



## CHAPTER FIVE : Environmental Consequences



## 5.0 ENVIRONMENTAL CONSEQUENCES

### 5.1 INTRODUCTION

This chapter addresses the likely consequences, both beneficial and adverse, to the natural and human environments in the King Range that could result from implementing the Proposed RMP described in Chapter 4. These include short-term and long-term effects, direct and indirect effects, and cumulative effects. Duration, intensity (or magnitude), and context (local, regional, or national effects) of impacts are interpreted where possible. Mitigation measures designed to avoid or reduce impacts were incorporated into the management proposals, so impacts in this chapter are considered unavoidable and would result from implementing the management actions and mitigation. If impacts are not discussed, analysis has indicated either that none would occur or that their magnitude would be negligible. No impacts or negligible impacts have been identified for geology and soils, prime and unique farmlands, hazardous materials, lands and realty, interpretation and education, public safety, and waste management. Therefore, these resources are not discussed as stand-alone resource topics. No specific projects are proposed that would have negative impacts on floodplains or wetlands, and cumulative impacts are not anticipated for these resources. Individual watershed restoration activities and other projects that affect wetlands/floodplains would undergo a site-specific permitting/NEPA analysis. Because all on-the-ground actions would be subject to a visual resources contrast assessment to ensure that they meet the objectives of the visual resources class where they are located, no impacts are identified for visual resources. It has been determined that the plan would not have a direct or adverse effect on Wild and Scenic River values, and is therefore in compliance with Section 7 of the Wild and Scenic Rivers Act (Public Law 90-542 and amendments thereto). Thus, Wild and Scenic Rivers values would be discussed only in relation to the rivers/streams studied for eligibility and suitability in the plan. This plan would undergo a specific review by the California Coastal Commission to determine consistency with the California Coastal Act.

#### 5.1.1 Methodology

Impact analyses and conclusions are based on interdisciplinary team knowledge of resources and the project area, reviews of existing literature, and information provided by technical experts in the BLM and other agencies. The analyses identify both enhancing and improving effects to a resource from a management action, and actions with potential to degrade a resource. Any impacts described in this section are based on the Proposed RMP goals, objectives, actions, and allowable uses as described in Chapter 4. The baseline used for projecting impacts is the current condition or situation described in Chapter 3. Management actions and allowable uses have been configured to maximize benefits and minimize adverse effects on both ecosystem function and the human environment. Impacts are quantified where possible. Impacts are sometimes described using ranges of potential effects or in qualitative terms, where appropriate. In the absence of quantitative data, effects were described based on the professional judgment of an interdisciplinary team of technical specialists using the best available information.

### 5.1.2 Impact Terminology

Terms referring to impact intensity, context, and duration are used in the effects analysis. Impacts are not necessarily only negative; many are positive benefits, and are specified as such. Unless otherwise stated, the standard definitions for these terms are as follows:

- **Negligible:** the impact is at the lower level of detection; there would be no measurable change.
- **Minor:** the impact is slight but detectable; there would be a small change.
- **Moderate:** the impact is readily apparent; there would be a measurable change that could result in a small but permanent change.
- **Major:** the impact is large; there would be a highly noticeable, long-term, or permanent measurable change.
- **Localized impact:** the impact would occur in a specific site or area. When comparing changes to existing conditions, the impacts would be detectable only in the localized area.
- **Short-term effect:** the effect would occur only during or immediately after implementation of the Proposed RMP.
- **Long-term effect:** the effect could occur for an extended period after implementation of the Proposed RMP. The effect could last several years or more.

### 5.1.3 Cumulative Impacts

NEPA requires evaluation of a proposed action's potential to contribute to "cumulative" environmental impacts. A cumulative impact is defined as:

The impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Cumulative impacts can result from similar projects or actions, as well as from projects or actions that have similar impacts (40 CFR 1508.7).

In this case, similar actions external to the King Range could include recreation developments in surrounding State Parks, watershed restoration projects conducted by non-profit groups in other parts of the Mattole, or county plans that allow population growth that would increase traffic levels and visitation.

The objective of cumulative impact analysis is to evaluate the significance of the proposed action's contribution to cumulative environmental impacts. It is accomplished in three steps:

- Step 1: Identify the cumulative impacts study area for each resource evaluated. Unless otherwise indicated, the cumulative impacts study area covers the King Range planning area plus the remainder of the Mattole watershed.
- Step 2: Identify and describe past, present, and reasonably foreseeable future actions in the cumulative impact study area that are similar to the proposed action or have substantial impacts to which the proposed action would contribute.

- Step 3: Evaluate the potential for the proposed action to have a substantial contribution to cumulative environmental impacts with the potential to significantly affect the environment.

The timeframe for the cumulative impact analysis begins at the anticipated time that this RMP would first take effect, in 2005, and extends for the twenty-year life of the plan to 2025. It includes existing conditions of the landscape, particularly alterations from past developments and uses of the land.

#### 5.1.4 Chapter Organization

Effects from different management actions are considered by the following resource topics:

- Social and Economic Conditions (includes discussion of Environmental Justice and Native American Traditional Practices)
- Cultural Resources
- Inventory Units and Study Areas (Wild and Scenic Rivers, wilderness characteristic inventory units, Wilderness Study Areas, and Areas of Critical Environmental Concern)
- Aquatic Ecosystems and Fisheries Resources (including water quantity and quality and riparian resources)
- Wildlife (including T&E Species)
- Terrestrial Ecosystems and Vegetation Resources (including noxious weeds and T&E Species)
- Forest Resources
- Grazing Resources
- Fire Management
- Travel Management
- Recreation
- Air Quality

For each resource, the possible effects from other resource management programs are described and analyzed. Within each section of the resource analysis, effects common to all zones are discussed first, then zone-specific effects and cumulative impacts are considered; where no cumulative impacts are stated, they are considered to be negligible or nonexistent.

## 5.2 IMPACTS TO SOCIAL AND ECONOMIC CONDITIONS

Impacts to social and economic conditions would result from a wide range of management decisions. The range of potentially affected resources and conditions is extensive; however, most of these impacts are minor to moderate, and most are beneficial in nature. Recreation may have moderate to major positive and negative impacts to the planning area (such as potential conflicts between recreationists and local residents, tourism benefits, and open space benefits of public land recreation amenities).

The socioeconomic conditions that are the focus of this evaluation include: potential employment/job and income effects on affected businesses and the local and regional economies; effects on the fiscal resources of local governments; and changes in the demand for local public services (i.e., law enforcement, fire protection, and search and rescue). In addition, many human impacts cannot easily be measured in economic terms, and are considered as social impacts. These include detractions from existing lifestyles, sense of place, community values, and unfair or unjust impacts or burdens on minority and low income populations (environmental justice).

### **5.2.1 Impacts to Social and Economic Conditions from Visual Resource Management**

The Visual Resource Management (VRM) system would include the completion of visual resource contrast ratings for existing roads and facilities and proposed projects, as well as an inventory of existing and potential key scenic vista points. Protection of scenic qualities of the region would be further enhanced by coordinating with local management agencies to ensure that coastal developments do not detract from the scenic integrity of the area. Similarly, all new site developments within the KRNCA would be designed and located so that they do not detract from the coastal bluff viewshed.

By helping preserve the scenic quality of the region through coordinated management efforts and mostly Class I and II Visual Resource Class ratings, the Proposed RMP would provide moderate to major, long-term beneficial impacts to local residents and visitors alike. In particular, locals who personally identify with the rugged landscape are likely to experience a minor to moderate, positive impact from the continued protection of unobstructed views. There would also be beneficial impacts to fiscal resources in the County, associated with minor increases in property tax revenue resulting from amenity values positively influencing local property values. These amenity values are associated with a property's proximity to a significant protected open space resource. Those with view lots or homes would enjoy major positive impacts, as open space vistas on the California coastline continue to become a rarer commodity in the future. Lots in Shelter Cove with vistas of the undeveloped KRNCA coastline generally command higher values than non-view lots. The visual management policies described above are not expected to lead to employment, income, or public service effects.

Protection of the Lost Coast visual resources of a naturally appearing coastline is also central to the identity and sense of place of local and regional residents. Thus increased protection of the visual resources would have a moderate to major positive social impact.

### **5.2.2 Impacts to Social and Economic Conditions from Cultural Resources Management**

The Proposed RMP includes policies to increase monitoring and site patrols for additional protection of cultural and historic resources in all three management zones. Such policies would place additional demand on BLM staff that provide monitoring and patrol services. Since the BLM plans on using its staff to meet future monitoring and site patrol needs at KRNCA, there would be no additional demands placed on local agencies for these services. Preservation of the remaining cultural sites in the KRNCA is an important value to Native American groups associated with the area, so the Proposed RMP would

have moderate to major beneficial impacts to these groups through monitoring and actions to reduce site degradation from human and natural causes.

### **5.2.3 Impacts to Social and Economic Conditions from Lands and Realty**

Under the Proposed RMP, new policies would be implemented that would focus future land acquisitions. The BLM could propose property acquisitions in the Residential Zone, but would work with affected local governments and local community associations regarding such acquisitions. Nevertheless, there is the potential for additional land acquisitions by the BLM over time, which would change the existing balance of public and private lands in the project area. Such acquisitions would be a minor, long-term, and adverse impact to the county property tax base.

Any fiscal impacts would likely be offset by property tax revenue increases as property values near open-space areas generally increase over time. Also, properties acquired by the BLM would mostly be in rural areas where the lands would be otherwise developed for rural residential use. This type of development typically results in a net burden to county fiscal resources due to the difficulty of providing services in remote locations. Some local minor social impacts could occur as less rural private land would be available for home site development in the immediate vicinity of acquisition areas.

In addition, lands and realty practices may affect the quantity, location, and type of rights-of-way (ROW) permitted within the KRNCA. The Proposed RMP would make Backcountry Zone an exclusion area for new rights-of-way and/or permits, and utility rights-of-way would be restricted to underground locations to preserve aesthetic values. This action would cause no associated adverse effects on property values as described above, but there could be indirect costs borne by utility companies that would either have to re-route facilities or implement higher-cost construction techniques for underground installation. This could result in minor, long-term, and adverse impacts to local utilities and indirect impacts to the local economy. Additional ROWs could be located in the Frontcountry and Residential Zones in the future relative to existing conditions. Because these proposed ROWs may include features such as above-ground utility facilities where other alternatives are infeasible, there is the potential for adverse affects to visual resources. However, any above ground developments would require visual resource mitigation measures, so these impacts would be minor. By accommodating such ROWs, the Proposed RMP would continue to provide lower-cost infrastructure options for local utilities that can result in beneficial impacts to local businesses and thus the local economy; however, because this does not represent a change from existing conditions, no impact is anticipated.

### **5.2.4 Impacts to Social and Economic Conditions from Inventory Units and Study Areas**

Socioeconomic impacts associated with inventory units and study areas are related to potential changes in income and employment opportunities and local property values. The Proposed RMP identifies additional lands as having wilderness characteristics, and rivers identified as suitable for Wild and Scenic River designation. In addition, the Mill Creek area would be designated as an ACEC/RNA. However, existing uses such as special forest product harvesting that occurs at the KRNCA would continue to be allowed in the identified areas, except for the Mill Creek and Mattole ACECs. Commercial use is

currently minor to non-existent in these areas. Therefore, potential and negative income and employment effects are not expected.

Formally identifying land and water areas as protected open space would likely generate amenity values to private properties in the local area. If this value is captured during property tax assessments, there is the potential to generate higher property tax revenues that would be realized by the local county. This is considered a minor, long-term, and beneficial impact to the fiscal resources of Humboldt and to a lesser degree Mendocino County.

### **5.2.5 Impacts to Social and Economic Conditions from Aquatic Ecosystems and Fisheries Management**

The Proposed RMP includes a number of restoration actions for aquatic ecosystems, including up-slope sediment reduction, in-stream habitat enhancement, riparian silvicultural work, monitoring measures, and an estuary enhancement program. Many of these activities would be implemented in coordination with local watershed restoration groups. In the past this kind of work has been a major source of funding for these groups; from 1995-2003, roughly \$1.5 million was spent on restoration and monitoring. While there are no assurances that this level of funding would be maintained, the Proposed RMP calls for actions that would continue similar efforts into the future. The funding of such local conservation programs would be a long-term, minor, and beneficial impact to the local economy. Such impacts would include temporary increases in income and employment enjoyed by involved individuals and organizations. Indirectly, this increase in income and associated spending by affected individuals and organizations would in turn result in negligible, but positive, impacts to fiscal resources (i.e., state and local sales tax revenues and state and federal income tax revenues).

The communities that surround the King Range have established a serious commitment to restoring watersheds and salmon habitat, as evidenced by the multitude of local restoration groups in the area and their extensive efforts to improve nearby fisheries since the early 1980s (House 1999). Many personally identify with the health of area streams and take delight in seeing the anadromous fish making their annual migrations inland to spawn. Knowing that their work is supported and encouraged by the BLM would give local participants in these restoration groups an additional moderate, long-term, beneficial social impact.

### **5.2.6 Impacts to Social and Economic Conditions from Wildlife Management**

The Proposed RMP does not include wildlife management prescriptions that involve funding of local conservation groups or otherwise actions that would affect socioeconomic resources. The BLM is responsible for habitat management, not wildlife population management. Therefore, habitat improvement projects (e.g. old-growth forest, coastal prairie restoration) are the focus of wildlife management under this plan and impacts are discussed in those respective sections. Some minor beneficial economic impacts occur from the BLM hiring seasonal employees to conduct wildlife monitoring.

### **5.2.7 Impacts to Social and Economic Conditions from Terrestrial Ecosystems and Vegetation Management**

Under the Proposed RMP, existing programs that utilize the services of local conservation organizations would continue to help control invasive plant species. The funding of such local programs would be an input to the local economy, thus leading to the same type of positive economic impacts summarized above in Section 5.2.5. However, relative to existing conditions (which already include programs to help manage invasive species), there would be no new impact to socioeconomic resources.

### **5.2.8 Impacts to Social and Economic Conditions from Forest Management**

Forest management practices have the potential to positively affect socioeconomic resources by increasing the income of local contractors or conservation groups, and by causing the types of related and beneficial employment and fiscal resource effects described in Section 5.2.5. The Proposed RMP includes silvicultural treatments that would be performed, where possible, by means of cooperative agreements, partnerships, and contracts, with local communities or individuals. Occasional salvage timber harvests also may occur, depending on the future fire regime. If local resources are used in implementing these policies, they would generate direct income and job effects realized by involved individuals, and secondary sales and income tax revenues earned by state and local governments. Because these effects represent enhancements to existing conditions, they are considered a minor, short-term, and beneficial impact to local socioeconomic resources. The regional fiscal impacts would also be positive and short-term, but negligible.

There is a great deal of community interest in development of a restoration-based forest products industry. Sustainable forest management is an important community value in the Mattole valley and Humboldt County. Therefore, the restoration activities proposed in this plan would have moderate positive social impacts.

### **5.2.9 Impacts to Social and Economic Conditions from Special Forest Products Management**

The BLM would continue to issue permits for the collection of mushrooms, beargrass, floral trade species, and fuelwood, thus leading to a continuation of existing and positive economic impacts to harvesters, primarily in the form of income and employment effects that result from the harvest and selling of harvested products in the marketplace. The number of permits issued would vary from year to year, but this would not be related to the Proposed RMP. Areas closed to commercial harvest (Mill Creek and Mattole ACEC, and the proposed Native American Beargrass Unit) represent a small percentage of the planning area acreage (under five percent), and so would have negligible economic impacts. The establishment of the Native American Beargrass Collection Unit would have minor to moderate positive impacts to area Native American groups involved in traditional uses of public lands.

### **5.2.10 Impacts to Social and Economic Conditions from Grazing Management**

The Proposed RMP would continue existing KRNCA grazing policies, and while it would change the Spanish Flat allotment boundary, the number of AUMs/amount of grazing on the allotment would remain unaltered. In addition, four inactive grazing allotments would be administratively changed from

“available” to “unavailable” for grazing. The positive economic impacts associated with cattle ranching in the project area and existing conditions, namely income and job generation accrued to local ranching operations utilizing lands within the KRNCA, and to a lesser extent, secondary job, income and sales/income tax effects, would continue. Continuation of farming and ranching to retain open space lands has been identified as a high priority by Humboldt County residents during development of the county general plan. Retention of the allotments and associated AUMs in the KRNCA would support this goal and provide a minor localized positive benefit by helping these ranches remain viable.

### **5.2.11 Impacts to Social and Economic Conditions from Fire Management**

Under the Proposed RMP, only fires in the Residential and Frontcountry Zones would be fully suppressed. This represents a change from existing conditions and policies where full fire suppression is practiced in all zones. As a result, there would be less long-term demand for state and local fire protection-related services for wildfire suppression relative to existing conditions. This reduced demand would not occur until fuels treatments, prescribed burning, and other actions are completed to allow for safe fire management in the Backcountry Zone. This would be a minor, long-term, beneficial impact to the fiscal resources of affected agencies and departments. However, there would be a partially offsetting need for additional support to conduct prescribed burning. In addition, this plan includes policies to explore opportunities for stewardship contracts with local organizations to meet hazardous fuel reduction goals. By contracting with local interests, this policy would generate minor but positive local income and job effects, and negligible but beneficial secondary sales and income tax effects. Finally, the RMP would result in moderate, long-term, and beneficial economic impacts associated with active fuel-load management techniques.

### **5.2.12 Impacts to Social and Economic Conditions from Travel Management**

Impacts associated with travel management policies would be based primarily on the need for road maintenance services. Road maintenance services are provided primarily by local contractors. Under the Proposed RMP, existing roads would remain open with the same management in place relative to existing conditions. These conditions, combined with increasing use of area roads would generate the need for slightly higher levels of road maintenance, some of which would likely be provided by local contractors, thereby resulting in related positive, minor, and long-term income and employment effects. This in turn would lead to negligible, long-term, and beneficial fiscal resource impacts.

