

Chapter 3

Environmental Consequences



CHAPTER 3

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INTRODUCTION

Chapter 3 analyzes the environmental effects of implementing the management proposed in Chapter 2. Since this proposed plan describes an overall management framework, and in most cases does not propose specific on-the-ground projects or actions, the environmental consequences are often expressed in comparative, general terms. Quantitative analysis has been included when possible based on specific decisions proposed in Chapter 2. In most cases, subsequent analysis would be required to implement resource management decisions. More detailed or site-specific studies and appropriate environmental documents will be prepared in compliance with the National Environmental Policy Act (NEPA) and its implementing regulations, as needed.

TYPES OF IMPACTS

Impacts analyzed in this chapter include the direct, indirect, and cumulative effects of the proposed actions to the extent they were identifiable for analysis. Direct effects are closely linked to specific management activities and occur at the same time and place as the action. Indirect effects are reasonably foreseeable effect that are also caused by management actions, but occur later in time or are farther removed in distance.

Cumulative effects occur when there are multiple effects on the same values. They are incremental effects of proposed activities or projects, when combined with past, present, and future actions. As stated in 40 CFR 1508.7, a "... 'cumulative impact' is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time...." The cumulative effects discussed in this chapter address resources for which direct and indirect impacts have been described earlier.

NEPA requires that the analysis of a Proposed Action in an Environmental Impact Statement address the following three topics:

1. The relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity: Short-term impacts occur during or immediately after project placement and may continue for a period of up to five years. Long-term impacts occur beyond the first five years.
2. Irreversible or irretrievable commitments of resources: Irreversible commitments of resources are the result of actions in which changes to resources are considered permanent. Irretrievable commitments of resources result from actions in which resources are considered permanently lost. A discussion of these impacts is included in the Irreversible or Irretrievable Commitments of Resources section at the end of this chapter.
3. Unavoidable adverse effects: These are the effects that cannot be avoided if the proposal and mitigation measures (incorporated as the design features of this plan) are implemented. These effects are described throughout this chapter in each of the resource and use impact sections. Mitigation and/or the nature of the planned actions are designed to minimize these effects.

ANALYSIS ASSUMPTIONS AND GUIDELINES

The following assumptions and guidelines were used to guide and direct the analysis of environmental consequences:

1. This proposed plan would be implemented substantially as described in Chapter 2.
2. The BLM would have sufficient funding and personnel to implement the plan.
3. The planning period for the analysis is the next 10 years. Short-term impacts are those that would occur during the first five years of plan implementation. Long-term impacts are those that would occur beyond the first five years.

4. Measures would be taken to protect and encourage recovery of species listed as federally endangered or threatened.
5. Current upward trends in recreation use would continue.
6. Specific actions to protect human life would be taken regardless of the management criteria in this plan.
7. Livestock grazing would be governed by applicable laws and regulations as described in Chapter 2. In circumstances where livestock grazing is found to be incompatible with the protection of monument resources, grazing practices would be modified or eliminated.
8. The plan would be subject to valid existing rights and other existing authorizations in accordance with applicable laws and regulations.
9. Any projects authorized by the BLM would be required to obtain necessary permits and authorizations from other federal, state and local agencies.
10. Research would continue to be funded, at least at current levels.
11. Acreages reported in the analysis are Geographic Information System (GIS) numbers and not legal acreages.
12. Site-specific analysis, including any required surveys, would precede management actions not described in sufficient detail in this plan.

MITIGATION

Mitigation is important in the design and implementation of any action. In general, mitigation is a measure taken to cause an action to become less harsh or less severe. From the CEQ Regulations (40 CFR 1508.20), mitigation includes:

- Avoiding the impact altogether by not taking a certain action or parts of an action
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action

- Compensating for the impact by replacing or providing substitute resources or environments

Mitigating measures have been incorporated and evaluated for activities and decisions described in Chapter 2 of this plan and throughout the discussion of environmental consequences in this chapter. For the actions analyzed in this plan, mitigating measures are generally incorporated into the proposed actions described in Chapter 2.

PROPOSED PLAN IMPACT ANALYSIS

The following impact analysis describes the effects of the management described in this plan on both monument resources and existing uses. An overall discussion of cumulative impacts including actions outside the scope of this plan is included in the **Cumulative Effects** section at the end of this chapter. This analysis can be compared to the effects analysis of the original management alternatives described in Chapter 4 of the Draft Environmental Impact Statement (DEIS).



