 10 percent of the total Planning Area economy. However, the total impact of day-use recreational activities and campground use on BLM-administered lands within the Planning Area is only about \$2,150,000 per year. This represents only seven percent of the total recreational/tourism spending within the Planning Area economy. As such recreational use of BLM-administered lands within the Planning Area is not a significant portion of the local economy. Total direct visitor spending within the San Diego economy was nearly \$7 billion in 2006.

It should be noted that most of the visitor spending (the dollar value of the direct impact) in the Planning Area occurs outside of BLM-administered land. Indeed the total sales on BLM-administered land for the Lark Canyon and Cottonwood campgrounds average a miniscule \$5,000 per year. The balance of the direct visitor spending outside of BLM-administered land for meals, beverages, shopping, recreation, fuel, and lodging also generates labor income, property income, and taxes within the Planning Area. The value added in the Planning Area is the sum of labor income, property income, and taxes. The total economic impact of the direct visitor spending is the sum of the direct, indirect, and induced sales within the Planning Area (see Section 3.19.1.1.2 for definition of terms).

Using the IMPLAN economic model for the Planning Area, Tables 4-26 and 4-27 below describe the impacts that would result from a change of 1,000 campground visitor use days or 10,000 dispersed-use visitor days on BLM-administered lands. The resulting annual economic impacts per 1,000 campground use days and per 10,000 dispersed-use days are very small (i.e., about \$300,000 in total output each) and are not significant for either the economy within the Planning Area or the San Diego County economy. Therefore, no significant economic impacts would result from any of the PRMP alternatives.

**TABLE 4-26
ECONOMIC IMPACTS PER 1,000 CAMPING VISITOR USE-DAYS
GENERATED BY BLM CAMPGROUNDS WITHIN THE PLANNING AREA**

Economic Impacts per 1,000 Campground Visitor Days				
Impact Category	Direct	Indirect	Induced	Total
Dollar Value	\$22,000	\$5,598	\$2,840	\$30,438
Employment	0.253	0.045	0.026	0.324
Labor Income	\$5,729	\$1,800	\$839	\$8,368
Property Income	\$3,469	\$1,205	\$713	\$5,387
Tax Revenue	\$818	\$322	\$197	\$1,337
Value Added	\$10,015	\$3,327	\$1,750	\$15,092

Source: MIG IMPLAN/Pro and CIC Research, Inc. (2006)

**TABLE 4-27
ECONOMIC IMPACTS PER 10,000 MCCAIN VALLEY
DISPERSED-USE VISITOR DAYS IN THE PLANNING AREA**

Economic Impacts per 10,000 Dispersed-Use Visitor Days				
Impact Category	Direct	Indirect	Induced	Total
Dollar Value	\$220,000	\$42,494	\$33,919	\$296,413
Employment	4.505	0.309	0.304	5.118
Labor Income	\$77,744	\$12,165	\$10,024	\$99,933
Property Income	\$20,221	\$7,488	\$8,518	\$36,227
Tax Revenue	\$11,261	\$1,877	\$2,357	\$15,495
Value Added	\$109,227	\$21,530	\$20,899	\$151,656

Source: MIG IMPLAN/Pro and CIC Research, Inc. (2006)

The preceding discussion and tables offer some economic impact measurement benchmarks for recreational land use changes within the Planning Area.

In the following paragraphs and tables, each alternative is analyzed for potential economic impacts as a result of the expected increase or decrease in days of recreational use. However, none of the proposed alternatives would result in significant economic impacts for the Planning Area.

Alternative A. No change in recreational land use would occur under Alternative A. The resulting economic impact of Alternative A would be the same as described in the baseline economic condition (refer to Section 3.19.5.1). The following economic impacts would occur as shown in Tables 4-28, 4-29, and 4-30. Table 4-28 lists the impacts for campground user days. Table 4-29 lists the impacts from dispersed-use visitor days (outside of the BLM campgrounds). Table 4-30 lists the combined total of the campground and dispersed-use visitor days for Alternative A.