### **5.2.13 Impacts to Social and Economic Conditions from Recreation**

Future KRNCA recreation use has the potential to affect local and regional socioeconomic resources. Socioeconomic impacts would primarily be in the form of income and employment effects in sectors of the local and regional economies that serve recreation users. However, future recreation use could also affect the provision of certain services by government agencies, as well as their fiscal resources.

KRNCA recreation use was projected for the Proposed RMP; detailed information on the methodology and results of the recreation use projections are presented in Section 5.12.13.1. Projected recreation use at KRNCA over the planning period (through 2025) ranges from 162,858 to 211,715 visitor days; the lower estimate represents an increase of 18,042 visitor days from current conditions, or a 12.5 percent increase.

### 5.2.13.1 Potential Income and Employment Effects

In order to translate projected recreation use levels into potential income and employment effects associated with the Proposed RMP, it was necessary to make several assumptions regarding future recreation use and spending. It is assumed that the same proportion of existing resident (11 percent) versus non-resident visitors (89 percent) would utilize the recreation resources at KRNCA in the future; there is no change in the participation rates across recreation activities relative to existing conditions; and the proportion of recreation spending “captured” by the local economy remains constant.

Based on these assumptions and following the methodology discussed in Section 5.12.13.1, total recreation expenditures were estimated for the Proposed RMP. Table 5-1 summarizes direct recreation expenditures and associated income and job effects of the proposed plan, as well as non-market/consumer surplus value estimates for recreation opportunities at KRNCA. It should be noted that a dollar value can also be placed on other types of environmental benefits associated with the KRNCA; however, doing so requires extensive surveys and other techniques that were not conducted for this analysis. The recreation-related non-market values presented in Table 5-1 are indicative of the value of some of these benefits using readily available study results.

Based on these direct expenditures, and using applicable recreation-based multipliers, recreation use at the KRNCA could generate about \$2.77 million per year in direct labor and proprietor income in the regional economy (i.e., primarily Humboldt County, and to a lesser extent Mendocino County) and could also directly support approximately 162 jobs under the Proposed RMP. The total direct, indirect, and induced effect of these expenditures circulating through the regional economy could amount to approximately \$4.84 million per year in income and 222 jobs under the Proposed RMP. In addition, the estimated “willingness-to-pay” value, the value (or worth) of the experience to the recreationists, is estimated at \$4.19 million (all estimates are in 2000 dollars). Because the estimates of future recreation use at KRNCA represent the lower bound of the potential range of future use levels, the associated economic impacts presented above are conservative and could range higher as shown in Table 5-1.

**Table 5-1: Potential Socioeconomic Effects from Projected KRNCA Recreation Use**

	DIRECT EXPENDITURES <sup>1,2</sup>	RELATED INCOME EFFECTS <sup>1,2</sup>		RELATED EMPLOYMENT EFFECTS (JOBS) <sup>2</sup>		EXAMPLES OF NON-MARKET EFFECTS (Willingness-To-Pay for Recreation-Related Benefits) <sup>1,2</sup>
		DIRECT	TOTAL <sup>3</sup>	DIRECT	TOTAL <sup>3</sup>	
Proposed RMP	<b>\$8.00</b> (\$8.00 - \$10.39)	<b>\$2.77</b> (\$2.77 - \$3.60)	<b>\$4.84</b> (\$4.84 - \$6.29)	<b>161.6</b> (161.6 - 210.1)	<b>222.4</b> (222.4 - 289.1)	<b>\$4.19</b> (\$4.19 - \$5.44)

<sup>1</sup> Millions of dollars annually

<sup>2</sup> Numbers in parentheses represent range of results based on the range of recreation use projections.

<sup>3</sup> Includes direct, indirect, and induced impacts.

Under existing conditions, it is estimated that recreation use at KRNCA results in about \$2.46 million in direct income and directly supports approximately 144 jobs; the total (i.e., direct, indirect, and induced) income and job effects are estimated to be \$4.30 million and 198, respectively. When analyzing the project’s socioeconomic impacts, it is important to evaluate the relative change between income and job

effects associated with the Proposed RMP and existing conditions. The Proposed RMP would result in an increase in recreation-induced income and jobs at 2025 relative to existing conditions, and thus, would benefit the local and regional economies.

It is also important to consider the magnitude of the income and job effects in the context of the size of the economy which is primarily affected. Under the Proposed RMP, the estimated increase in total KRNCA recreation-induced income relative to existing conditions is \$0.54 million, which represents less than 0.02 percent of Humboldt County's total income base. Similarly, in terms of total jobs, the increase is estimated to be about 17 jobs, which represents only 0.03 percent of Humboldt County's total job base. Therefore, under the Proposed RMP, inputs to the regional economy from recreation spending associated with KRNCA are considered long-term and minor beneficial impacts. Similar beneficial impacts would be enjoyed by local business owners and their employees, and such impacts could be major depending on a number of factors, including their specific location relative to visitor travel routes, how much of their existing business capacity is being utilized now, room for expansion, etc.

#### ***5.2.13.2 Potential Public Services and Fiscal Resources Effects***

In terms of public services and fiscal resources potentially affected by changes in KRNCA recreation use, public service-related effects would be related to the provision of law enforcement and search and rescue services. Affected agencies would be the county sheriff departments, BLM, the California Department of Forestry, and the U.S. Coast Guard. The future demand for such services, and therefore likelihood of related effects on these agencies, would be directly proportional to the estimated changes in recreation use. The Proposed RMP would likely increase recreation use, and hence lead to an increase in the demand for law enforcement and search and rescue services.

The budgets/fiscal resources of these agencies also would likely be affected as KRNCA recreation use changes over time. The magnitude of these potential public service and fiscal impacts are very difficult to predict, given the wide range of service capacities and financial conditions of each potentially affected agency; however, based on the experience of local BLM staff, such impacts are expected to be minor. Some of the fiscal impacts to local volunteer fire departments have been mitigated by the provision of funding by the BLM for equipment, training, and other local needs. This support is expected to continue contingent on adequate funding appropriations to the BLM.

The fiscal resources of local county governments would also be indirectly affected by future recreation use levels through sales and lodging taxes. Expenditures for recreation-related goods and services are subject to state sales taxes that are collected by the state and distributed to counties. For those recreationists who stay overnight when visiting KRNCA, lodging taxes are also collected at the county level. Because the proportion of total recreation expenditures for goods, services, and lodging is not known, it is not possible to quantify sales and lodging tax effects on the county's fiscal resource base. However, based on the projected recreation use estimates above, it can be concluded that tax revenues would likely increase under the Proposed RMP. These tax revenue impacts would likely be negligible to minor relative to total county tax revenues.

### ***5.2.13.3 Potential Non-Market/Consumer Surplus Effects***

Table 5-1 also indicates that the consumer surplus value experienced by recreationists at KRNCA would likely be higher relative to existing conditions, and therefore, minor, long-term, and positive related impacts. Minor negative impacts would occur to the rural isolated character of the communities surrounding the KRNCA, particularly for those residents who moved to the area to get away from mainstream society. However, with projected use increases these impacts are expected to be minor. Also, the increase in trails and other recreation opportunities would improve amenities for local residents to enjoy the outdoor resources in their backyards, by providing additional community green space.

### ***5.2.13.4 Potential Impacts from Recreation Fees***

The implementation of a fee program for overnight backcountry use would have negligible impacts on visitors being able to afford to recreate within the King Range backcountry. The fee system is anticipated to initially be in the \$3-10 range (with adjustments for inflation), a modest component of the overall cost of an overnight trip to the KRNCA. Also, visitor surveys conducted in 1990, 1997, and 2003 indicate that most current visitors (80+ percent) are willing to pay for use of the backcountry. The average amount visitors were willing to pay as a direct fee to the BLM was \$5.00 per day per person. Most of those who opposed fees commented that they did so because they felt that they already paid taxes to use the area, rather than feeling unable to afford the fees. This attitude is confirmed by the 1990 study. When asked in a different way (overall trip costs vs. direct fee to the government) how much they would be willing to pay before they would not go to the King Range for backpacking, 90% of visitors would pay up to \$45 more and 60% up to \$150 more. Low income or minority groups would not be disproportionately affected by the fee program. Current use of the area even with no fees is predominately by non-minority groups with incomes/education levels at or above national and state averages.

## **5.2.14 Impacts to Social and Economic Conditions from Interpretation and Education**

The interpretive and education prescriptions would cause minor positive impacts to social and economic resources as existing programs are expanded with growth in use of the area. Community residents, school groups, and area visitors access KRNCA environmental education and interpretive programs, and participants obtain social benefits through learning about the natural and cultural resources of the area.

## **5.2.15 Potential Cumulative Impacts to Social and Economic Conditions**

### ***5.2.15.1 Cumulative Impacts from Land Acquisition Program***

BLM has acquired roughly 25,700 acres to date in the KRNCA since it was established in 1970. The present plan is calling for a much smaller BLM acquisition program, since most of the private lands within the KRNCA have already been acquired. Several other acquisition efforts are also ongoing within the Mattole Valley. These programs are in support of the “Redwoods-to-the-Sea” Corridor and Sanctuary Forest efforts, and are led by private conservation organizations. Future acquisitions by these entities are anticipated to be mostly in the form of conservation easements. Thus, the land transferred to public agency management would be minor. However, the acquisitions would still affect county tax

revenues. These reductions in taxable properties would be partially offset by payments in lieu of taxes and increased property values on lands adjoining conservation easements, so the net impact is expected to be minor. Overall, it is anticipated that an additional 5-15,000 acres would be placed under easements or public ownership within the King Range and adjoining Mattole watershed within the next 25 years through the combined efforts of public agencies and land trusts. There are approximately 155,000 acres of private land in the Mattole watershed, so this level of public acquisition would have relatively minor impacts on the amount of private land in the region available for homesites and other private uses.

### ***5.2.15.2 Cumulative Impacts from Increased Visitation and Tourism***

Humboldt County has been actively working in recent years to increase tourism, especially ecotourism. Under the Proposed RMP, the King Range would continue to be a destination that attracts visitors to the region and contributes to the natural resource-based tourism economy of the “Lost Coast” and “Redwood Coast.” Communities such as Shelter Cove, Ferndale, and Garberville-Redway are expected to continue to promote the region as a recreation destination. Other recreation attractions in the area, such as Sinkyone Wilderness State Park and Humboldt Redwoods State Park, are not proposing major changes in management or development that would have dramatic cumulative impacts on visitation levels when combined with proposed actions in this plan. Therefore, cumulative changes in visitation levels to the region are expected to involve moderate increases throughout the life of the plan, mostly attributable to population growth and marketing efforts by community and regional tourism promotion organizations. These changes would result in moderate positive economic impacts to the region, and minor to moderate social impacts. The social impacts would be mixed positive and negative depending on a specific individual’s perspectives; for example, additional recreation amenities would be available to area residents enhancing their quality of life. However, increased tourism could detract from community character and cause crowding, reduced privacy, and other negative impacts.

## **5.3 IMPACTS TO CULTURAL RESOURCES**

The basic cultural resource preservation goals express the BLM’s and the local community’s desire to employ outreach, educational and interpretive efforts aimed at the protection and study of prehistoric and historic sites, features, and artifacts situated within the KRNCA. The Proposed RMP consists of policies that place a high priority on the preservation of cultural resources in the Backcountry, Frontcountry, and/or Residential Zones. The need for resource monitoring and cooperation with the local Native American community is also included as a significant element in these efforts.

### **5.3.1 Impacts to Cultural Resources from Visual Resources Management**

Under the Proposed RMP, existing policies would remain in place to maintain or strengthen current management levels of visual resource management (VRM), and the impacts on cultural resources would be negligible. In general, efforts at preserving visual resources can aid in the preservation of cultural resources. In particular, placing new construction away from the coastal bluff viewshed would aid in the protection of prehistoric and historic sites, features, and artifacts, which are frequently situated in coastal settings. Maintenance of historic coastal ranching facilities and the Punta Gorda Lighthouse would be allowed under Class I VRM objectives, as these cultural features are considered to be part of the characteristic landscapes where they are located.

### **5.3.2 Impacts to Cultural Resources from Cultural Resources Management**

The Proposed RMP provides a basic level of protection for prehistoric and historic cultural resources within the KRNCA. In general, the effects of management programs on the resources themselves would result only in positive or “negligible” impacts. Protection of sites through physical means utilizing barriers, fences or erosion control methods and designation of grazing areas away from known sites, etc., would all aid in maintaining resource integrity and significance. Interpretive aids such as educational signs or printed materials for visitor use would enlighten the general public as to the presence of cultural resources and their vulnerability to damage and destruction through man-made or natural processes. Unfortunately, drawing visitor attention to significant cultural sites can raise their visibility and may increase the likelihood of intentional damage or destruction through looting. This has not been an issue in the KRNCA.

The Proposed RMP places equal priority on the preservation of cultural resources in all three zones (Backcountry, Frontcountry, and Residential), and offers proactive actions for documenting and protecting prehistoric and historic resources, including increased levels of resource monitoring, calls for surveys in the inland areas in particular, production of a Regional Overview, development of resource stabilization projects, and nomination of King Range historic and prehistoric archaeological districts to the National Register of Historic Places (NRHP). The implementation of the Proposed RMP would provide protection and management of cultural resources within the KRNCA and would contribute greatly towards reducing adverse impacts to a moderate or negligible level.

### **5.3.3 Impacts to Cultural Resources from Lands and Realty**

The acquisition of additional lands for administration by the KRNCA, particularly those located in the Shelter Cove area, could result in generally positive impacts on cultural resources. Under the Proposed RMP, property purchases from willing landowners would serve to prevent residential or commercial development on those parcels. This could protect documented cultural resources by reducing or eliminating development activities in sensitive areas. In addition, land acquisition would contribute to the preservation of any undocumented cultural resources that might exist on future acquired parcels. Only a few acquisitions are expected in Shelter Cove, so these positive impacts would be minor.

### **5.3.4 Impacts to Cultural Resources from Inventory Units and Study Areas**

The Proposed RMP makes provisions for management of parts of the area to protect wilderness characteristics, wild and scenic river values or as Areas of Critical Environmental Concern (ACEC). These areas can and do include significant cultural resources, and the recognition of the unique status of these locations provides for more intensive levels of management. As a result, archaeological materials in these areas would be under greater protection, constituting a minor, positive impact. This is especially true in the Mattole ACEC, identified specifically to provide special management and protection of coastal archaeological sites.

### **5.3.5 Impacts to Cultural Resources from Aquatic Ecosystems and Fisheries Management**

The Proposed RMP stresses the importance of the ecological health of watersheds and watershed restoration efforts in cooperation with private landowners. Prehistoric resources in particular tend to be located close to perennial fresh water sources such as streams, springs, and wetlands. Efforts to preserve such areas could, by association, benefit documented and unrecorded cultural resources located at or near these well-watered areas. However, active restoration efforts could result in adverse impacts to these same cultural resources where restoration plans include heavy vegetation removal and ground disturbing activities. However, Section 106 of the National Historic Preservation Act requires that all ground-disturbing projects be reviewed, with a site visit, by a qualified archeologist. Compliance with this regulation should ensure that no cultural resources or sacred places are disturbed, eliminating the possibility of adverse impacts to cultural resources from aquatic ecosystems and fisheries management.

### **5.3.6 Impacts to Cultural Resources from Wildlife Management**

Impacts to documented or unrecorded cultural resources resulting from the maintenance and enhancement of wildlife populations and habitats in the KRNCA are likely to be negligible under the Proposed RMP. Preservation of amphibian habitats, which would include wetland areas, could have positive impacts for cultural resources by protecting watered areas more sensitive for containing prehistoric archaeological materials.

### **5.3.7 Impacts to Cultural Resources from Terrestrial Ecosystems and Vegetation Management**

Under the Proposed RMP, the maintenance of coastal dune systems and the eradication of invasive floral species are stressed. In general, the utilization of prescribed burns, the replication of historic fire regimes, and native grass enhancement programs would have negligible, localized impacts on cultural resources. Archaeological clearances would be completed prior to any projects to ensure that significant sites are not harmed. Prescribed burns, if not properly controlled, could result in moderate to major impacts to standing historic structures and buildings. This would be of particular concern in areas near historic ranching operations, such as the Chambers Ranch. Prescribed burns would only be done by a qualified “burn boss” working in conjunction with a cultural specialist, and would include construction of defensible space around the structures. Therefore, the probability of impacts would be very low.

### **5.3.8 Impacts to Cultural Resources from Forest Management**

The Proposed RMP would allow the reopening of old logging roads and the construction of temporary access roads for timber salvage operations. Due to the ground disturbance involved in road construction and eventual removal under the Proposed RMP, the possibility exists that archaeological sites and materials would be subjected to impacts. Archaeological clearances performed in compliance with Section 106 of the NHPA should prevent such disturbances from occurring.

### **5.3.9 Impacts to Cultural Resources from Special Forest Products Management**

The Proposed RMP takes a more proactive approach toward expanding beargrass habitat with the establishment of Native American Beargrass Collection Unit(s). Such programs and efforts would have negligible or positive, long term impacts on this particular natural/cultural resource. Use of other special forest products such as the collection of species utilized in the floral trade, fuel wood from firebreak creation, or the personal collection of mushrooms would have negligible impacts on cultural resources.

### **5.3.10 Impacts to Cultural Resources from Grazing Management**

Four active ranching operations currently exist within the KRNCA, some elements of which constitute cultural resources, such as the Chambers Ranch complex. The Proposed RMP redefines the Spanish Flat and Randall Creek grazing allotments to protect documented cultural resources. These restrictions would aid in the minimization or elimination of disturbances to archaeological materials and would reduce impacts to minor or negligible levels.

### **5.3.11 Impacts to Cultural Resources from Fire Management**

The Proposed RMP allows natural wildfires to burn in the Backcountry Zone, but not in the Frontcountry, representing a slight decrease in potential impact on cultural resources. It is aggressive in terms of fuel management and provides for mechanical fuel reduction methods. Where such methods involve the utilization of equipment such as ATVs and other vehicles, there is an increased possibility that cultural resources would be subjected to minor to moderate localized impacts. All projects would require an archaeological clearance, and therefore impacts would be minimized. Suppression of wildfire requires the use of heavy equipment, such as dozers to construct fireline, in cases where life and private property are at risk. The rapid-response nature of suppression greatly increases the potential for archaeological site damage, even with clearance and other requirements. Based on this higher level of impact associated with wildfire response, the Proposed RMP would likely provide a moderate to major long-term benefit to cultural resources by decreasing the risk of catastrophic fires and potential damage from fire suppression operations in the King Range, through fuels management that encourages a more natural role for fire in the ecosystem.