**TABLE 4-28
ECONOMIC IMPACTS FOR ALTERNATIVE A FOR BLM CAMPGROUNDS
VISITOR USE-DAY IMPACTS GENERATED FOR THE PLANNING AREA**

Economic Impacts - 8,533 BLM Campground Visitor Days				
Impact Category	Direct	Indirect	Induced	Total
Dollar Value	\$ 187,726	\$ 47,771	\$ 24,237	\$ 259,734
Employment	2.16	0.38	0.22	2.76
Labor Income	\$ 48,884	\$ 15,360	\$ 7,163	\$ 71,407
Property Income	\$ 29,597	\$ 10,286	\$ 6,086	\$ 45,970
Tax Revenue	\$ 6,980	\$ 2,747	\$ 1,684	\$ 11,411
Value Added	\$ 85,461	\$ 28,393	\$ 14,934	\$ 128,788

Source: MIG IMPLAN/Pro and CIC Research, Inc. (2006)

As can be seen in the following Table 4-29. The economic impacts for dispersed visitor use of BLM-administered lands are much larger than the economic impacts generated by BLM campground visitor use (\$1.9 million v. \$260,000). However, visitor recreational use of BLM-administered lands does not generate a significant economic impact.

**TABLE 4-29
ECONOMIC IMPACTS OF ALTERNATIVE A FOR BLM DISPERSED-USE VISITOR DAYS**

Economic Impacts - 63,793 Dispersed Use Visitor Days				
Impact Category	Direct	Indirect	Induced	Total
Dollar Value	\$ 1,403,446	\$ 271,082	\$ 216,382	\$ 1,890,910
Employment	28.74	1.97	1.94	32.65
Labor Income	\$ 495,953	\$ 77,604	\$ 63,947	\$ 637,504
Property Income	\$ 128,996	\$ 47,768	\$ 54,338	\$ 231,103
Tax Revenue	\$ 71,840	\$ 11,976	\$ 15,038	\$ 98,854
Value Added	\$ 696,789	\$ 137,349	\$ 133,324	\$ 967,461

Source: MIG IMPLAN/Pro and CIC Research, Inc. (2006)

Under Alternative A, the annual economic value (direct, indirect, and induced) generated by recreation on BLM-administered lands is about \$2.1 million (Table 4-30). This impact is relatively small compared to the overall value of recreation and tourism in the Planning Area (\$31.9 million) and for the County (nearly \$7 billion). The total employment generated within the Planning Area is about 35.4 jobs and the total value added is about \$1.1 million per year.

**TABLE 4-30
ECONOMICS OF COMBINED CAMPGROUND AND DISPERSED-USE
VISITOR DAYS ON BLM-ADMINISTERED LANDS IN THE PLANNING AREA**

Economic Impacts - Combined Campground & Dispersed Day Use				
Impact Category	Direct	Indirect	Induced	Total
Dollar Value	\$ 1,591,172	\$ 318,853	\$ 240,619	\$ 2,150,644
Employment	30.90	2.35	2.16	35.41
Labor Income	\$ 544,837	\$ 92,964	\$ 71,110	\$ 708,910
Property Income	\$ 158,594	\$ 58,054	\$ 60,425	\$ 277,073
Tax Revenue	\$ 78,819	\$ 14,724	\$ 16,723	\$ 110,266
Value Added	\$ 782,250	\$ 165,742	\$ 148,257	\$ 1,096,249

Source: MIG IMPLAN/Pro and CIC Research, Inc. (2006)

Alternatives B, D, and E – Economic Impacts. Alternatives B, D, and E would each result in the same estimated economic impacts from recreation management decisions. Alternatives B, D, and E would result in an expected 10 percent increase in campground user days for the Cottonwood Campground (589 user days) and the Lark Canyon Campground (264 user days). In addition, dispersed-use visitor days on BLM-administered lands are also expected to increase by 10 percent (6,379 user days) under Alternatives B, D, and E. The resulting change in economic impacts for Alternatives B, D, and E are listed in the following Tables 4-31, 4-32 and 4-33. These are the net changes from the baseline economic conditions listed in Tables 4-31, 4-32, and 4-33. None of the economic impacts are significant for Alternatives B, D, and E.

Alternatives B, D, and E would result in an estimated 10 percent increase in recreational user days on BLM-administered lands within the Planning Area. The total amount of user days would increase from 72,326 to an estimated 79,558. The increase in user days of about 7,200 for Alternatives B, D, and E would result in an insignificant increase in total sales (direct, indirect, and induced) of \$215,000 within the Planning Area economy. Furthermore, the increase in employment under Alternatives B, D, and E would be

negligible at about 3.5 jobs. Labor income would increase a modest \$70,885, and total value added within the Planning Area economy would rise about \$110,000. These relatively small changes in economic impacts would be insignificant for the economy in the Planning Area and the San Diego region as a whole.

**TABLE 4-31
ECONOMIC IMPACTS OF ALTERNATIVES B, D, AND E—CHANGE IN BLM CAMPGROUND
USER DAYS**

Economic Impacts of a 10% Increase in Campground User Days				
Impact Category	Direct	Indirect	Induced	Total
Dollar Value	\$18,766	\$4,775	\$2,423	\$25,964
Employment	0.216	0.038	0.022	0.276
Labor Income	\$4,887	\$1,535	\$716	\$7,138
Property Income	\$2,959	\$1,028	\$608	\$4,595
Tax Revenue	\$698	\$275	\$168	\$1,141
Value Added	\$8,543	\$2,838	\$1,493	\$12,874

Source: MIG IMPLAN/Pro and CIC Research, Inc. (2006)

**TABLE 4-32
ECONOMIC IMPACTS OF ALTERNATIVES B, D, AND E—
CHANGE IN BLM DISPERSED-USE VISITOR DAYS**

Economic Impacts of a 10% Increase in Dispersed-Use Visitor Days				
Impact Category	Direct	Indirect	Induced	Total
Dollar Value	\$140,338	\$27,107	\$21,637	\$189,082
Employment	2.874	0.197	0.194	3.265
Labor Income	\$49,593	\$7,760	\$6,394	\$63,747
Property Income	\$12,899	\$4,777	\$5,434	\$23,110
Tax Revenue	\$7,184	\$1,198	\$1,504	\$9,886
Value Added	\$69,676	\$13,734	\$13,332	\$96,742

Source: MIG IMPLAN/Pro and CIC Research, Inc. (2006)

TABLE 4-33
TOTAL ECONOMIC IMPACTS FOR ALTERNATIVES B, D, AND E—
COMBINED CAMPGROUND AND DISPERSED DAY USE

Economic Impacts of a 10% Increase in Recreational Use Days				
Impact Category	Direct	Indirect	Induced	Total
Dollar Value	\$159,104	\$31,882	\$24,060	\$215,046
Employment	3.090	0.235	0.216	3.541
Labor Income	\$54,480	\$9,295	\$7,110	\$70,885
Property Income	\$15,858	\$5,805	\$6,042	\$27,705
Tax Revenue	\$7,882	\$1,473	\$1,672	\$11,027
Value Added	\$78,219	\$16,572	\$14,825	\$109,616

Source: MIG IMPLAN/Pro and CIC Research, Inc. (2006)

Economic Impacts of Alternatives C. Alternative C would result in a 10 percent increase in Cottonwood Campground user days and a 75 percent decrease in the Lark Canyon Campground user days. The decrease expected for Lark Canyon would result from the closing of the Lark Canyon OHV trail system. The resulting total campground user days would decrease 1,394 days. The concomitant natural growth in dispersed day-use recreational activities would likely more than offset the direct decrease in day-use activities associated with the OHV trail system (exclusive of the loss of Lark Canyon Campground user days). Land use changes for Alternative C would result in an expected overall 1.9 percent decrease in recreational user days in the Planning Area for the Lark Canyon Campground (264 user days).

The resulting economic impacts for Alternative C are listed in the following Tables 4-34, 4-35, and 4-36. None of the economic impacts for Alternative C are significant. The 1.9 percent overall decrease in user days of about 1,400 for Alternative C would result in an insignificant decrease in total sales (direct, indirect, and induced) of \$42,400 within the ESDC economy. Furthermore, the decrease in employment under Alternative C would be negligible at about one-half of a job (0.45 of a job). Labor income would decrease a modest \$11,666, and total value added within the ESDC economy would decline about \$7,511. As previously indicated, these economic impacts would be insignificant for the Planning Area economy.

TABLE 4-34
ECONOMIC IMPACTS OF ALTERNATIVE C—CHANGE IN BLM CAMPGROUND USER DAYS
(10% Increase in Cottonwood / 75% Decrease in Lark Canyon)

Economic Impacts				
Impact Category	Direct	Indirect	Induced	Total
Dollar Value	\$ (30,670)	\$ (7,805)	\$(3,960)	\$ (42,435)
Employment	(0.353)	(0.062)	(0.036)	(0.451)
Labor Income	\$ (7,987)	\$ (2,509)	\$ (1,170)	\$ (11,666)
Property Income	\$ (4,836)	\$ (1,681)	\$ (994)	\$ (7,511)
Tax Revenue	\$ (1,140)	\$ (449)	\$ (275)	\$ (1,864)
Value Added	\$ (13,962)	\$ (4,639)	\$ (2,440)	\$ (21,041)