### **5.3.12 Impacts to Cultural Resources from Travel Management**

The Proposed RMP would continue existing travel management policies on the existing road system, with negligible impacts on documented and unrecorded cultural resources. The beach corridor and other locations with sensitive cultural sites would remain closed to vehicle use.

### **5.3.13 Impacts to Cultural Resources from Recreation**

As recreation use can present general levels of adverse impacts to cultural resources, establishment of visitor use limits should result in fewer and less severe impacts to prehistoric and historic sites. Most identified cultural resources are situated within the Backcountry and, as a result, could be subjected to moderate impacts under the Proposed RMP; because most popular camping places in the Backcountry are located where prehistoric people had seasonal encampments, increases in recreation use could have an adverse effect on cultural resources. However, the Proposed RMP makes provisions for the

placement of barriers and fences, the designation of “group avoidance areas,” and additional management of recreation uses in order to protect resources and reduce impacts. Visitor education on low-impact use techniques should also reduce potential impacts. Implementation of recreation management programs discussed in the Proposed RMP would contribute towards reducing impacts from projected increases in the intensity of recreation use of the KRNCA to minor levels.

#### **5.3.14 Impacts to Cultural Resources from Interpretation and Education**

The Proposed RMP would continue existing policies and would have minor impact on cultural resources within the KRNCA. By continuing to expand the interpretive program to incorporate cultural resource programs, a positive impact would be realized by increasing public appreciation and protection of the sites.

#### **5.3.15 Potential Cumulative Impacts to Cultural Resources**

The cumulative impact study area for cultural resources covers all of Humboldt County. The RMP contributes to area-wide efforts to protect and promote cultural resources. In particular, many areas within the County that lie outside of the KRNCA are privately owned, where cultural resource protections are not legally required, so the King Range contributes a disproportionately large amount to protection of cultural resources in the area. This represents a moderate positive cumulative impact.

### **5.4 IMPACTS TO INVENTORY UNITS AND STUDY AREAS (WILD AND SCENIC RIVERS, WILDERNESS CHARACTERISTIC INVENTORY UNITS, ACECS)**

This section focuses on the affects that management actions would have on the suitability of the lands for a respective designation or protective management, and not on the impacts to the resource values themselves. For example, all of the eligible Wild and Scenic River segments have anadromous fisheries as the Outstandingly Remarkable values that contribute to their eligibility. The impact assessment in this section does not identify impacts from the various programs to the anadromous fisheries themselves (these are discussed in the Aquatic Ecosystem and Fisheries section), but only their impacts on the eligibility/suitability on the river for the designation. The Proposed RMP would have minimal impacts on the inventory units and study areas, and does not include actions that would result in an irreversible or irretrievable impact, i.e., an impact that would make a particular inventory unit or study area unsuitable for consideration for protective management under later land use planning efforts.

#### **5.4.1 Impacts to Inventory Units and Study Areas from Visual Resources Management**

Implementation of the visual resources management program would not impact the inventory units and study areas.

#### **5.4.2 Impacts to Inventory Units and Study Areas from Cultural Resources Management**

No impacts would occur to the inventory units and study areas from cultural resources management.

#### **5.4.3 Impacts to Inventory Units and Study Areas from Lands and Realty**

No impacts would occur to the inventory units or study areas from the lands and realty program.

#### **5.4.4 Impacts to Inventory Units and Study Areas from Inventory Units and Study Areas**

Beneficial impacts would occur for those areas identified for management according to their respective Congressional or administrative designations/allocations: two wilderness characteristics subunits, two ACECs, and ten suitable Wild and Scenic stream segments. Areas not proposed for management under these respective designations or land use allocations would not have any long-term impacts under the Proposed RMP that would make them ineligible for future consideration.

#### **5.4.5 Impacts to Inventory Units and Study Areas from Aquatic Ecosystems and Fisheries Management**

No impacts would occur, except some minor to moderate positive impacts to the outstandingly remarkable anadromous fishery values of the eligible Wild and Scenic River segments.

#### **5.4.6 Impacts to Inventory Units and Study Areas from Wildlife Management**

No impacts would occur.

#### **5.4.7 Impacts to Inventory Units and Study Areas from Terrestrial Ecosystems and Vegetation Management**

No impacts would occur.

#### **5.4.8 Impacts to Inventory Units and Study Areas from Forest Management**

Minor to moderate short-term negative impacts would occur to wilderness characteristic inventory subunits 1H and 1I under the Proposed RMP. Proposed forest and watershed restoration activities in parts of these units impacted from past timber harvesting would reduce naturalness and opportunities for solitude during and for a time after the operational period. However, these projects would result in long-term beneficial impacts by improving the ecological character of the units, and returning them to a forest structure that more closely approximates natural conditions. Any salvage logging would result in similar short-term negative and long-term positive impacts on naturalness to wilderness characteristic inventory units that are not incorporated into the Backcountry Zone.

#### **5.4.9 Impacts to Inventory Units and Study Areas from Special Forest Products Management**

No or negligible impacts would occur.

#### **5.4.10 Impacts to Inventory Units and Study Areas from Grazing Management**

No or negligible impacts would occur.

#### **5.4.11 Impacts to Inventory Units and Study Areas from Fire Management**

Minor to moderate short-term impacts would occur to the wilderness inventory subunits from fuels management projects that could occur in the Frontcountry Zone in the Proposed RMP. However, in the long-term, these projects would serve to create a landscape that more closely approximates natural conditions and is more resistant to catastrophic wildfire. This would serve to increase the naturalness of the units in the long-term.

#### **5.4.12 Impacts to Inventory Units and Study Areas from Travel Management**

No impacts would occur.

#### **5.4.13 Cumulative Impacts from Inventory Units and Study Areas**

In terms of cumulative impacts, with a study area identified as the North Coast region, these inventory units and study areas contribute to systems of protected lands already in place. For example, a number of wilderness areas have already been designated within fifty miles of the KRNCA, including the North Fork Wilderness, the Yolla Bolly Middle-Eel Wilderness, and Humboldt Redwoods State Park Wilderness. However, the King Range and adjoining Sinkyone Wilderness State Park are the only coastal lands with wilderness characteristics. A number of BLM Wilderness Study Areas are also within fifty miles of the King Range. There is one other ACEC/RNA in the Mattole Valley (The Gilham Butte ACEC/RNA). This area complements the old growth forest and watershed protection of the Mill Creek area, resulting in a positive cumulative impact. The cumulative impacts of Wild and Scenic River designation (Regional Summary of Rivers) are described in Appendix D.

### **5.5 IMPACTS TO AQUATIC ECOSYSTEMS AND FISHERIES RESOURCES**

The description of potential impacts to fisheries resources described below is based on the assumption that allowable uses that could potentially affect aquatic habitat in the KNRCA would be guided by determining consistency with aquatic and fisheries goals, management objectives and Aquatic Standards and Guidelines (Appendix E), which are specific to ongoing or future proposed land management activities. Riparian Reserves (RRs) include lands along streams and associated areas necessary for maintaining hydrologic, geomorphic, and ecological processes. The fisheries goals and objectives, along with the Aquatic Standards and Guidelines, limit or exclude land use activities so that riparian and aquatic habitat is maintained and restored. The goals, objectives, standards and guidelines, and RRs would be

used to screen all future projects and were designed to operate together to maintain productivity and resiliency of riparian and aquatic ecosystems and the species that depend on them.

The Proposed RMP contains actions that are ongoing within the KRNCA (existing grazing management, fuels reduction actions, road maintenance actions, existing recreation facilities, timber stand improvement actions, etc.) but may be modified by the plan. Ongoing actions have already undergone Endangered Species Act Section 7 consultation with NOAA Fisheries and have been analyzed on a programmatic or project basis. Thus, additional direction relevant to protection of riparian and aquatic habitat in the KRNCA includes, but is not limited to, measures contained in existing biological assessments and ESA consultation documents specific to these ongoing actions. If any of the proposed activities discussed under the Proposed RMP are outside of the scope of existing Section 7 consultations, and/or if an activity could affect a listed species but has not undergone Section 7 consultation, that activity would be subject to Section 7 consultation prior to implementation.

### **5.5.1 Impacts to Aquatic Ecosystems and Fisheries Resources from Visual Resources Management**

All VRM actions and inventory procedures would need to move conditions of riparian and aquatic ecosystems toward attainment of the fisheries goals and objectives. Examples of management actions that would reduce existing visual impacts were given in Section 4.5.4 and included painting of culverts and removing road berms. These types of actions have the potential for adverse impacts to aquatic habitats and fisheries if not conducted properly. However, because all proposed VRM actions would be screened for consistency with the aquatic goals and objectives prior to implementation, and because these were designed to prevent degradation of riparian and aquatic habitat, there would be no impact to fisheries from visual resources.

### **5.5.2 Impacts to Aquatic Ecosystems and Fisheries Resources from Cultural Resources Management**

Under the Proposed RMP, existing policies would remain in place to protect cultural resources from the management actions identified to restore or maintain desired conditions for fisheries resources, so there would be no change in BLM's ability to implement fisheries restoration projects. Policies to maintain or increase monitoring, site patrols and collaboration with Native Americans under the Proposed RMP would have no impact on fisheries resources. Policies encouraging surveying, regional overviews, stabilization of historic structures and development of National Register nominations under the Proposed RMP would have no impact on fisheries resources. Some stream restoration projects may need to be modified to eliminate impacts to cultural resources. However, this should have negligible impacts to the overall restoration program.

### **5.5.3 Impacts to Aquatic Ecosystems and Fisheries Resources from Lands and Realty**

Policies to obtain lands, specifically lands within anadromous watersheds, could facilitate watershed protection, restoration, and recovery of fisheries. Land acquisitions could have major beneficial impacts to fisheries by increasing the extent of watershed area that is specifically managed to maintain and restore

riparian and aquatic habitat. The Aquatic Guideline LH-5 directs BLM to use land acquisition to meet fisheries objectives and to facilitate the restoration of fish stocks and other species at risk.

Policies to consider new rights-of-way in the Frontcountry Zone under the Proposed RMP could have moderate adverse impacts to fisheries due to potential watershed disturbance that could occur on private lands as a result of a change in access (i.e., road construction, timber harvest, water withdrawals). Issuance of rights-of-ways would be screened using the fisheries goals, objectives, and standards and guidelines. Aquatic Guideline LH-4 directs that rights-of-way and other permits must avoid adverse effects that retard or prevent attainment of fisheries objectives. However, because of associated activities on private land, issuance of rights-of-ways could result in moderate adverse impacts to fisheries. Activities on private lands would be consistent with State and County regulations.

BLM's assertion of water rights under the Proposed RMP would not have any immediate impact on the watershed or other water users. The beneficial effects of these actions would only occur if the watershed becomes more developed in the future and water rights are adjudicated or if the watershed is determined to be "fully-allocated" by the state. Parties with a proven senior water right would be unaffected by BLM assertion of water rights.

#### **5.5.4 Impacts to Aquatic Ecosystems and Fisheries Resources from Inventory Units and Study Areas**

##### ***5.5.4.1 Wild and Scenic Rivers***

The Proposed RMP would continue existing policies that protect RRs and aquatic habitat along rivers and streams within the KRNCA, and thus would have no impact to fisheries. In addition to these policies, it would recommend ten river segments for inclusion in the National Wild and Scenic River System (NWSRS). Future management prescriptions for suitable river segments would protect the free-flowing values of river segments, thereby precluding stream impoundments, diversions, channelization, and/or rip-rapping. River segments would also be managed to protect identified "outstandingly remarkable values."

Fisheries goals, objectives, and standards and guidelines were designed to protect free-flowing values of rivers including instream flows, channel conditions, and RRs. Thus, beneficial impacts of the designations are expected to be minimal on most stream segments relative to most of the fisheries management actions. Designation under the Wild and Scenic Rivers Act would require the Federal Government to protect the "outstandingly remarkable" values of each stream segment. Since the anadromous fishery is identified as the outstandingly remarkable value in all of the segments, designation would provide beneficial impacts.

##### ***5.5.4.2 Wilderness Characteristic Inventory Units***

The Proposed RMP would continue current policies for existing WSAs until congressional designation or release occurs. Lands outside of the King Range and Chemise Mountain areas that have identified wilderness characteristics would be managed to protect these values. Lands within WSAs are subject to special management constraints and are managed to not impair their suitability for designation as

wilderness. The only permissible activities are temporary uses that avoid surface disturbance, do not require reclamation, nor involve permanent placement of structures. Exceptions are granted for emergencies or existing activities that enhance wilderness values. The Proposed RMP would incorporate portions of the Bear Creek and Squaw Creek watersheds into the Backcountry Zone to be managed for wilderness characteristics, and would protect an additional 200 acres of acquired lands within the existing WSAs. This would have mixed minor impacts to fisheries. Protection of naturalness and other wilderness characteristics would have a minor beneficial impact, while some limitations may be required regarding restoration actions resulting in a minor negative impact.

#### **5.5.4.3 ACECs**

Designation of the Mill Creek ACEC would provide positive impacts to the Mill Creek Watershed. The relevant and important values identified for protection under this designation are the cold water, fishery and old-growth forest values.

### **5.5.5 Impacts to Aquatic Ecosystems and Fisheries Resources from Aquatic Ecosystems and Fisheries Management**

Management actions identified in the Proposed RMP include upslope sediment reduction, instream habitat enhancement, riparian silviculture, monitoring, and estuary enhancement. All of these actions would have major, long term, and beneficial impacts to fisheries through improved habitat quantity and quality. Upslope sediment reduction would reduce the amount of fine sediment that deposits in pools and spawning habitat, which decreases suitability of Pacific salmonid habitat and may adversely affect survival of fish. Instream habitat enhancement would provide more rearing, holding, and spawning habitat. Riparian silviculture would enhance the function of riparian zones to provide increased filtering capacity, increased nutrient input to streams, and increased stream cover and large wood recruitment potential. Silviculture treatments would be screened to ensure that they benefit riparian dependent species, and methods would be constrained so that treatments do not retard or prevent attainment of fisheries goals and objectives. Estuary enhancement would benefit salmonids by increasing cover from predators and causing scour around structures, and would particularly benefit juvenile salmonids rearing in the estuary.

There could be minor short-term adverse impacts to fisheries as well as the beneficial impacts due to localized disturbance that may occur when restoration projects are implemented. For example, during road decommissioning, stream crossings are pulled out and soils are disturbed making them vulnerable to settling and erosion, especially the first winter following restoration. Sediment could be washed downstream and impact fisheries habitat. However, the minor short-term disturbances that may be associated with the management actions proposed are expected to be minimized through project-level design, and it is expected that potential impacts would be outweighed by the substantial beneficial impacts of restoration.

The Proposed RMP would allow implementation of estuary enhancement. Estuary habitat is crucial to the life cycle of Pacific salmonids, and estuary residence time may be an important determinant of ocean survival of young salmonids. There is little documentation of the historical condition of the Mattole River estuary and lagoon, but currently this area is aggraded and shallow, and frequently changes in

response to environmental factors, such as flood events. Studies in the Mattole Estuary have indicated that the summer carrying capacity of the estuary is low, and that the estuary may be a significant bottleneck with respect to the life cycle of Chinook salmon. Limiting factors are not clear, but are likely related to water temperatures, food and predation, which are related primarily to patterns of sediment deposition in the watershed and estuary and secondarily to the quality of riparian and large wood elements within and along the estuary. Erosion control work in the watershed, as proposed under the Proposed RMP, which reduces the input of sediment in the Mattole basin, would benefit estuary habitat and fisheries especially if coupled with estuarine enhancement work that increases the summer carrying capacity of the estuary. Estuary enhancement would include placement of large wood structures. These structures would benefit fisheries by providing cover from predators and by causing scour that would increase water depths around the structures and act as refuge for migrating or rearing salmonids. Thus, the Proposed RMP would have major beneficial impacts to fisheries through enhancement of estuary habitat.

The Proposed RMP allows for the full complement of restoration actions (upslope sediment reduction, instream habitat enhancement, riparian silviculture) but only in fish bearing watersheds in the Mattole basin. It would benefit fisheries in the Mattole basin through enhancing watershed condition and fish habitat but streams in the backcountry would not benefit.

Monitoring is not a restoration activity but provides crucial information to managers regarding the effectiveness of restoration activities and aids in prioritizing future restoration projects. Monitoring in the Proposed RMP would be focused in fish bearing streams in the Mattole basin, and thus habitat, water quality condition and trends, and fisheries data would be tracked and appropriate responses may be formulated and implemented. Limited monitoring would also occur on west slope streams to ensure that grazing, recreation, and other uses do not impact fishery values. This would have a positive impact on fisheries.

### **5.5.6 Impacts to Aquatic Ecosystems and Fisheries Resources from Wildlife Management**

Under the Proposed RMP, existing policies would remain in place to maintain and enhance natural wildlife populations. Also, existing policies would remain in place to reduce or eliminate the need for listing of additional wildlife species under the ESA and to contribute to the recovery of listed species. Limited operating periods to protect owls and/or murrelets from noise generated by watershed restoration projects could, if implemented, constrain the amount of restoration work that can be implemented in a given year and thus would indirectly result in adverse impacts to fisheries. (However, disturbance distances can be minimized with topographic or vegetative screening around projects, which could reduce or eliminate any adverse impacts. Also, these operating requirements are required under the Endangered Species Act Recovery Plan, and are beyond the scope of this planning effort.) Actions specific to various listed species identified under the Proposed RMP would not impact fisheries, and in general wildlife species protection benefits fisheries as well. Policies enacted under the Proposed RMP to facilitate research and monitoring of wildlife would have no impact on fisheries resources.

### **5.5.7 Impacts to Aquatic Ecosystems and Fisheries Resources from Terrestrial Ecosystems and Vegetation Management**

Under the Proposed RMP, existing programs would be continued to eradicate invasive plant species. Site surveys have shown that invasive species have only colonized isolated locations in RRs. Thus, the potential benefits to riparian plant species associated with removal of invasive species would be minor. Similarly, any ground disturbance associated with removal of invasive plants would be very localized and minor.

The impact of limited grazing outside of allotments under the Proposed RMP is anticipated to be minor, localized, and short-term. Any grazing projects would be limited in size with a primary goal of improving vegetation structure and wildlife habitat. All ongoing grazing-related activities in the KRNCA have undergone Section 7 consultation and adverse effects have been minimized. Thus, any changes to the ongoing grazing management would cause reinitiation of consultation to ensure that effects of modifications are minimized. Thus, if limited grazing outside of allotments is proposed in the future, it is expected that streams and RRs would be protected from impacts, and upslope impacts would be minimized through project design.

Specific types of vegetation may be burned under the Proposed RMP, which could temporarily decrease soil cover and cause erosion in areas burned. However, prescribed burns and their potential effects to fisheries in the KRNCA have been analyzed and mitigated through the ongoing program and through Section 7 consultation, such that adverse impacts to fisheries are not expected.

### **5.5.8 Impacts to Aquatic Ecosystems and Fisheries Resources from Forest Management**

Under the Proposed RMP, existing policies would remain in place to maintain and enhance old growth forests. RRs would be protected from timber harvest and projects would be screened to ensure that they don't retard or prevent attainment of fisheries goals and objectives prior to implementation. The Aquatic Standards and Guidelines prohibit silvicultural activities in RRs except where catastrophic events have degraded riparian conditions and forest health treatments would help attain desired riparian conditions. RR widths in the KRNCA would be consistent with RR widths in the NWFPA ROD, designed to protect riparian ecosystems, potentially unstable areas, inner gorges, and floodplains from management activities.

Potential impacts of silvicultural treatments under the Proposed RMP are expected to be minor to moderate and temporary in nature, based on the areas proposed for treatment. Silvicultural treatments may increase erosion in harvest units, roads, and landings. The risk of impacts to fisheries would be primarily related to the potential for sediment delivery to streams. Activities associated with the Proposed RMP would allow increases in watershed disturbances, which may result in temporary impacts to fisheries depending on the extent, location, and characteristics of the landscape treated. The highest potential for adverse impacts to fisheries is represented by the opening and use of old logging roads and construction of new temporary roads. However, these projects would only be completed if they serve to meet the primary goals of restoring forest and watershed health, and so would provide long-term positive impacts. Similarly, all other silvicultural treatments would only be completed with a long-term goal of restoring previously harvested stands to more natural forest characteristics that are less subject to stand

replacing fires. This would reduce sediment impacts associated with large-scale intense wildfires in the long-term.

Timber Stand Improvement (TSI) projects could occur under the Proposed RMP and methods have been analyzed and mitigated through the ongoing TSI program and through Section 7 consultation. Thus, TSI activities would have no impact on fisheries. All projects allowed would be designed by an interdisciplinary team and land management activities would be guided by determining consistency with fisheries goals and objectives and standards and guidelines designed to protect RRs and aquatic habitat.

### **5.5.9 Impacts to Aquatic Ecosystems and Fisheries Resources from Special Forest Products Management**

Issuance of permits to collect mushrooms, beargrass, floral trade species, and fuelwood proposed under the Proposed RMP would not impact fisheries. Fuelwood cutting would be prohibited in RRs unless it could be used as a tool to attain fisheries objectives. The Proposed RMP would prohibit fuelwood cutting in the Mattole Estuary area, which would result in significant beneficial impacts. Large wood may be recruited to the estuary during high flows, if fuelwood cutters do not remove it.

The Proposed RMP could impact fisheries if road use occurs or increases during the wet season for purposes of collecting special forest products. Winter road use accelerates erosion on unsurfaced roads, and winter rains carry the fines from road surfaces to streams. All BLM roads open to winter use in the King Range are located on ridgetops and upper slopes, so this impact would be minor.

Policies to monitor mushroom collection methods, coordinate with local tribes regarding use of beargrass, and manage beargrass resources proposed in the Proposed RMP would have no impact on fisheries.

### **5.5.10 Impacts to Aquatic Ecosystems and Fisheries Resources from Grazing Management**

Under the Proposed RMP, existing policies and allotments would remain in place, which have been analyzed and mitigated through the ongoing program and through Section 7 consultation. Aquatic Guidelines GM-1 through GM-3 would be used to guide grazing practices and placement of grazing facilities to protect aquatic habitat. Thus, the Proposed RMP would have no adverse impacts to fisheries. Under the Proposed RMP, the Spanish Flat allotment boundary would be adjusted to exclude 500 acres of a terraced prairie between Spanish and Randall Creeks to protect significant cultural sites, but the number of Animal Unit Months (1,105 AUMs) would remain unaltered. This represents roughly a five percent decrease in size of this allotment, and would not impact fisheries. Under the Proposed RMP, four expired grazing leases would be administratively changed from available to unavailable for grazing. This action would result in beneficial impacts to fisheries, as it would ensure protection of streams in the lease areas from future grazing impacts. However, these leases are inactive and have not been used for grazing for several years, thus relative to existing on-the-ground impacts, this action would have no impact on fisheries.

### **5.5.11 Impacts to Aquatic Ecosystems and Fisheries Resources from Fire Management**

Managing fuels to create a landscape resistant to damaging high intensity wildfires would have beneficial impact to fisheries in treated areas. However, due to the extent of overstocked stands and high levels of fuels, treatments would likely be limited in the watershed context and would be concentrated along roads. Therefore, the beneficial impact would be minor to moderate, at least during the life of the plan, as effective fuels reduction would take many decades and retreatments. The relative potential impacts of wildfires that are allowed to burn versus suppression activities that could also impact fisheries must be considered in the context of existing watershed conditions. The Frontcountry is roaded and provides existing roads from which to stage pre-suppression and suppression activities. Thus, the effects of suppression would be lower than in the Backcountry Zone. The Backcountry Zone is essentially unroaded and suppression activities along the west slope of the KRNCA could have significant adverse impacts to fisheries in the small coastal drainages in this area if emergency suppression requires dozer lines or roads. The Honeydew Fire of 2003 illustrated that dozer lines might be necessary to protect life and property. The Backcountry Zone also has a different vegetation mosaic than much of the Frontcountry Zone, and fires may burn at different intensities. Thus, the proposed plan would likely be beneficial from a fisheries impact perspective since suppression activities may cause more adverse impacts than allowing a wildfire to burn. The use of prescribed fire and mechanical methods for fuels reduction in the Frontcountry Zone would likely be targeted on woody vegetation outside of RRs, so riparian function would be maintained and streams would be protected from disturbance.

### **5.5.12 Impacts to Aquatic Ecosystems and Fisheries Resources from Travel Management**

The Proposed RMP would continue existing policies to provide a network of roads that complement the rural character of the KRNCA. Aquatic Guidelines RF-1 through RF-7 would be used to guide road management activities in the KRNCA. These actions would provide benefits to fisheries. By directing use in the Mattole Estuary onto a main access road and other routes that do not impact riparian vegetation, existing impacts to the estuary would be reduced to minor levels. It is unknown whether poaching of adult salmonids occurs in the Mattole Estuary. If so, continued vehicle access into the estuary could indirectly impact fisheries. This impact is expected to be improbable and minimal, as the estuary receives a great deal of oversight by area residents.

### **5.5.13 Impacts to Aquatic Ecosystems and Fisheries Resources from Recreation**

The Proposed RMP would continue existing policies regarding visitor information, road and trail maintenance, resource protection, visitor safety, special recreation permits, cooperative management, exclusionary fence and barrier construction, enforcement, and Universal Accessibility Standards, so there would be no impact to fisheries. The Proposed RMP calls for development of additional trails, and specifically a mountain bike trail network in the Bear Creek watershed. Trail construction standards contained in the RMP would be followed to minimize any watershed/fisheries impacts. Long-term impacts from this trail system are expected to be negligible to minor, and site-specific consultation would occur with NOAA Fisheries for specific projects. Development of a parking area and trailhead along Bear Creek from Shelter Cove Road could cause minor to major negative impacts to fisheries depending

on the specific design/feasibility of low impact construction. Further site specific analysis would be required to determine the level of impact. The project would not be implemented if impacts were determined to be significant.

The ongoing recreation program in the KRNCA has undergone Section 7 consultation and adverse effects have been mitigated. The Proposed RMP would allow moderate use numbers in the Backcountry Zone. This would increase the potential for adverse effects to fisheries in the small coastal drainages on the western slope, such as impacts related to human waste in the floodplains and trampling of habitat. The Proposed RMP would also allow for increases in visitor use in the Frontcountry Zone. However, existing recreation facilities in the Frontcountry Zone have been mitigated through the ongoing programs and Section 7 consultation, and new facilities would be screened to ensure that they do not retard or prevent attainment of fisheries goals and objectives, so this would have no impact on fisheries.

#### **5.5.14 Impacts to Aquatic Ecosystems and Fisheries Resources from Interpretation and Education**

The Proposed RMP would continue existing policies to provide information to visitors. This information includes posting of fishing regulations and recommended methods to avoid surface water contamination (from human waste), so the Proposed RMP would have beneficial impacts to fisheries.

#### **5.5.15 Potential Cumulative Impacts to Aquatic Ecosystems and Fisheries Resources**

Within the Mattole watershed, there are numerous agencies and organizations—the Mattole Restoration Council, Mattole Salmon Group, Sanctuary Forest, Middle Mattole Conservancy, CDFG, and others—performing watershed restoration activities on both public and private lands. BLM actions proposed in this plan contribute to this coordinated effort, constituting a major beneficial cumulative impact.

In addition, watershed restoration groups are promoting and subsidizing the use of large water storage facilities to reduce the level of summertime diversions in the Mattole basin. BLM's exercise of water rights under this RMP would complement this effort and reduce future water diversions from the Mattole watershed, which otherwise could contribute to higher summertime temperatures and its drying out seasonally. This also represents a major beneficial cumulative impact to aquatic resources.

### **5.6 IMPACTS TO WILDLIFE**

Under the Proposed RMP, existing policies would remain in place to maintain and enhance natural wildlife populations, minimize or eliminate the need for listing of additional species under the Endangered Species Act, and contribute to the recovery of listed species. These continued policies would cause a negligible or no negative impact on wildlife species.

### **5.6.1 Impacts to Wildlife from Visual Resources Management**

Under the Proposed RMP, impacts from management of visual resources would have a negligible long-term impact on wildlife populations. The Proposed RMP would make the Frontcountry Zone Class II and III Visual Resource Management designation in the north and south, respectively. No wildlife habitat improvements that would conflict with these designations are proposed, so this would have no impact on wildlife. It would also change the VRM designation in the Backcountry Zone to Class I. This could result in minor negative impacts to wildlife if habitat improvement projects require the placement of structures that would not conform with the strict Class I requirements.

### **5.6.2 Impacts to Wildlife from Cultural Resources Management**

Under the Proposed RMP, existing policies would remain in place to protect cultural resources, so there would be negligible impact on wildlife. Policies to maintain or increase monitoring, site patrols, and collaboration with Native Americans would have negligible impact on wildlife.

### **5.6.3 Impacts to Wildlife from Lands and Realty**

Policies to obtain lands and interests determined to be desirable for consolidation so as to facilitate management in Backcountry and Frontcountry Zones under the Proposed RMP could have a minor to moderate, long-term, and beneficial impact on wildlife by increasing the land base and providing greater protection to some habitats types (e.g., riparian zones would be managed to protect anadromous fish, thereby benefiting wildlife species within these habitats). Lands acquired in the Residential Zone would have minimal impacts on wildlife. Under the Proposed RMP, policies to make the Backcountry Zone an exclusion area for new rights-of-way and/or permits would have minor to moderate, long-term benefits to wildlife by limiting habitat fragmentation and frequency of human disturbance.

### **5.6.4 Impacts to Wildlife from Inventory Units and Study Areas**

#### *5.6.4.1 Wild and Scenic Rivers*

Protective management of various rivers under the Proposed RMP would have minor beneficial impacts on wildlife populations by affording an added level of protection of water quantity and quality and riparian habitat to meet wildlife needs.

#### *5.6.4.2 Wilderness Characteristic Inventory Units*

The Proposed RMP would continue existing policies for management of lands currently designated as WSAs under the BLM's "Interim Management Policy (IMP) For Lands Under Wilderness Review" (H-8550-1) until Congressional designation as Wilderness or release from WSA status.

Wilderness characteristics would be protected on additional lands adjacent to the existing King Range and Chemise Mountain WSAs, most notably old-growth forest habitat in the Squaw Creek drainage. This would have a minor to moderate positive impact on wildlife in these areas.

### 5.6.4.3 ACECs

The Proposed RMP would designate the Mill Creek Watershed as an ACEC to protect the water quality of this important anadromous fish stream/cold water tributary to the Mattole River, and the low-elevation old-growth Douglas-fir forest. This policy would have a major beneficial impact on wildlife.

## 5.6.5 Impacts to Wildlife from Aquatic Ecosystems and Fisheries Management

Under the Proposed RMP, existing policies would remain in place to restore and maintain ecological health of watersheds and aquatic habitats and implement up-slope sediment reduction resulting in a minor to moderate long-term positive impact to wildlife species that occupy riparian habitats (e.g., riparian birds, aquatic amphibians). Implementation of estuary enhancement program in the Mattole Estuary would have a moderate long-term benefit to wildlife species, including marine mammals and numerous species of birds.

## 5.6.6 Impacts to Wildlife from Wildlife Management

Under the Proposed RMP, existing policies would remain in place to maintain and enhance natural wildlife populations, protect habitat, prevent damage, and increase public education. The plan would encourage habitat for federally threatened western snowy plovers at the Mattole River mouth. The localized impacts could result in long term, moderate positive effects.

The Proposed RMP would have a major positive impact on spotted owls as it would provide sufficient habitat to attract and maintain 20 breeding pairs. It would also have minor positive impact for Steller's sea lions by protecting haul-out sites through cooperative management with the California Coastal National Monument.

In addition, the Proposed RMP would design and implement a long-term "all bird" monitoring plan that would provide managers data necessary to responsibly manage wildlife. This plan would be implemented opportunistically, resulting in a moderate beneficial effect. The Proposed RMP would facilitate research and monitoring of wildlife populations within the KRNCA to increase the knowledge base. This would provide managers with species and local population data necessary to responsibly manage wildlife species within the KRNCA; the short term minor effect on wildlife would be positive; the long term effect could result in a major positive impact to some wildlife species.

Additionally, in the Proposed RMP, BLM would work cooperatively with CDFG to maintain a natural diversity of intertidal organisms and educate visitors to intertidal habitat resulting in a long term major beneficial impact to wildlife using intertidal habitats.

## 5.6.7 Impacts to Wildlife from Terrestrial Ecosystems and Vegetation Management

Under the Proposed RMP, existing programs would be continued to eradicate invasive plant species and manage vegetation composition to represent more naturally occurring conditions. This would maintain a mosaic of compositionally and structurally diverse habitat types which would have a minor to moderate beneficial impact on a wide range of wildlife species.

### **5.6.8 Impacts to Wildlife from Forest Management**

Under the Proposed RMP, existing policies would remain in place to maintain and enhance old growth forests, resulting in a positive impact on old-growth dependant wildlife. Goals to conduct silvicultural treatments and promote forest restoration (tree planting) under the Proposed RMP could have a minor, short-term negative impact on some wildlife, but would have a moderate to major long-term positive impact. It would also allow silvicultural treatments and selected post-fire salvage operations, which could temporarily reopen old logging roads and/or build new temporary roads; this could have a moderate, short-term negative, and localized impact to wildlife species by causing habitat fragmentation. A component of downed woody debris and snags would be retained; this would minimize impacts of removal of important components of forest ecosystems and wildlife habitat. The primary long-term goal and criteria used to determine whether to conduct salvage operations would be the improvement of a more natural forest structure and associated wildlife habitat. Therefore, long-term benefits to wildlife would be positive.

### **5.6.9 Impacts to Wildlife from Special Forest Products Management**

Issuance of permits to collect mushrooms, beargrass, floral trade species, and fuelwood proposed under the Proposed RMP would have a negligible effect on wildlife.

### **5.6.10 Impacts to Wildlife from Grazing Management**

Under the Proposed RMP, existing policies would remain in place to preclude loss or reductions in grazing allotments or AUMs, resulting in no changes to current rangeland management and negligible impact to wildlife.

### **5.6.11 Impacts to Wildlife from Fire Management**

The Proposed RMP would have minor positive long term effects on wildlife, due to reduction in the risk of fire. The geographic extent of this effect would depend on the number and extent of future fires and the associated rehabilitation.

Under the Proposed RMP, effects to wildlife in the Backcountry would be positive, but Frontcountry activities could lead to minor, long-term negative effects on wildlife in that zone, negatively impacting wildlife that depends on snags and downed woody debris. The Proposed RMP would utilize prescribed fire and mechanical methods in the Frontcountry Zone to manage fuels, which could have a moderate, long-term, and beneficial impact on wildlife.

### **5.6.12 Impacts to Wildlife from Travel Management**

The Proposed RMP would continue existing policies to provide a network of roads that complement the rural character of the King Range, so there would be negligible impact on wildlife.

### **5.6.13 Impacts to Wildlife from Recreation**

The Proposed RMP would continue existing policies regarding visitor information, road and trail maintenance, resource protection, visitor safety, special recreation permits, cooperative management, exclusionary fence and barrier construction, enforcement, and Universal Accessibility Standards, so there would be negligible impact on wildlife. However, it would establish a visitor use allocation system to allow moderate use numbers in the Backcountry and Frontcountry Zones. Allowance of increased use could have a minor to moderate negative impact on sensitive wildlife species, especially during the spring/summer breeding season. The requirement that Backcountry Zone visitors obtain a permit would have moderate positive impacts to wildlife with the inclusion of outdoor ethics information in the permit program.