Source: MIG IMPLAN/Pro and CIC Research, Inc. (2006)

TABLE 4-35
ECONOMIC IMPACTS OF ALTERNATIVE C—
CHANGE IN BLM DISPERSED-USE VISITOR DAYS

Economic Impacts				
Impact Category	Direct	Indirect	Induced	Total
Dollar Value	\$ 0	\$ 0	\$ 0	\$ 0
Employment	0.000	0.000	0.000	0.000
Labor Income	\$ 0	\$ 0	\$ 0	\$ 0
Property Income	\$0	\$ 0	\$ 0	\$ 0
Tax Revenue	\$ 0	\$ 0	\$ 0	\$ 0
Value Added	\$ 0	\$ 0	\$ 0	\$ 0

Source: MIG IMPLAN/Pro and CIC Research, Inc. (2006)

TABLE 4-36
TOTAL ECONOMIC IMPACTS FOR ALTERNATIVE C—
COMBINED CAMPGROUND AND DISPERSED DAY USE

Economic Impacts				
Impact Category	Direct	Indirect	Induced	Total
Dollar Value	(\$30,670)	\$(7,805)	(\$3,960)	(\$42,435)
Employment	(0.353)	(0.062)	(0.036)	(0.451)
Labor Income	(\$7,987)	(\$2,509)	(\$1,170)	(\$11,666)
Property Income	(\$4,836)	(\$1,681)	(\$994)	(\$7,511)
Tax Revenue	(\$1,140)	(\$449)	(\$275)	(\$1,864)
Value Added	(\$13,962)	(\$4,639)	(\$2,440)	(\$21,041)

Source: MIG IMPLAN/Pro and CIC Research, Inc. (2006)

Cumulatively, total visitor spending within San Diego County is estimated at nearly \$7 billion and is at least \$31.9 million within the Planning Area. For all planning alternatives (i.e., Alternatives A through E) the resulting economic impacts of visitor spending by recreational users of BLM-administered land in the Planning Area are insignificant. These impacts represent less than one-tenth of a percent of the total recreation economy in San Diego County and less than 0.8 percent of the direct visitor spending in the Planning Area economy.

4.18.4.2 Social Impacts

Recreation

Perhaps the primary use of the Planning Area is recreation, although—as the economic data presented above attest—recreational use on BLM-administered lands in the Planning Area generates a very small amount of revenue within the Planning Area *per se*. Anecdotal evidence suggests that most residents of San Diego and Imperial Counties view the mountains and foothills of eastern San Diego County as a valuable recreational asset. This appears to be true even for people who seldom utilize the area. There are numerous recreational communities of interest who do use the area: equestrians, shooters, hunters, dayhikers, car campers, backpackers, mountain bike riders, road bike riders, birdwatchers, wildlife enthusiasts, rockhounds, OHV enthusiasts, motor tourists (utilizing both cars and motorcycles), and so on. Those recreational communities of interest whose activities do not call for mechanized or motorized transport utilize WAs and WSAs for recreation. Those who do use motor vehicles must stay out of those areas. In terms of social impacts, this distinction between motorized

and non-motorized activities is important. Naturally, there are times when these different recreational communities of interest have conflicts in terms of land use. The PRMP/FEIS attempts to strike a reasonable balance among these communities.

Alternatives D and E call for improving staging areas outside WAs to provide better access to wilderness trailheads. This would be viewed as a positive development for users of WAs. There would appear to be no adverse impacts to motorized recreationalists from these actions. In sum, this would be viewed as having a positive social impact.

Alternative C creates the Sawtooth Undeveloped SRMA, which would be managed to maintain and encourage dispersed and undeveloped recreation opportunities such as hiking and backpacking, hunting, wildflower and wildlife viewing, rock hounding, and equestrian use. Anecdotal evidence suggests that OHV users do not use this rugged area much, so designating it as a non-motorized use SRMA would have few adverse social impacts to the OHV community. Alternative C would have a positive social impact on the non-motorized recreational communities (e.g., equestrians, hikers, hunters, rockhounds).

Alternatives B, D, and E create the Sawtooth Destination SRMA, which would be managed to promote the continued use of the lands for hiking and backpacking, hunting, wildflower and wildlife viewing, rock hounding, and equestrian use and would also accommodate limited OHV use, camping, and day-use outside of designated WAs and WSAs. These alternatives would have social impacts to both motorized and non-motorized users. For positive recreation experiences to result for the non-motorized users, OHV activities would be limited.