The Proposed RMP would prohibit motorized watercraft landings, with the exception of emergencies and work cooperatively to establish parameters for commercial touring flights over the KRNCA, and to discourage low-flying aircraft. Both policies would greatly benefit marine wildlife such as seabirds and marine mammals roosting or breeding within the King Range.

### **5.6.14 Impacts to Wildlife from Interpretation and Education**

The Proposed RMP would continue existing policies to provide information to visitors, including wildlife and tidepool related ethics information. This could have a minor to major beneficial impact on sensitive wildlife.

### **5.6.15 Potential Cumulative Impacts to Wildlife**

The KRNCA, in conjunction with the nearby Sinkyone Wilderness State Park, Gilham Butte Public Lands, and Humboldt Redwoods State Park, provides a protected corridor for the movement of wide-ranging, dispersing, and migratory animals, which is a moderate and positive cumulative impact. For the northern spotted owl in particular, the study area for cumulative impacts is the entire California Coastal Province. The KRNCA is one of several public land areas with designated critical habitat. Managed in a coordinated fashion with these other areas, the King Range contributes to a solid chunk of habitat for this species, as well as other species associated with the same ecosystem type. In contrast, private lands in the province are generally managed intensively for timber production, which provide very limited suitable habitat. This represents a major beneficial cumulative impact.

## **5.7 IMPACTS TO TERRESTRIAL ECOSYSTEMS AND VEGETATION RESOURCES**

Impacts on the vegetation resources of the King Range are variable, as these resources are present in one form or another throughout all of the study area except for the beach wave-slope and landslide areas. The BLM is responsible for assessing the effects of any proposed activities associated with the various resource management activities and to insure that any effects from these activities do not result in significant adverse effects to these species under current and proposed management regimes.

### **5.7.1 Impacts to Terrestrial Ecosystems and Vegetation Resources from Visual Resource Management**

The impacts from the visual resources would likely not impact the vegetation under the Proposed RMP, as the conditions imposed respect the integrity of the vegetation as a fundamental element of the viewshed.

### **5.7.2 Impacts to Terrestrial Ecosystems and Vegetation Resources from Cultural Resources Management**

Under the Proposed RMP, impacts to the vegetative resources from cultural resources management would be localized (site-specific). The impact would be negative, from negligible to minor, and most likely as a result of efforts to stabilize or prevent environmental degradation to important sites. The impact would come both as a result of the efforts to stabilize, and possibly also as an indirect result of the alteration of the natural vegetation successional processes due to such stabilization efforts.

### **5.7.3 Impacts to Terrestrial Ecosystems and Vegetation Resources from Lands and Realty**

The only foreseen impact on the vegetation of the King Range from the management of Lands/Realty Resources would be an increased level of habitat management requirements, particularly if new acquisitions include populations of sensitive species, or suitable habitat contiguous with known occurrences of such species. These impacts would be minor to moderate and positive as vegetation stands are managed over a larger area and in a more comprehensive manner.

### **5.7.4 Impacts to Terrestrial Ecosystems and Vegetation Resources from Inventory Units and Study Areas**

The Proposed RMP provides for protective management of Wild and Scenic Rivers, wilderness characteristics, and ACEC values and would likely have long-term moderate positive effects.

### **5.7.5 Impacts to Terrestrial Ecosystems and Vegetation Resources from Aquatic Ecosystems and Fisheries Management**

All proposed watershed enhancement projects relative to aquatic and fisheries resources should have a similar level of impact to the vegetation resources of the King Range, and are likely to result in long-term moderate beneficial impacts to all affected habitats.

Upslope sediment reduction (road decommissioning, landslide rehabilitation, and road drainage maintenance and upgrades) activities could have short-term adverse impacts to sensitive botanical species associated with these elements, but would likely be outweighed by the overall moderate, long-term, beneficial impacts that would result, contributing to the overall watershed integrity. Instream habitat enhancement improvement projects would likely only pose negligible, localized adverse impacts to sensitive botanical species and habitats, if any.

Riparian silviculture activities could have long-term localized minor to moderate adverse impacts to sensitive botanical species that might occur in these habitats, but would also result in moderate long-term benefits to habitat quality. Botanical clearances would ensure that impacts to sensitive species are minimized during these projects.

### **5.7.6 Impacts to Terrestrial Ecosystems and Vegetation Resources from Wildlife Resource Management**

Under the Proposed RMP, management of wildlife should have a negligible effect on the vegetative resources, aside from those addressed in the vegetation management section.

### **5.7.7 Impacts to Terrestrial Ecosystems and Vegetation Resources from Terrestrial Ecosystems and Vegetation Resource Management**

#### *5.7.7.1 Impacts to Habitats*

The impacts to the different dominant habitats in the King Range would be beneficial, as the Proposed RMP specifies various levels of management activities to maintain and encourage a return of the area to a diversity of native habitats. The Proposed RMP would have a minor to moderate positive impact to the coastal dunes, scrub, and grassland habitats because it would implement some level of monitoring and allow for a wider diversity of management activities (prescribed burning, manual means, and limited grazing) to be utilized to contribute to “within-habitat diversity.” With respect to management of invasive plant species and sudden oak death, the Proposed RMP should have a minor to moderate beneficial impact on all habitat types.

#### *5.7.7.2 Special-Status Plant Species*

The Proposed RMP has the goal of maintaining viable and healthy populations of special status species, a management program that would undoubtedly benefit these species. These management prescriptions have the potential to cause short-term adverse effects on these species, but would result in long-term benefits, by increasing the quality of the associated habitats. The Proposed RMP could potentially have moderate adverse effects as a result of the “habitat-degrading” trends discussed above. With respect to management of invasive plant species and sudden oak death, the Proposed RMP should have a long-term beneficial impact on special status species, although the extent of the short-term negative impact would vary with the mechanism utilized in the removal of invasive plant species.

### **5.7.8 Impacts to Terrestrial Ecosystems and Vegetation Resources from Forest Management**

Forest improvement projects designed to accelerate the development of late-seral forest stand characteristics that are in the Proposed RMP could cause short-term minor to moderate adverse impacts to special status plant species, but would result in moderate long-term beneficial effects to both these habitats and any associated special status species. The Proposed RMP could have moderate, short-term adverse impacts on special status plant species as a result of timber salvage activities, with the larger impacts due to the level of road construction and maintenance. However, botany clearances would be

conducted prior to operations, and salvage would only be conducted for benefits to ecosystem management objectives. Therefore, long-term impacts would need to be determined to be beneficial through site specific analysis or the projects would not be implemented.

### **5.7.9 Impacts to Terrestrial Ecosystems and Vegetation Resources from Special Forest Products Management**

The Proposed RMP could have minor adverse impacts on special status plant species (particularly fungi) and habitats if habitat-destructive mushroom harvest methods are used illegally, particularly as a result of commercial collection. Ongoing monitoring and law enforcement would help to minimize this activity. All other aspects of special forest products management would likely have a negligible impact on the vegetation resources.

### **5.7.10 Impacts to Terrestrial Ecosystems and Vegetation Resources from Grazing Management**

Impacts related to grazing management would be localized to the grassland and scrub habitats that occur in the specific allotments. The effects of grazing on the native species diversity and abundance of grasslands vegetation has been shown to be quite variable (Harrison et al. 2003, Jutila 1999, etc.). The level of grazing identified in the Proposed RMP allows for an appropriate level of disturbance necessary to maintain these habitats and therefore represent a moderate positive long term impact on grassland habitats. The Proposed RMP also excludes grazing from specific areas where this activity compromises the integrity of the unstable substrates, which would minimize adverse impacts to this habitat, and allow for recovery. It is anticipated that the proposed level of grazing would have only negligible impacts to the scrub habitats.

Some special status plant species occur or have the potential to occur in these habitats. The relative contribution of grazing towards maintaining these early successional habitats is believed to mitigate any lesser adverse impacts to special status species as a result of grazing, and is therefore considered a beneficial impact on these species.

### **5.7.11 Impacts to Terrestrial Ecosystems and Vegetation Resources from Fire Management**

The use of fire as a management tool is well documented, although the effects can be quite variable. For the most part, fire would help to maintain a diversity of naturally occurring habitat types and also any associated special status species. Although some short-term minor to moderate negative impacts could occur as a result of wildfire and prescribed burns, the long-term positive effect they have on habitat maintenance would likely be moderately beneficial both to these habitats, and any associated sensitive flora. The Proposed RMP prescribes the completion and maintenance of shaded fuel breaks, which could pose localized negative impacts to sensitive botanical species, particularly those species with unique dispersal limitations.

The Proposed RMP allows for wildfires to occur only in the Backcountry Zone, but does allow for the use of prescribed burns to manage specific habitats in all zones. This would result in positive impacts to

all habitats and associated sensitive species, particularly in the level of precision allowed for the use of fire as a vegetation management tool. The suppression of naturally occurring fires in the Frontcountry does detract from the positive impacts (variation in burn area, intensity, etc.) to the diversity of habitats in this management zone as a result of such an event.

#### **5.7.12 Impacts to Terrestrial Ecosystems and Vegetation Resources from Travel Management**

The Proposed RMP would reduce existing impacts to habitat quality and special status plant species known to occur in the vicinity of the Mattole River Estuary, by reducing off-road access in this area. The entire King Range would be designated as “limited” with vehicle use only allowed on designated roads and trails. This would serve to minimize impacts from off-road vehicle travel.

#### **5.7.13 Impacts to Terrestrial Ecosystems and Vegetation Resources from Recreation**

Recreation management actions in the Proposed RMP would likely result in a variety of impacts. Some would have a minor beneficial effect, such as the restrictions in group size. Others could have along term localized and/or non-localized minor negative adverse impacts: for example, localized impacts would result from the construction of new trails and associated facilities, while non-localized adverse impacts would result from overall increased recreation use, in addition to the particular types of uses (i.e., mountain bikes).

#### **5.7.14 Impacts to Terrestrial Ecosystems and Vegetation Resources from Interpretation and Education**

As long as interpretive signs and structures are appropriately located, interpretive and educational resource management is likely to have negligible effect on the vegetation under the Proposed RMP, other than a positive effect as a result of increased appreciation for the vegetative resources.

#### **5.7.15 Potential Cumulative Impacts to Terrestrial Ecosystems and Vegetation Resources**

Under the Proposed RMP, through management done in the KRNCA in concert with a County-wide noxious weed management strategy and associated private efforts, invasive weed rates of spread would be reduced. This represents a moderate beneficial cumulative impact. Similarly, coordinated efforts to reduce the spread of sudden oak death would result in positive cumulative impacts.

### **5.8 IMPACTS TO FOREST RESOURCES**

Under the Proposed RMP, policies described under the Northwest Forest Plan would remain in place to maintain and enhance the late successional characteristics of KRNCA forests. In addition it would increase the amount of active management designed to hasten the return of late successional attributes to forest stands and have a moderate to major positive long-term impact on KRNCA forests.

### **5.8.1 Impacts to Forest Resources from Visual Resources Management**

Impacts from management of visual resources under the Proposed RMP could have a minor short-term negative impact on forest ecosystem restoration, in so far as certain forest management activities are not visually pleasing. The Proposed RMP would allow for short-term silvicultural treatments to cause impacts that meet Class III visual contrasts, with long-term requirements to meet Class II objectives. These requirements would have a minor impact on forest management by requiring some changes in technique and location of treatments. The Proposed RMP would change the VRM designation in the Backcountry Zone to Class I, which would result in negligible impacts since no silvicultural activities are proposed here.

### **5.8.2 Impacts to Forest Resources from Cultural Resources Management**

Under the Proposed RMP, existing policies would remain in place to protect cultural resources, so there would be negligible impact on forest management. Policies to maintain or increase monitoring, site patrols and collaboration with Native Americans could have minor negative short-term impacts on forest restoration activities, if management options were restricted. Policies encouraging surveying, regional overviews, stabilization of historic structures and development of National Register nominations would have negligible impact on forest ecosystems.

### **5.8.3 Impacts to Forest Resources from Lands and Realty**

Policies to obtain lands and interests determined to be desirable for consolidation to facilitate management in Backcountry and Frontcountry Zones under the Proposed RMP could have a minor to moderate long-term positive impact on forest management activities by increasing the land base and providing greater opportunities for forest rehabilitation. Lands acquired in the Residential Zone would have minimal impacts on forest management activities.

### **5.8.4 Impacts to Forest Resources from Inventory Units and Study Areas**

#### ***5.8.4.1 Wild and Scenic Rivers***

Designation of various rivers under the Proposed RMP would have minor impacts on forest management activities, since existing policies already provide similar direction for forest management activities in and around watercourses.

#### ***5.8.4.2 Wilderness Characteristic Inventory Units***

The Proposed RMP would continue existing policies for management of lands currently designated as WSAs under the BLM's *Interim Management Policy (IMP) For Lands Under Wilderness Review* (H-8550-1) until Congressional designation as Wilderness or release from WSA status. Wilderness characteristics would be protected on an additional 1,465 acres adjacent to the existing King Range and Chemise Mountain WSAs. This would have a negligible impact on forest management, since this acreage is outside of proposed silvicultural treatment areas.

#### **5.8.4.3 ACECs**

The Proposed RMP would designate the Mill Creek Watershed as an ACEC to protect the water quality of this important anadromous fish stream/cold water tributary to the Mattole River, and the low-elevation old-growth Douglas-fir forest. This policy could have a positive impact on forest resources, and would not preclude BLM from proposing low-impact forest management projects in the future.

#### **5.8.5 Impacts to Forest Resources from Aquatic and Fisheries Management**

Under the Proposed RMP, existing policies would remain in place to restore and maintain ecological health of watersheds and aquatic habitats and implement up-slope sediment reduction resulting in a potential minor negative impact to forest resources, by restricting the location and extent of forest management/restoration opportunities.

#### **5.8.6 Impacts to Forest Resources from Wildlife Management**

Under the Proposed RMP, existing programs would continue to protect wildlife during forest management activities, resulting in negligible impact to forest management.

#### **5.8.7 Impacts to Forest Resources from Terrestrial Ecosystems/Vegetation Management**

Under the Proposed RMP, existing programs would be continued to eradicate invasive plant species, maintaining a mosaic of compositionally and structurally diverse habitat types; this would have a negligible impact on forest management activities.

#### **5.8.8 Impacts to Forest Resources from Forest Management**

Under the Proposed RMP, existing policies would remain in place to maintain and enhance old growth forests, resulting in a major positive impact on forest ecosystem management and restoration. Goals to conduct silvicultural treatments and promote forest restoration (tree planting) would have a long-term positive impact. The Proposed RMP would allow silvicultural treatments and selected post-fire salvage operations, which could reopen old logging roads and/or build new temporary short spur roads; these actions would only be conducted if they were anticipated to have a moderate to major positive impact to forest health and ecosystem restoration. Based on fire history for the KRNCA, it is anticipated that salvage logging would be a relatively minor component of forest management. During the 23-year period ending in December 2003, only seven fires occurred that were larger than 100 acres. Of these fires, five occurred in the proposed Backcountry Zone which would be closed to salvage in this plan. The other two fires included acreage in the proposed Frontcountry Zone. One fire (the 2003 two-hundred-acre "10" fire) was a moderate intensity burn in a mixture of old-growth and second-growth forest. Since the fire was not stand replacing, it has benefited forest structure, and salvage would not meet the objectives of the Northwest Forest Plan or this plan as it would not improve late successional characteristics. The other fire (1988 Saddle Fire) burned mostly in the Backcountry, but also roughly 500 acres in the Frontcountry Zone. Of this, only five acres was salvaged along the King Peak Road for safety reasons.

In summary, salvage is foreseen to be a minor but positive tool for forest ecosystem management in the area over the life of this plan.

### **5.8.9 Impacts to Forest Resources from Special Forest Products Management**

Issuance of permits to collect mushrooms, beargrass, floral trade species, and fuelwood proposed under the Proposed RMP would have a negligible effect on forest resources and management activities, and a minor to moderate positive effect on special forest products.

### **5.8.10 Impacts to Forest Resources from Grazing Management**

Under the Proposed RMP, existing policies would remain in place to preclude loss or reductions in grazing allotments or AUMs, resulting in no changes to current rangeland management and negligible impact to forest resources.

### **5.8.11 Impacts to Forest Resources from Fire Management**

Fire management activities in the Proposed RMP would have moderate to major positive long term effects on forest management activities, due to reduction in the risk of fire. The geographic extent of this effect would depend on the number and extent of future fires and the associated rehabilitation.

Suppression of fires within the Residential Zone would have negligible impact on forest ecosystems. Aggressive suppression activities in the Frontcountry Zone could have a moderate localized negative impact on forest management, depending on the nature and extent of a fire and its suppression activities. Some of these effects could have a long-term negative effect on forest management. However, utilization of prescribed fire and mechanical methods in the Frontcountry Zone to manage fuels could have a moderate long-term beneficial impact on forest resources.

Managing for low intensity fires in the Backcountry Zone would likely have a long-term moderate to major positive impact on forest resources, depending on the size and extent of future fires. It is possible that long-term negative impacts could occur locally as a result of the loss of valuable forests to a fire, but re-establishing the natural role of fire would have moderate to major positive long-term effects on forest management as a result of creating a landscape resistant to intense and/or stand-replacing type fires.

### **5.8.12 Impacts to Forest Resources from Travel Management**

The Proposed RMP would continue existing policies to provide a network of roads that complement the rural character of the King Range, so there would be negligible impact on forest management.

### **5.8.13 Impacts to Forest Resources from Recreation**

The Proposed RMP would continue existing policies regarding visitor information, road and trail maintenance, resource protection, visitor safety, special recreation permits, cooperative management, exclusionary fence and barrier construction, enforcement, and Universal Accessibility Standards, so there would be negligible impact on forest management activities. It would also increase the visitor use

allocation system to allow moderate use numbers in the Backcountry and Frontcountry Zones, which could have a minor negative impact on forest resources.

#### **5.8.14 Impacts to Forest Resources from Interpretation and Education**

The Proposed RMP would continue existing policies that provide information to visitors, which would have a minor beneficial impact on forest management activities.

#### **5.8.15 Potential Cumulative Impacts to Forest Resources**

Efforts to maintain and increase old-growth forest habitat in the KRNCA, as well as linking this habitat to other old-growth forest areas in the region (Humboldt Redwoods State Park, Gilham Butte, Sanctuary Forest), would result in a moderate beneficial cumulative impact to late successional forest management. Removal of certain tracts of timber from the regional forest harvest base through combined efforts of land conservancies, the BLM, and other public agencies would result in minor negative cumulative impacts to the forest products production (see Lands and Realty section for anticipated land/easement acquisition acreage in the area, and social/economic section for economic impacts of area management).

### **5.9 IMPACTS TO GRAZING RESOURCES**

Under the Proposed RMP, decisions relating to grazing management are within parameters defined by current BLM grazing regulations and the California Standards for Rangeland Health and Guidelines for Livestock Management.

#### **5.9.1 Impacts to Grazing Resources from Visual Resources Management**

The Proposed RMP would classify the northern part of the Frontcountry Zone (which contains all of the allotment acreage in the Frontcountry Zone) in the Class II designation. This would have minor impacts on grazing by requiring any improvements (fencing, water troughs, etc.) to have minimal impacts to the existing landscape. Existing historic ranch improvements (fencing, barns, etc.) make up the cultural landscape that contributes to the pastoral scenic quality of the area, so improvements that mimic these qualities would be permitted. This would not affect the function of grazing operations, but could add costs to the improvements. The Proposed RMP would classify the Backcountry Zone as Class I. This would also result in minor impacts to grazing management as improvements would follow similar, but more stringent requirements than Class II.

#### **5.9.2 Impacts to Grazing Resources from Cultural Resources Management**

Under the Proposed RMP, existing policies would remain in place to protect cultural resources from grazing impacts; therefore there would be no impact on grazing management. Policies to maintain or increase monitoring, site patrols and collaboration with Native Americans under the Proposed RMP would have no impact on grazing resources. Policies encouraging surveying, regional overviews, stabilization of historic structures, and development of National Register nominations would have negligible impacts on grazing resources, unless they required fencing off some site areas, which could have a minor negative impact.

### **5.9.3 Impacts to Grazing Resources from Lands and Realty**

Policies to obtain lands and interests determined to be desirable for consolidation so as to facilitate management in Backcountry and Frontcountry Zones under the Proposed RMP could have a minor beneficial impact on grazing resources by increasing grazing operator flexibility. Policies to consider new rights-of-way for roads in the Frontcountry Zone could have a minor beneficial impact on grazing resources by increasing grazing operator flexibility.

### **5.9.4 Impacts to Grazing Resources from Inventory Units and Study Areas**

Under the Proposed RMP, there would be no impact on grazing resources from Wild and Scenic River designations because authorized livestock grazing use is compatible with that designation and protection of wild and scenic river values under that designation is subject to valid existing rights. The Proposed RMP would cause no impact on grazing resources from protective management for wilderness characteristics because grazing is a valid use in Wilderness Study Areas and under the Backcountry Zone land allocation. In addition, no impact on grazing resources would occur from Areas of Critical Environmental Concern (ACEC) designations because no active grazing allotments are located in the proposed Mill Creek Watershed ACEC, and cattle are already excluded from the Mattole ACEC.

### **5.9.5 Impacts to Grazing Resources from Aquatic Ecosystems and Fisheries Management**

Under the Proposed RMP, existing policies would remain in place to restore and maintain ecological health of watersheds and aquatic habitats and implement up-slope sediment reduction. Permitted grazing operations have already been excluded from creek bottoms, and changed to seasonal use to improve the conditions of rangelands and improve water quality. Additional changes are possible based on results from rangeland condition assessments and water quality monitoring, but are likely to be small in scale and result in minor impacts to operations.

### **5.9.6 Impacts to Grazing Resources from Terrestrial Ecosystems and Vegetation Management**

Under the Proposed RMP, existing programs which eradicate invasive plant species would be continued, thereby potentially leading to slight improvements in forage quality. This could result in a minor beneficial impact on grazing resources. Prescribed fire, limited conservation grazing outside of existing grazing allotments, and native grass enhancement projects would be used to maintain healthy and productive grasslands; this could result in moderate beneficial impacts to grazing resources.

### **5.9.7 Impacts to Grazing Resources from Wildlife Management**

Under the Proposed RMP, existing policies would remain in place to maintain and enhance natural wildlife populations, minimize or eliminate the need for listing of additional species under the ESA, and contribute to the recovery of listed species. Because the plan would continue existing policies, there would be no impact on grazing resources. Actions specific to various listed species identified would not affect grasslands within active grazing allotments, so would result in no impact on grazing resources.

Policies enacted under the Proposed RMP to facilitate research and monitoring of wildlife would have no impact on grazing resources.

### **5.9.8 Impacts to Grazing Resources from Forest Management**

Under the Proposed RMP, existing policies would remain in place to maintain and enhance old growth forests; as this would not affect grazing allotments, there would be no impact on grazing resources. Goals to conduct silvicultural treatments and promote forest restoration (tree planting) would not affect the grasslands within the active grazing allotments, so there would be no impact on grazing resources from forest management.

### **5.9.9 Impacts to Grazing Resources from Special Forest Products Management**

Issuance of permits to collect mushrooms, beargrass, floral trade species, and fuelwood proposed under the Proposed RMP would not affect the grasslands within the active grazing allotments, so there would be no impact on grazing resources from special forest products. Policies to monitor mushroom collection methods, coordinate with local tribes regarding use of beargrass, and active management of beargrass resources would also have no impact on grazing resources.

### **5.9.10 Impacts to Grazing Resources from Grazing Management**

Under the Proposed RMP, existing policies would remain in place to preclude loss or reductions in grazing allotments or AUMs, resulting in no impact on grazing resources. The Spanish Flat allotment boundary would be adjusted to exclude 500 acres of a terraced prairie between Spanish and Randall Creeks to protect significant cultural sites, but the number of Animal Unit Months (1,105 AUMs) would remain unaltered. Because this only represents about a five percent decrease in size of this allotment, and the Residual Dry Matter (RDM) target levels have been consistently exceeded on this allotment (implying more than adequate levels of forage), the adverse impact on grazing resources would be negligible. Under the Proposed RMP, four expired grazing leases would be administratively changed from available to unavailable for grazing. Because these leases are inactive and are unsuitable for livestock grazing because of forest regrowth or sensitive soil conditions, this would have a negligible impact on grazing resources.

### **5.9.11 Impacts to Grazing Resources from Fire Management**

The Proposed RMP would suppress all fires in the Frontcountry, a continuation of existing policies in that zone with no impact on grazing resources. It would also utilize prescribed fire in the Frontcountry and Backcountry Zones for unique habitat improvement such as maintaining coastal prairies in an early successional stage. This would have a significant beneficial impact on grazing resources.

### **5.9.12 Impacts to Grazing Resources from Travel Management**

The Proposed RMP would continue existing policies to provide a network of roads that complement the rural character of the King Range. Use of some unimproved roads not maintained under the travel management plan would continue by authorized grazing permittees. Several of these routes are in

landslide-prone areas and subject to failure. If routes fail, permittee access opportunities would need to be reevaluated and alternative access means considered (such as horseback, etc.). This could result in moderate impacts to these permittees.

### **5.9.13 Impacts to Grazing Resources from Recreation**

The Proposed RMP would continue existing policies regarding visitor information, road and trail maintenance, resource protection, visitor safety, special recreation permits, cooperative management, exclusionary fence and barrier construction, enforcement, and Universal Accessibility Standards, so there would be no impact on grazing resources. It would also establish a visitor use allocation system to allow moderate use numbers in the Backcountry Zone. As use levels increase, there would be a corresponding increase in the potential for vandalism of grazing management facilities (fences, water developments etc.) from recreational visitors, but the allotments in this zone are not located near heavily used trails, so this would only cause a minor adverse impact. The Proposed RMP would also allow heavier visitor use in the Frontcountry Zone, but allotments in this zone are also not located in proximity to heavily used trails, so the impact to grazing resources from potential vandalism would be minor in that zone also, except for continued moderate localized impacts in the Prosper Ridge Road area.

### **5.9.14 Impacts to Grazing Resources from Interpretation and Education**

The Proposed RMP would continue existing policies to provide information to visitors, including information on historic and existing grazing programs, so there would be a minor positive impact on grazing resources.

### **5.9.15 Potential Cumulative Impacts to Grazing Resources**

Cumulative impacts to grazing resources are expected to be negligible or nonexistent.

## **5.10 IMPACTS TO FIRE MANAGEMENT**

Under the Proposed RMP, the Fire Management program and activities are guided by existing fire management policies that are contained in BLM national regulation, state directives, unit management plans and supplemented by cooperative agreements for fire protection.

### **5.10.1 Impacts to Fire Management from Visual Resources Management**

Under the Proposed RMP, the Visual Resources Management program would have minor impacts on the Fire Management program, based on requirements for fuels treatment and suppression rehabilitation activities to meet VRM class objectives.

### **5.10.2 Impacts to Fire Management from Cultural Resources Management**

Under the Proposed RMP, the Cultural and Historic Resources management program with its existing and proposed policies would have negligible impacts on the Fire Management program. Some minor modifications to pre-suppression and suppression activities may be required to avoid impacts to sensitive

cultural sites. However, these sites encompass a very small percentage of the overall acreage of the planning area.

### **5.10.3 Impacts to Fire Management from Lands and Realty**

Under the Proposed RMP, the Lands and Realty management program would have minimal impacts on the Fire Management program. Acquisition of additional lands surrounding the KRNCA could have minor beneficial impacts by increasing the opportunities for implementing the fuels management/fuel break program.

### **5.10.4 Impacts to Fire Management from Inventory Units and Study Areas**

Under the Proposed RMP, the Wild and Scenic River protective management and ACEC designations would have no impact on the Fire Management program. Protective management of lands with wilderness characteristics (Backcountry Zone) would not preclude fire and fuels management activities in situations where private land protection, public safety and other priority issues arise, so negligible impacts would occur.

### **5.10.5 Impacts to Fire Management from Aquatic Ecosystems and Fisheries Management**

Under the Proposed RMP, the existing policies for the Aquatic Ecosystems and Fisheries Management programs would remain in place for restoring and maintaining the ecological health of watersheds, aquatic habitats, and up-slope sedimentation reductions. The constraints found in these policies are considered in the current suppression and fuels management programs, and would be continued under implementation of the Proposed RMP, thereby creating negligible impacts on the Fire Management program.

### **5.10.6 Impacts on Fire Management from Terrestrial Ecosystems and Vegetation Management**

Under the Proposed RMP, the Terrestrial/Vegetative Ecosystems Management programs would have minor positive impacts on the Fire Management, as fire would be used as a tool to manage certain ecosystems.

### **5.10.7 Impacts to Fire Management from Wildlife Management**

Under the Proposed RMP, the Wildlife Management program requirements in habitat protection for marbled murrelets and northern spotted owls potentially conflicts with wildfire suppression actions and would have a minor impact on the Fire Management program. The fuels management program activities would provide beneficial long-term effects that enhance vegetative conditions favorable for wildlife species, so the goals would be complementary resulting in a positive impact.

### **5.10.8 Impacts to Fire Management from Forest Management**

Under the Proposed RMP, there are some beneficial effects to Fire Management as the development of mosaic and old growth patterns expand. These vegetative changes enhance the capability for the use of natural ignitions thereby allowing for the more natural role of fire to occur across the landscape.

### **5.10.9 Impacts on Fire Management from Special Forest Products Management**

Under the Proposed RMP, the Special Forest Products program would have no impacts on Fire Management.

### **5.10.10 Impacts to Fire Management from Grazing Management**

Under the Proposed RMP, the Grazing Management program would have no impacts on Fire Management.

### **5.10.11 Impacts to Fire Management from Fire Management**

Under the Proposed RMP, re-establishing the natural role of fire in the Backcountry Zone by allowing natural caused fires to burn within defined suppression actions and constraints provides a long-term beneficial effect to Fire Management. Prescribed burning (broadcast and pile burning) could be used to reduce fuels and create mosaic vegetative patterns in the Frontcountry Zone. Wildfires would burn with variable fire intensities across the landscape thereby minimizing damage associated with large high intensity fires and results in major long-term beneficial effects for fire management, especially suppression. The use of broadcast burning to expand the width of fuelbreaks could provide a larger suppression structure and therefore an improved capability in suppression actions. This would provide a major long-term beneficial effect to the Fire Management program.

### **5.10.12 Impacts to Fire Management from Travel Management**

Under the Proposed RMP, the Travel Management program would have no impacts on the fire management, as existing roads would remain open to provide access.

### **5.10.13 Impacts to Fire Management from Recreation**

Under the Proposed RMP, minor impacts would occur because of the projected increase in use of recreation trails, camping, and developed campgrounds. With increasing numbers of users there is a commensurate increase in wildfire occurrence and risk. The corresponding management focus on backcountry patrols and visitor education/permit requirements would provide a beneficial impact that should offset this potential risk.

### **5.10.14 Impacts to Fire Management from Interpretation and Education**

Under the Proposed RMP, the Interpretation and Education programs would have minor to moderate beneficial impact on the Fire Management program as fire safety is a key message in KRNCA interpretive/educational programs.

### **5.10.15 Potential Cumulative Impacts to Fire Management**

A number of organizations and agencies in Humboldt County—including local Fire Safe councils, State Parks, etc.—have recently been developing fuels management reduction plans. Improved and complementary management of fuels in the King Range would contribute to a moderate cumulative impact in the context of these regional efforts.

## **5.11 IMPACTS TO TRAVEL MANAGEMENT**

Under the Proposed RMP, County roads within the KRNCA are public routes and are managed by Humboldt County, with the exception of a short segment of Chemise Mountain Road at the southern tip of the KRNCA, which is managed by Mendocino County. All other roads are managed under the jurisdiction of the BLM.

### **5.11.1 Impacts to Travel Management from Visual Resources Management**

Under the Proposed RMP, visual contrast ratings for existing roads and facilities would be conducted and opportunities for reducing existing visual impacts through modifications (e.g., painting culverts, removing road berms, etc.) identified. Modifications would serve to blend roads and facilities into the landscape, minimizing their visual impact and resulting in a minor, beneficial, and localized impact. A complete inventory of existing and potential key scenic vistas along road and trail corridors would be undertaken, and opportunities would be identified for enhancing these locations. Construction of scenic pullouts would result in moderate, beneficial, and localized impacts to roads and facilities by increasing opportunities for viewing scenic vistas. Impacts to roads and facilities, including through modifications and construction of scenic pull-outs would be considered long-term.

The Proposed RMP would change the Frontcountry Zone north of King Range Road and west of the King Peak Road to the Class II VRM designation. This would have a minor to moderate impact on transportation facilities by requiring that any changes/improvements meet VRM Class II standards. Continued designation of the Residential Zone as Class IV would allow for transportation improvements needed for vehicular safety and operations, as are currently allowed.

### **5.11.2 Impacts of Travel Management from Cultural Resources Management**

Under the Proposed RMP, policies proposed to protect cultural resources would have minor impacts to road maintenance activities by limiting road grading and facility construction near cultural and historic resources. Proposed policies to protect the character of historic resources, such as Chambers Ranch and hunting cabins located on King Peak Road, would have impacts on transportation by limiting the extent of improvements allowed on those roads. This impact would be minor, localized, and long-term (no major road improvements are foreseen). In addition, policies to protect subsurface cultural resources would have a minor, localized, and long-term impact to road grading and roadway improvements construction (culverts, crossings, etc.) activities by requiring avoidance of cultural resources.

### **5.11.3 Impacts to Travel Management from Lands and Realty**

There would be minor to moderate beneficial impacts on travel management from the Lands and Realty Program, depending on the extent of access improvements to public lands realized through future land acquisitions. All private land inholders are assured reasonable access to their properties through existing laws and statutes.

### **5.11.4 Impacts to Travel Management from Inventory Units and Study Areas**

The Wild and Scenic Rivers or ACEC designations would have minor impacts on travel management, as roads that pass through or near those proposed areas are compatible with their management. The only exception is vehicle use in the Mattole Estuary (Mattole Beach ACEC) which would be limited to a designated route. This would cause only minor negative impacts to current vehicle users as access to much of the estuary would continue. Wilderness characteristic inventory units would also not impact transportation, as there are no roads in the proposed areas.

### **5.11.5 Impacts to Travel Management from Aquatic Ecosystems and Fisheries Management**

Under the Proposed RMP, existing policies for restoring and maintaining ecological health of watersheds and aquatic habitats and implementing up-slope sediment reduction would remain in place and would not create impacts to travel management. New standards and guidelines could have minor, localized, long-term beneficial impacts to roadways by requiring out-sloping, and improving culverts at stream crossings.

### **5.11.6 Impacts to Travel Management from Terrestrial Ecosystems and Vegetation Management**

No impacts identified.

### **5.11.7 Impacts to Travel Management from Wildlife Management**

Under the Proposed RMP, existing policies would remain in place regarding road maintenance to avoid disturbance of special status species. There would be no impact to travel management from continuation of these policies.

### **5.11.8 Impacts to Travel Management from Forest Management**

Under the Proposed RMP, decommissioned roads would be subject to reforestation through tree planting. Reforestation would eliminate decommissioned roads and simplify the road network. Since none of the routes are currently open to public access, there would be no impact. Old logging roads could be reopened and new temporary roads built to remove burned or fire-killed lumber. This would temporarily expand the road network without affecting public access.

### **5.11.9 Impacts to Travel Management from Special Forest Products Management**

Permits are currently issued to collect special forest products in the KRNCA. There could be minor impacts to travel management from increased use of road system by special forest products gatherers. This impact is anticipated to be negligible.

### **5.11.10 Impacts to Travel Management from Grazing Management**

None of the proposed grazing management actions would impact travel management.

### **5.11.11 Impacts to Travel Management from Fire Management**

The Proposed RMP includes completion and maintenance of a planned fuel break system. Some roads in the KRNCA are considered fuel breaks (King Range Road, Smith-Etter Road, Paradise Ridge Road, and Saddle Mountain Road) and would be maintained as part of the system. Inclusion of roads as part of the fuel break system would require consideration of impacts to fuel breaks in any discussion of modifications to road alignments. No major realignments are proposed at this time, so the impact would be negligible, unless landslides or other weather or seismic events occur.