The development of a primitive campground and equestrian area is proposed for the Chariot Canyon RMZ under Alternatives B, C, D, and E. Chariot Canyon is a few miles southeast of Julian. It has a graded dirt road that trends south from Highway 78 at Banner to Oriflamme Canyon. The Pacific Crest NST passes near Oriflamme Canyon, and other trails and dirt roads exist in the area. Opening a primitive campground and equestrian area would provide enhanced recreation opportunities to a wide variety of motorized and non-motorized user communities. Anecdotal evidence suggests that social impacts would probably be positive for all user communities.

Transportation and Public Access

Alternatives A, B, D, and E would maintain the same OHV Management Area Designations. Alternatives A and D would also maintain the existing routes of travel classifications; however, Alternatives B and E would decrease the miles of designated motorized routes by 15 percent (16 fewer miles of motorized routes). Alternative C would increase the acreage of closed areas by approximately 20 percent from 61,712 acres to 74,314 acres and would decrease the miles of designated motorized routes by 28 percent (30 fewer miles of motorized routes). However, some routes of travel that would not be designated as motorized are redundant; alternatives exist on adjacent Forest Service lands, state parks lands, and on BLM-administered lands within the Planning Area, as well as other BLM-administered lands immediately adjacent to the Planning Area. Input from the public suggests that the closure of redundant roads does not constitute a social impact to most communities of interest for the Planning Area. However, OHV enthusiasts, car campers, hunters, and others express concerns about access to recreational areas that may be lost to road closures. If access is provided, road closures would not constitute a significant social impact to these user communities.

Alternatives B, D, and E would result in a loss of designated motorized routes, though the OHV Management Areas will remain the same. Alternative C would decrease the number of motorized routes further as well as increase the acreage of areas designated closed to OHV use. This would be viewed as an adverse impact by the OHV community. In contrast, it may be seen as having a positive social impact among other user communities (e.g., birdwatchers, mountain bike riders, equestrians, hikers).

Motorized transport is not allowed in WAs; within WSAs the use of motor vehicles, motorized equipment, or other forms of mechanical transport would only be allowed on boundary roads and existing ROWs. The Pacific Crest NST is closed to motorized vehicles and mountain bikes. Motorized access within ACECs is limited to existing or designated routes, except as authorized. Outside of these areas, OHV use is limited to existing or designated routes, except as authorized. Except for Alternative C, there is no net change in OHV areas. As previously mentioned, representatives of the OHV community have suggested that they are reasonably satisfied with the current situation, but would object to further reductions. Only Alternative C would be viewed by this community as adverse. Other recreational communities, particularly non-motorized user communities may view this as a positive social impact.

ROWs for renewable energy (i.e., geothermal, wind, solar) could result in closure of areas for public access as a result of public health and safety concerns. These areas are relatively small, and their closure is not thought to cause significant social impacts. Access for authorized uses such as minerals extraction may also restrict access, but as discussed in the minerals section, the Planning Area has very few mineral resources, so this access issue is unlikely to be significant. No social impacts are anticipated as a result.

4.18 Social and Economic Impacts

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4.19 Impacts on Environmental Justice

All Federal agencies and departments are directed to comply with EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Population*, signed on February 11, 1994. The EO and accompanying memorandum focuses Federal attention on the environmental and human health conditions in minority and low-income communities, enhances the provision of nondiscrimination in federal programs affecting human health and the environment, and promotes meaningful opportunities for access to public information, and participation in matters relating to minority and low-income communities and their environment.

Each federal agency is required to, among other things, provide opportunities for community input in the NEPA process, including identifying potential effects and mitigation measures of projects, programs or activities undertaken by them.

4.19.1 Environmental Justice Determination

The population of the communities within the Planning Area could be generally described as older, more educated, and containing a significantly lower proportion of minority populations than the countywide average. The population within the Planning Area also contains a very high proportion of English-only speaking households compared to the countywide average (84% v. 67%).

The BLM is aware that there are small pockets of poverty and/or minority populations scattered throughout the Planning Area. However, the BLM has not identified any communities within the Planning Area with low income or minority populations that would be disproportionately impacted by the PRMP alternatives. In general the socioeconomic characteristics of the residents of the Planning Area indicate that there is a very low likelihood of environmental justice impacts resulting from any of the PRMP alternatives for the BLM-administered lands within the Planning Area.