### **5.11.12 Impacts to Travel Management from Travel Management**

Under the Proposed RMP, all roads with the exception of Etter Road, and Mattole Estuary Roads would operate under existing conditions. Etter Road would be opened to 4-WD vehicles from April 1 through October 31, and Mattole Estuary Road would be opened. These changes would represent a minor, localized, and long-term positive transportation impact by increasing access on these roads. The elimination of non-emergency boat landings would cause moderate localized negative impacts to a small group of visitors who currently land boats on Big Flat and other parts of the coast.

### **5.11.13 Impacts to Travel Management from Recreation**

The Proposed RMP would continue existing policies regarding visitor information, road and trail maintenance, Universal Accessibility Standards, and monitoring of visitor use so there would be no impact on transportation. It would also provide barriers such as gates and fences, as needed, to block vehicular access to designated closed areas, and trailhead facilities, including parking, which would create a moderate beneficial impact by keeping vehicles on routes designed for their use.

The Proposed RMP could create a new trailhead at Bear Creek, requiring reopening/hardening of the existing road. This road work would be a minor beneficial impact by providing additional parking/vehicle access. It would also possibly upgrade the parking lot at Mal Coombs Park to make more efficient use of space. Expansion of the parking lot would involve construction and would be considered a moderate, localized, and long-term positive impact by improving the vehicle capacity and flow at this often congested site. Parking spaces would be added at Black Sands Beach when opportunities arise; this expansion would involve construction and would be considered a moderate, localized, and long-term impact.

#### **5.11.14 Impacts to Travel Management from Interpretation and Education**

The Proposed RMP would continue existing policies to provide information to visitors, including detailed information on road conditions and safety. This would be a beneficial impact on travel management.

#### **5.11.15 Potential Cumulative Impacts to Travel Management**

Population growth in southern Humboldt County over the life of this plan could result in minor cumulative traffic impacts by adding use to the BLM King Range transportation network. Also, increased visitor use in the King Range along with population growth would cause moderate impacts by adding to vehicle traffic on the county road system. Although existing vehicle use data is available for several area county roads, no future use projections are available.

### **5.12 IMPACTS TO RECREATION**

The Proposed RMP would continue policies regarding visitor information and adequate maps, road and trail maintenance, resource protection, visitor safety, special recreation permits, cooperative management, exclusionary fence and barrier construction, enforcement, Universal Accessibility Standards, and stressing compliance with coastal “leave no trace” principles. These policies would have a long-term minor beneficial impact on recreation.

Policies would remain in place to provide supplementary rules and regulations that protect resources, visitor safety, and the surrounding community. Examples of such rules include campfire prohibitions during extreme fire conditions, requiring bear proof food containers in the backcountry, and not allowing camping on BLM lands within Shelter Cove. Rules such as these would have minor impacts on recreation because visitor behavior or equipment usage would only have to change slightly to comply with the new rules.

Policies regarding special recreation permits would have a negligible beneficial impact on recreation by maintaining consistent use within the management zones, and prohibiting incompatible use which could create conflicts with other recreational users in that zone.

Policies to control unauthorized visitation from public land onto private land and to restrict vehicle use within designated areas would have a long-term, minor, and beneficial impact on recreation. Enforcing existing regulations and applying other regulations for visitor safety or resource protection would have a long-term, moderate, and beneficial impact, because the regulations would help to reduce visitor safety incidents, conflicts with other users, and would ensure additional protection of sensitive resource areas.

Policies ensuring that Universal Accessibility Standards under the Americans with Disabilities Act are met would have a long-term, moderate, and beneficial impact on recreation. Visitors with disabilities would have an improved recreational experience at KRNCA because of improved access to recreational areas, trails, campgrounds and other facilities.

Use allocation measures would have a long-term beneficial impact on the quality of the recreation experience by reducing noticeable resource impacts and user encounters. However, implementation of such a system would displace users geographically and temporally.

### **5.12.1 Impacts to Recreation from Visual Resources Management**

Policies included in the Proposed RMP would require visual contrast ratings, inventory existing and proposed scenic vista points, and ensure non-detracting coastal development. These would have a positive impact on recreation by ensuring that the scenic quality of the King Range is maintained—a primary feature that attracts visitors to the area.

The Proposed RMP would manage the Backcountry Zone as VRM Class I, which could require some facilities or structures, including fences and dilapidated buildings, to be removed in order to maintain the Class I rating. This would result in a minor positive impact to recreation by removing unnatural features. Visitors and local residents who recreate in the Backcountry Zone because of its primitive qualities, relative solitude, and natural scenic character, would continue this experience resulting in a moderate beneficial and long-term impact on recreation. Maintaining the Frontcountry Zone as VRM Class II and III and the Residential Zone as VRM Class IV would result in no impacts on recreation.

### **5.12.2 Impacts to Recreation from Cultural Resources Management**

Under the Proposed RMP, existing policies involving the issuance of permits, field evaluations, use allocations, safeguards against incompatible uses, and archaeological inventories would have no impact on recreation. Policies encouraging appropriate educational and interpretive outreach would have a long-term, minor, and beneficial impact on recreation by providing additional cultural information and opportunities that would enhance visitors' recreational experiences at the KRNCA. All three management zones (Backcountry, Frontcountry, and Residential) would have priority for protection, which would result in minor to moderate beneficial impacts on recreation, due to visitors and local users who are interested in viewing and learning about historic resources and their preservation. These impacts would be long-term. If cultural resource monitoring indicated that recreation use is impacting archaeological sites, some fencing/closure of specific sites may be necessary. This would be a minor and localized impact.

The Proposed RMP provides for additional actions encouraging further surveying of the Frontcountry Zone, regional overviews, stabilization of historic properties, and development of National Register nominations for historic and prehistoric districts. These policies and actions would result in long-term, moderate, and beneficial impacts on recreation, because of the positive interest expressed by visitors and local users who visit KRCNA towards the preservation of cultural and historic resources, opportunities for volunteer outreach, and the opportunities for education and interpretation of these resources.

### **5.12.3 Impacts to Recreation from Lands and Realty**

Policies to acquire lands and interests determined to be desirable for consolidation to facilitate management would have minor to major positive impacts to recreation depending upon whether acquisition opportunities facilitate public access, or provide new linkages to adjacent recreation areas.

Impacts would be considered beneficial and long-term with respect to providing additional land for recreational use.

Policies to consider new rights-of-way and/or permits for roads/utilities in the Frontcountry and Residential Zones under the Proposed RMP could impact recreation positively (for those visitors wanting roaded opportunities) if access is improved by the new roads. However, since the majority of the recreation areas in the Frontcountry and Residential Zones are currently accessible by road, additional road rights-of-way would have only long-term negligible negative impacts. The level of impact would depend on each individual case and location relative to the KRNCA; however, it is possible that additional road rights-of-way would open some areas to increased vehicle access where none exists currently.

Excluding the Backcountry Zone from consideration of new rights-of-way under the Proposed RMP would have minor positive impacts to recreation by protecting the primitive qualities of the area. Utilities rights-of-way under the Proposed RMP would result in negligible or minor impacts to recreation, as rights-of-way would be restricted to existing and/or underground locations to maintain aesthetic values.

#### **5.12.4 Impacts of Recreation from Inventory Units and Study Areas**

Recreation impacts associated with inventory units and study areas would be related to potential changes in access and allowable uses, existing and proposed trail routes, and location of existing or proposed facilities.

##### ***5.12.4.1 Wild and Scenic Rivers***

Under the Proposed RMP, there would be ten additional river segments found suitable for designation under the National Wild and Scenic Rivers System (NWSRS). This would be a positive impact on recreation by protecting the outstandingly remarkable values of the watersheds, as the clear, free-flowing streams are a major visitor attraction in the KRNCA.

##### ***5.12.4.2 Wilderness Study Areas and Wilderness Characteristic Inventory Units***

Under the Proposed RMP, lands currently designated as WSAs would be managed under the BLM's "Interim Management Policy (IMP) for Lands under Wilderness Review" (H-8550-1), until Congressional designation as Wilderness or release from WSA status. Under the Proposed RMP, there would be no impact on recreation within the Backcountry Zone, which is mostly within the WSA. This is because the Proposed RMP suggests minimal to no new recreational facilities or development within the Backcountry Zone and WSA, other than those compatible with WSA management or wilderness designation. Impacts would occur to mountain biking and are discussed in the "Impacts from Recreation Management" section (5.12.13).

##### ***5.12.4.3 ACECs***

Under the Proposed RMP, an additional ACEC designation would be proposed for Mill Creek Watershed (approximately 680 acres) including all BLM managed lands within the watershed in order to protect water quality important to anadromous fish stream/cold water tributary; and the low-elevation

old-growth Douglas-fir forest. There would be minor impacts on recreation as ACEC designation would not preclude most recreational uses and primitive recreation would still be allowed. Some restrictions to visitor use to protect ACEC values such as a ban on campfires and no overnight camping may cause minor localized impacts to recreation.

### **5.12.5 Impacts to Recreation from Aquatic and Fisheries Management**

Under the Proposed RMP, existing policies would remain in place to restore and maintain the ecological health of watersheds and aquatic habitats on public lands, so there would be no impact on recreation. The riparian standards and guidelines are already in place so would not create additional impacts on recreation.

Implementing projects pertaining to in-stream habitat enhancement, riparian silviculture and monitoring measures as outlined under the Proposed RMP would not impact recreation. However, recreation could be affected by road decommissioning related to several of the up-slope sediment reduction projects. However, roads selected for decommissioning are not open to vehicle travel, and only used by a small number of off-trail hikers or hunters, so impacts are negligible. For other recreational users, decommissioning of some roads for habitat enhancement provides opportunities for experiencing a healthier and naturally functioning ecosystem, which would enhance their own recreational experience. In this regard, impacts on recreation from habitat enhancement could also be minor, beneficial, and long-term.

Implementing the estuary enhancement program would result in long-term, negligible, and beneficial impacts on recreation, related to the value placed on visitors being able to view enhanced estuarine ecosystems.

### **5.12.6 Impacts to Recreation from Wildlife Management**

Under the Proposed RMP, policies would remain in place to maintain and enhance natural wildlife populations, minimize or eliminate the need for listing of additional species under the ESA, and contribute to the recovery of listed species. These policies could have minor localized impacts on recreation visitors; for instance, because of limiting operating periods and equipment use for trail maintenance, some trails damaged by winter storms may not be accessible until later in the season. Actions specific to bald eagles, snowy plovers, marbled murrelets, spotted owls, and Steller's sea lions would not impact recreation. Additional policies on facilitating research and monitoring of wildlife, special-status amphibians and reptiles, game species, would not impact recreation. Support of wildlife reintroductions could benefit recreation by providing additional viewing opportunities. Intertidal habitat policies to educate visitors would have long-term minor beneficial impacts on the recreational experience from learning new information and helping to reduce visitor impacts on intertidal species. Other intertidal habitat policies would not impact recreation.

### **5.12.7 Impacts to Recreation from Terrestrial Ecosystems and Vegetation Management**

The Proposed RMP has specific management actions for different habitat types. Policies to maintain coastal dunes would not impact recreation, unless increased public use negatively impacts dune

vegetation. This would result in restrictions to cross-country dune hiking which would have minor impacts to recreation access. Prescribed burning policies for coastal scrub, grassland, and chaparral may have very localized short-term impacts on recreation if recreational use was temporarily suspended in areas where burns were taking place, or access to other recreation areas was prohibited due to prescribed burning. Visually, the burned area could have a short-term minor adverse impact on the recreational experience if it is very close to a trail or campground. If prescribed burns are done so they are sensitive to location, timing and frequency, impacts on recreation would be short-term and minor to moderate. Additionally, there could be minor beneficial impacts following a prescribed burn, depending on location, due to the effects of revitalized vegetation and the appearance of wildflowers within the burned area. These impacts could be long or short-term.

Limited grazing for coastal scrub and grassland management could have minor localized negative impacts on recreation depending on where it took place. If grazing were to take place in the Backcountry Zone near a trail or campground, the impact to recreation would be short-term and minor adverse due to the sight and smell of domestic animals in a wilderness environment, and having to avoid cow feces. There would be no impacts to recreation if grazing were done so that it was not detectable to recreational users on trails and in campsites.

Other policies for habitat management of coastal scrub, grasslands, and chaparral would not impact recreation. Policies regarding efforts to map, monitor, and eradicate invasive plant species would not impact recreation. Policies regarding sudden oak death would impact recreation from negligible to moderate levels, depending on the use requirements/limitations that need to be imposed to slow the spread of the pathogen. The level of visitor impacts cannot be estimated at this time as methods for slowing the spread of this disease are not fully understood.

### **5.12.8 Impacts to Recreation from Forest Management**

Under the Proposed RMP, policies to maintain forest stand characteristics and late-successional/old growth forest habitat would not affect existing recreational facilities or trails, so there would be no impact on recreation. Policies on salvaging timber in the Frontcountry and Residential Zones could impact the recreation experience if access were affected or closed, recreational use temporarily suspended in some areas, or if operations were visually distracting or disturbing to the traditional landscape scene. Short-term negligible impacts would occur if access roads were temporarily closed or restricted; no impact would occur if timber salvaging was carried out away from recreation areas and the salvaging operations were not visible to recreational users. Management goals of promoting a natural mosaic of forest vegetation with a large component of old-growth forest would be a major beneficial impact, as the large forests of Northwest California are a major visitor attraction.

As for specific areas requiring treatments, thinning, or pile burning in Nooning Creek and Finley Ridge, Bear Trap Creek, and Kaluna Cliff could potentially cause negligible impacts to recreation, as these projects are not close to popular use areas.

### **5.12.9 Impacts to Recreation from Special Forest Products Management**

Many non-commercial special forest products gatherers pursue collecting as a recreation activity, and continuation of the program in the Proposed RMP would provide beneficial impacts to these collectors.

Issuance of permits to collect mushrooms, beargrass, floral trade species, and fuelwood under the Proposed RMP would not impact recreation, as these are continuations of existing policies. Most policies regarding beargrass would not impact recreation, except the policy to coordinate with local tribes to increase awareness and education regarding cultural use of beargrass and implementation of active management efforts. Increased awareness and education could have a long-term, negligible, and beneficial impact on the visitor experience at KRNCA. Implementation of active management efforts, such as prescribed burns in a designated “Native American Beargrass Collection Unit,” could have a localized minor to moderate, short-term, and adverse impact on recreation. This could occur if the prescribed burns were carried out in close proximity to trails or campground areas, resulting in temporary closure of the recreation area.

#### **5.12.10 Impacts to Recreation from Grazing Management**

Under the Proposed RMP, existing policies would remain in place to preclude loss or reductions in grazing allotments or AUMs, resulting in no impact on recreation with one exception. The reconfiguration of the Spanish Flat allotment to remove cattle from the beach would provide a minor beneficial impact to Lost Coast Trail users.

#### **5.12.11 Impacts to Recreation from Fire Management**

Under the Proposed RMP, policies regarding campfire permits would remain the same and therefore would not impact recreation. Wildfire prevention and education programs would have a long-term negligible beneficial impact on visitor experience by increasing the awareness and knowledge of visitors and local recreational users. They would also have a positive impact by reducing the incidence of fire damage and associated visual impacts at popular campsites. This is a recurring problem along the Lost Coast Trail where unattended campfires become wildfires. Policies regarding utilization of prescribed fire and mechanical fuel reduction methods to manage fuels for low intensity wildfires; reduction of fire spread within the Frontcountry and Residential Zones; and completion and maintenance of planned fuel break systems would not impact recreation. Prescribed burning activities could impact recreational use, based on their location, timing, and frequency. As with prescribed burning to maintain habitat, burning may have very localized, short-term, minor adverse impacts on recreation if recreational use was temporarily suspended in areas where burns were taking place, effects of smoke and reduced visibility were present in adjacent areas, or if access were restricted/prohibited due to burning (see Section 4.12.7, Impacts from Terrestrial Ecosystems and Vegetative Management).

Visually, the prescribed burn areas could have an impact on the recreational experience if it is very close to a trail or campground. Broadcast burning would have these impacts more than pile burning would since pile burning is typically localized. If prescribed burns are carried out close to high use trails, campgrounds, or access roads, impacts could be short-term and moderately adverse. If burns are planned and announced in advance to the public and are sensitive to location, timing and frequency, potential impacts on recreation would be negligible.

Mechanized fuel reduction may result in impacts to recreation depending on the timing and location of projects. If the projects are close to recreation areas, especially during periods of high use, the noise and visibility of the projects could result in short-term minor adverse impacts. If projects were carried out to

avoid popular recreation areas and peak use times of the year, impacts would be short-term and negligible.

In the Proposed RMP, naturally occurring fires in the Backcountry Zone would be allowed to burn. This policy may impact recreation due to temporary trail, campground, or access closure; damage to recreational facilities; and alteration of the visual landscape setting. If a fire is allowed to burn along a trail or around a recreation area, the visual setting could potentially be altered, as well as recreational facilities damaged. Depending upon the extent of the fire, the burned area could negatively affect the recreational experience of visitors and local users at KRNCA. The level of impact could range from no impact to major adverse. Management activities that reduce the likelihood of a catastrophic fire decrease the likelihood that impacts from fires would be severe. Therefore, in the long-term, the overall impact from the fire management program on recreation would be positive.

#### **5.12.12 Impacts to Recreation from Travel Management**

The Proposed RMP would continue existing policies to provide a network of roads that complement the rural character of the King Range. All roads with the exception of Etter Road and Mattole Estuary Roads would operate under existing conditions. Etter Road would be opened to 4-WD vehicles and Mattole Estuary Road would be opened. These changes would have a minor beneficial impact on recreation.

Not allowing motorized boat landings along the Lost Coast within the Backcountry Zone or the Mattole Estuary would have a minor adverse impact based on the small number (estimate less than 100 visitors annually) of visitors who presently use this access mode. However, the action would have minor immediate positive impacts by reducing the sights and sounds of motorized watercraft in keeping with the management goals of the Backcountry Zone. Based on anticipated growth in motorized beach access without management controls, this action would have a moderate to major long-term positive impact on visitors accessing the coast for a wilderness experience. Eliminating these landings would also help decrease trash left behind, thus improving the appearance and maintenance of the Backcountry.

#### **5.12.13 Impacts to Recreation from Recreation Management**

The Proposed RMP would continue policies regarding visitor information and adequate maps, road and trail maintenance, resource protection, visitor safety, special recreation permits, cooperative management, exclusionary fence and barrier construction, enforcement, Universal Accessibility Standards, and stressing compliance with coastal “leave no trace” principles. These policies would have a long-term, moderate, and beneficial impact on recreation. By providing improved visitor information and maps, visitors would leave recreational areas and trails in better condition and fewer visitors would get lost in the rugged terrain. Adequate and timely maintenance of roads, facilities, trails and signs would also have a long-term, moderate, and beneficial impact on recreation by providing opportunities for visitors to easily obtain directional information and avoid access constraints which could detract from the visitor overall experience.

Policies would remain in place to provide supplementary rules and regulations to protect resources, visitor safety, and the surrounding community. Examples of such rules could include campfire prohibitions during extreme fire conditions, requiring bear proof food containers in the Backcountry, and

not allowing camping within the Shelter Cove subdivision. Rules such as these would have minor impacts on recreation because visitor behavior or equipment usage would only have to change slightly to comply with the new rules.

Policies regarding special recreation permits would have a negligible beneficial impact on recreation by maintaining consistent use within the management zones, and prohibiting incompatible use which could create conflicts with other recreational users in that zone.

Encouraging and promoting cooperative management effort policies would result in positive impacts on recreation.

Policies to control unauthorized visitation from public land onto private land and to restrict vehicle use within designated areas would have a long-term, minor, and beneficial impact on recreation. These policies would maintain recreational use within the appropriate BLM boundaries and reduce boundary conflicts due to unauthorized recreational use, as well as reduce conflicts between unauthorized vehicle use and other allowable uses.

Enforcing existing regulations and applying other regulations for visitor safety or resource protection would have a long-term moderate beneficial impact, because the regulations would help to reduce visitor safety incidents, conflicts with other users, and would ensure additional protection of sensitive resource areas. These benefits would allow visitors to have an improved recreational experience.

Policies ensuring that Universal Accessibility Standards under the Americans with Disabilities Act are met would have a long-term moderate beneficial impact on recreation. Visitors with disabilities would have an improved recreational experience at KRNCA, because of improved access to recreational areas, trails, campgrounds and other facilities.

Any visitor use allocation system would redistribute and modify visitor use patterns. These measures would result in a long-term beneficial impact by increasing the quality of the recreational experience for those visitors. Encounters with other visitors, competition for prime camping locations, and noticeable resource impacts would be diminished. However, some visitors would be displaced by applying use allocation measures, both geographically and temporally.

#### ***5.12.13.1 Methodology for Impact Assessment***

In determining impacts on recreation, the following visitor use allocation assumptions were prepared to support the Proposed RMP theme and objective for management, along with a corresponding projection for baseline and proposed visitor use growth. Projected recreation visitor days were estimated as follows:

- Determination, by survey data, of popular recreational activities (e.g. backpacking, hiking, and camping)
- Determination of use projections for these activities, based on visitor trends
- Adjust the percentage of increase for a weighted average population increase based on top ten counties that contribute to KRCNA visitation
- Adjust what activities are contributing to growth based on assumptions for the Proposed RMP

- Adjust based on the “uniqueness” of the KRNCA as a backcountry coastal recreation destination with few substitute areas available

### Assumptions

- Use allocation system starts in 2010 when backpacking numbers would be restricted to maintain moderate to high opportunities for solitude so backpacking no longer contributes to growth
- Developed campgrounds hit carrying capacity in 2020; no new campgrounds are built, so primitive camping no longer contributes to increased growth
- Continued opportunities for growth of day-use visitors to Shelter Cove and other sites
- Continued opportunities for growth in upland trail use, as these routes are just getting discovered by the public

**Table 5-2: Recreation Projections**

YEAR	% GROWTH	RANGE OF VISITOR DAYS
2002	Base	144,816
2005	3.77%	150,279 – 165,307
2010	2.30%	153,731 – 176,791
2015	3.05%	158,424 – 190,109
2020	1.32%	160,521 – 200,651
2025	1.46%	162,858 – 211,715

### *5.12.13.2 Backcountry Zone*

#### Visitor Use Management

Under the Proposed RMP, a visitor use allocation system would be implemented within five years. This would restrict visitor use to a level to provide for high opportunities for solitude, except for holidays and peak weekends when it would provide for moderate opportunities for solitude. Although there would be a slight loss in the quality of the backcountry experience over present levels, overall impacts on backcountry recreation would be long-term moderate and beneficial when compared to current trends of use growth without an allocation system. The system would also restrict freedom of access for some visitors until they receive permits for backcountry travel.

Under the Proposed RMP, group size would increase to 15 people on all trails; the number of people that can leave from a trailhead in one day increases from 25 to 30. Increasing these numbers would have a minor adverse impact on recreation, due to the increased numbers of visitors allowed on the trails in one day, resulting in less opportunity for solitude. Stock use groups could have up to 25 “heartbeats” (people/stock combination), with a maximum of 15 people. This would accommodate historic levels of stock use, and provide opportunities for growth, so should have no impact. These totals would be

reassessed during development of the long-term visitor allocation plan to ensure that impacts to solitude are not greater than anticipated.

The Proposed RMP identifies specific group camping locations within the Backcountry Zone. This would direct group camping opportunities in the Backcountry resulting in a long-term moderate beneficial impact on recreation. Group avoidance areas would also be identified that would be managed for lower visitor levels and limited to specific areas, but would retain other areas at high opportunities for solitude, reducing conflicts between larger groups and people looking for solitude and quiet.

In regard to commercial groups (businesses who charge fees for organized activities), the Proposed RMP would not allow commercial group usage on Memorial Day or July 4<sup>th</sup> weekends, which would limit opportunities for commercial groups, but enhance the recreational experiences of the general public.

The Proposed RMP calls for charging a nominal fee for overnight use, for reinvestment in management of resources and visitor services. Although some people may not be able to afford to recreate overnight if fees were required, the benefit from reinvesting this money to maintain the visitor experience in the KRNCA would result in this policy having a long-term moderate beneficial impact on recreation.

The Proposed RMP calls for assessing opportunities to move the hunting season to after Labor Day. If this action were implemented it would result in long-term minor beneficial impacts on recreation by removing conflicts and safety concerns, as many of the conflicts between hunters, recreational users, and adjacent landowners occur during the Labor Day holiday weekend. This would have a moderate, adverse impact on hunting enthusiasts who enjoy the start of the hunting season at KRCNA in the late summer months instead of the fall. It would also shorten the hunting season, since the dates could not be extended later due to biological (deer rutting season) considerations.

The Proposed RMP would phase out mountain biking within the Backcountry Zone. Current use of the Backcountry Zone trail system is limited to routes determined to be “ways” in the BLM wilderness inventory. In the King Range, almost all of these inventoried ways are two-track routes that traverse the steep coastal slope. (Note that under the BLM’s *Interim Management Policy for Lands Under Wilderness Review*, the King Crest and Chemise Mountain Trails are closed to mountain bike use. Therefore, mountain bike use on these trails is beyond the scope of this plan.) The routes receive limited use due to the extremely rough terrain and vertical relief. The allowance for continued use of the Cooskie Creek, Spanish Ridge, Buck Creek, and Kinsey Ridge trails under special permit would minimize short-term negative impacts to mountain bikers. Eventual phasing-out of mountain biking would negatively impact the users who currently access the trails (due to the rugged nature of the area, use is low and estimated at approximately 100 visitor days annually). This impact would be partially mitigated by developing a trail system in the Paradise Ridge area. A long-term beneficial impact would be seen by recreation users who are impacted by mountain bikes on trails. The elimination of mountain bikes in the Backcountry Zone would also provide for a higher quality visitor experience of wilderness characteristics as called for under this land use allocation.

The Proposed RMP would have policies regarding overhead flights. These policies would help improve the Backcountry experience by reducing the sight and sound of humans by discouraging low-flying aircraft, resulting in a long-term minor beneficial impact on recreation.

### **Facility Development**

The Proposed RMP would allow development of minimal facilities for visitor safety and resource protection, but not for visitor convenience. Facilities that could be added include Backcountry campsites, a bear proof food storage system, and Backcountry toilets, but only if alternative solutions have proved unsuccessful. Additional facilities would help with issues such as sanitation and could balance use among other sites, however, this could also change the look and feel of areas which did not have development previously. Impacts on recreation would be long-term minor adverse if only a few facilities were added, or long-term moderate adverse if more facilities were added. Construction or maintenance of fences and barriers would be allowed only if alternative means of protection have proved unsuccessful. This could result in long-term minor impacts on recreation due to the visual effect on primitive areas in the backcountry.

### **Trails**

The Proposed RMP would develop new trails as needed, including trails for a wider range of visitors, development of potable water sources near upland trails, and improving horse trails, and creating a horse camp at Miller Flat. An “easy-grade” interpretive trail would be developed at Hidden Valley. These policies would result in long-term moderate beneficial impacts on recreation due to new opportunities for recreation, an increase in the range of users that could access trails, and more increased visitor comfort on trails (water available, more horse facilities).

### **Signage and Interpretation**

The Proposed RMP would maintain the existing signs and interpretive information, as required, to provide for visitor safety and resource protection. Efforts to install way-finding signage at campsites, water sources or other important features would result in long-term moderate beneficial impacts, since these actions would enhance way-finding for visitors, prevent trespassing onto private land, or suffering health risks (such as drinking untreated water from developed water sources). However, unless properly designed to blend into the surrounding landscape, additional signage could also detract from a natural primitive experience present in the Backcountry Zone.

### **Monitoring**

The plan would continue ongoing monitoring programs with some minor which would have no impacts on recreation.

#### ***5.12.13.3 Frontcountry Zone***

### **Visitor Use Management**

Under the proposed plan, a maximum of eight people would be allowed per campsite at developed campgrounds, as currently managed. Group size at Nadelos group camp could range from 20 to 60 people. This would have no impact on recreation use.

### **Facility Development**

The Proposed RMP would provide and maintain existing facilities, including trailheads, parking, and information kiosks. A proposed trailhead at Bear Creek would provide for additional hiking opportunities for visitors to the Frontcountry Zone if development is feasible. Impacts on recreation would be long-term minor beneficial.

In regard to campgrounds in the Frontcountry Zone, the focus would be to maintain facilities at Nadelos, Wailaki, Tolkan, and Mattole, and to provide potable water at all four of these sites if feasible. Existing facilities would be retrofitted to meet Universal Accessibility Standards. Dispersed camping would be prohibited within a certain distance of all campgrounds. This would result in a long-term moderate beneficial impact on recreation, since the quality of the camping experience would be improved at the existing campgrounds.

### **Trails**

The Proposed RMP would establish and maintain a network of trails, including expanding and improving the interpretive trail between Wailaki and Nadelos as a loop trail with wheelchair accessibility. Also a mountain bike trail system would be developed linking Paradise Ridge to the King Peak Road corridor and Tolkan and Horse Mountain. This would result in a long-term moderate beneficial impact on recreation since the network of trails would be expanded to accommodate visitors who cannot access the Backcountry Zone.

### **Signage and Interpretation**

The plan would maintain and install signs as needed for visitor safety, orientation, education, and resource protection. This would result in a beneficial impact on recreation.

### **Monitoring**

The Proposed RMP would continue ongoing monitoring of use levels and consider special uses on a site-by-site basis, which would have no impact on recreation.

## ***5.12.13.4 Residential Zone***

### **Visitor Use Management**

Non-traditional and newly emerging recreational uses would be allowed as long as they are consistent with zone management objectives. This would result in minimal impacts on recreation. Specific areas and sites may be identified as special use areas to accommodate specific visitor needs, including development of a group use area in Mal Coombs Park. This would be a positive impact on recreation.

### **Facility Development**

The Proposed RMP would improve existing recreational and interpretive facilities at Mal Coombs Park, including parking, picnic sites, the relocated Cape Mendocino lighthouse, monuments, interpretive panels, barriers, and steps down to the beach and tidepools; maintain existing Black Sands Beach

parking, restroom, informational kiosks and other facilities, and ensure visitor safety along the cliff; maintain Seal Rock and Abalone Point areas for individual and small group day use, providing opportunities for picnicking, wildlife viewing, interpretation, and other compatible recreational and educational activities. The restroom at Mal Coombs Park would be upgraded to meet provisions for persons with disabilities and to accommodate heavy seasonal use, with possible upgrade to the parking lot. Cooperative efforts would be proposed with local groups to maintain the Cape Mendocino lighthouse, memorials, and joint projects.

The plan would propose development of a group use area at Mal Coombs Park, and would consider opportunities for additional vehicle parking and parking for horse trailers. The plan would also require commercial groups to camp at least ¼ mile from Black Sands Beach trailhead, and individuals and non-commercial groups to camp north of Telegraph Creek. The RMP would also allow group use events on a case-by case basis at Seal Rock and Abalone Point. These upgrades and expansions would help to mitigate parking and overcrowding problems at these popular day-use and overnight destinations, and would also further increase opportunities for improving the visitor experience within the Residential Zone without impacting local residents. This would result in long-term moderate beneficial impacts on recreation only if limited day-use parking was expanded. If expansion increased beyond the existing carrying capacity of these facilities, it is possible that some long-term minor adverse impacts could occur due to the increased level of use.

### Trails

Under the Proposed RMP, the wheelchair accessible trail in Mal Coombs Park would be maintained to provide access between facilities, along with maintaining a safe and adequate beach access trail at Black Sands Beach trailhead. This would result in no impact on recreation.

### Signage and Interpretation

The Proposed RMP would install and maintain adequate signs and interpretive information, to provide for visitor orientation, safety, education, and to promote resource protection. This would result in a long-term moderate beneficial impact on recreation, because improved signage would assist visitors and local users with better information with which to plan their activities at the KRNCA.

### Monitoring

The plan would continue monitoring of use levels, vehicle parking, and lighthouse visitation, which would have no impact on recreation.

#### **5.12.14 Impacts of Recreation from Interpretation and Education**

Policies under the Proposed RMP to provide information through a variety of formats and venues would have a long-term major beneficial impact on recreation. By providing visitors with enhanced interpretive background and up-to-date site information, visitors would be better able to plan their recreational trip to the KRNCA. Visitors would also be better prepared for the weather and the remote rugged nature of the area, thus allowing them to have a better recreational experience.

Policies to provide improved safety and orientation information to visitors before they enter the Backcountry would have a moderate beneficial impact on recreation. If visitors were provided improved trip planning information, there would potentially be fewer problems and accidents, resulting in a much improved visitor experience.

Policies to provide support for BLM King Range programs utilizing a variety of outreach approaches would have a long-term, minor, and beneficial impact on recreation, due to enhancement of the recreation experience and exposure to the significant resources of the KRCNA. More interpretation projects that increase the information and opportunities available to visitors would help them become more knowledgeable about the KRNCA, and would enhance the recreation experience.

Policies to engage children in learning about the King Range by developing curriculum based education opportunities would have a long-term, moderate, and beneficial impact on recreation. These policies would offer children new information and opportunities to experience King Range, thus improving their visitor experience, and perhaps secondarily enhancing their family's visitor experience to the KRNCA.

### **5.12.15 Potential Cumulative Impacts to Recreation**

This RMP complements the Sinkyone Wilderness plan, currently in progress, by linking the two areas to form a unique coastal experience. It also contributes to a range and "critical mass" of recreation opportunities in the Humboldt County region, creating a beneficial cumulative impact for recreational visitors who travel to the area as a destination.

## **5.13 IMPACTS TO AIR QUALITY**

Only a few management programs would have impacts on air quality; all others not described can be assumed to have negligible or nonexistent impacts.

### **5.13.1 Impacts to Air Quality from Fire Management**

Under the Proposed RMP, pile burning along fuel breaks and all prescribed fire activities would be completed under permit from the California Air Resource Board, the North Coast Unified Air Quality Management District, and the County of Mendocino Air Quality Management District (California Health and Safety Code Section 41855). Specific smoke management concerns/impacts would be addressed in prescribed fire plans. Although use of prescribed fires would result in short-term negative air quality impacts, these impacts would be minor, as burns would be conducted during periods with high smoke dispersion potential (due to requirements of the burn permit). The long-term net effect on air quality would be positive because management activities would reduce the risk of catastrophic high-intensity wildfires and their associated impacts on air quality.

### **5.13.2 Impacts to Air Quality from Recreation Management**

Air quality impacts from recreation management would be minor under the Proposed RMP and associated with increases in vehicle traffic on the area road system. Impacts from increased dust along

unpaved road corridors would be mitigated in sensitive locations such as near residences and recreation sites, through the application of dust abatement materials.

### **5.13.3 Impacts to Air Quality from Travel Management**

Minor impacts would occur under the Proposed RMP from travel management, associated with temporary increases in dust associated with road maintenance activities. Dust abatement would occur in association with heavy traffic use periods such as during fire suppression operations, or permitted timber hauling etc., so impacts would be minor. No soils with serpentine origins or containing other hazardous materials are known to exist in the KRNCA.

### **5.13.4 Impacts to Air Quality from Grazing Management**

Under the Proposed RMP, there would be no negative impacts on air quality from grazing management. The Proposed RMP would not affect the ozone air quality standard, as methane production from livestock production is not a criterion for non-attainment (not meeting a given standard). Methane levels are inventoried regularly from a Eureka monitoring site in Humboldt County because it is an organic gas that contributes to ozone formation. All other grazing management activities would have negligible or no impacts on air quality, and so are not discussed further.

### **5.13.5 Cumulative Impacts to Air Quality**

Prescribed fire has the potential to cause cumulative impacts to air quality, as other public agencies and private timber companies also conduct burns during optimal conditions. However, impacts are kept to minor levels through the permit program/requirements of the North Coast Unified Air Quality Management District.

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