Effects on the Old-Growth Emphasis Area

INTRODUCTION

The Old-Growth Emphasis Area (OGEA) consists of monument lands that are currently functioning as, or are capable of becoming, old-growth or late-successional forests. Mixed conifer forests, pine forests, and high elevation white fir forests are found throughout the monument in a mosaic of various species, ages and structures. Many of the recent impacts to the OGEA are associated with fire exclusion and timber harvest: these have dramatically changed the structure and composition of OGEA forests and have reduced their suitability as habitat for wildlife species associated with late-successional forests. A small portion of the OGEA (4 percent) is located within the wildland-urban interface. Management concerns in these areas include the risk of wildland fires spreading to residential properties.

SUMMARY OF EFFECTS

The primary management objectives for the OGEA are the protection and enhancement of existing habitat for late-successional species; the enhancement of local and regional connectivity for late-successional species; and reduction of risk from wildland fires in the wildland-urban interface. Proposed management would help achieve these objectives through thinning projects on approximately 22 percent of the OGEA landscape. The use of prescribed fire in some of these projects would also help meet the primary management objectives. Indirectly, treatments will help enhance protection and resilience for existing old-growth and late-successional forests by improving forest health and reducing fire hazard on surrounding OGEA lands.

Over time, habitat connectivity should improve as larger blocks of late-successional habitat are created. However, in areas where treatments do not take place, forest stands would continue to be susceptible to major disturbance events such as insect infection and high severity wildland fire. Adaptive management, including monitoring of proposed treatments and pilot studies in Habitat Type 2 could help identify effective ways to reduce these risks across the OGEA in the future.

Reductions in road density, continued noxious weed treatments, potential modifications to livestock grazing practices, and improved conditions in riparian areas would all help increase the quality forest habitat and connectivity for late-successional species. In addition, continued management of Hyatt Lake as a recreation area would have direct impacts on forest habitat through the removal of hazard trees throughout the campground and surrounding areas.

DIRECT AND INDIRECT EFFECTS OF PROPOSED ACTION

OGEA Management

Approximately 22 percent (5,665 acres) of the OGEA would be managed through restorative thinning and prescribed fire (where appropriate) to reduce stand density. Treatments would almost exclusively take place in stands that are not currently functioning as late-successional habitat. Long-term management activities would help these stands approach the historic structural and compositional levels of functional late-successional forests. These treatments would increase resiliency to disturbance events such as fire and beetle infestation at the stand level. The primary benefits would be seen in the WUI and Connectivity areas where the majority (58 percent) of these treatments would be concentrated (Map 13). Beneficial effects would also be seen in all Habitat Type 3 stands that are treated.

Over time, these management activities will have the following positive effects: improvement in habitat connectivity across the landscape, particularly in the area of connectivity concern (Map 8); the reintroduction of fire into these ecosystems will hasten the return of historic wildlife habitat conditions; promotion of late-successional conditions and wildlife species associated with these forests (e.g., northern spotted owl and pileated woodpecker) will benefit from larger areas of late-successional forest habitat.

Habitat Type 1 and 2 Untreated (late-successional and old-growth habitat)

No management activities are currently planned in Habitat Type 1 stands, which account for 14

percent of the OGEA (3,426 acres). Excluding up to 200 acres of pilot projects, no management activities are proposed in Habitat Type 2 stands which account for 37 percent of the OGEA (9,392 acres). Indirect effects associated with the continued exclusion of fire would include an increase in high tree densities, fire hazard, risk of insect infestation, and large tree mortality in these habitat types. Pilot projects in Habitat Type 2 stands would contribute to increased understanding of how to best manage these stands for late-successional habitat characteristics. If immediate and critical needs are identified in Habitat Type 1 and Type 2 stands through the adaptive management strategy described in Appendix C, management actions may be proposed and would be analyzed through a subsequent site-specific analysis.

The preservation of existing Habitat Types 1 and 2 in the OGEA is critical to the persistence of species dependent on late-successional forests for their life cycles. Management activities may be desirable in Habitat Types 1 and 2 at some point, but in the short-term, excluding treatments from these stands would ensure the continuation of habitat critical to the persistence of species dependent on late-successional forests such as the northern spotted owl.

Habitat Type 2 Treated (Pilot Projects)

Approximately 200 hundred acres of Habitat Type 2 would be treated in the wildland-urban interface through pilot projects that study the effects of thinning-from-below, gap creation, and prescribed fire on this habitat type. The direct effects of thinning small diameter trees and prescribed burning would be to maintain the existing canopy cover while reducing the lower layers of canopy. The indirect effects of thinning-from-below would be to increase the vigor of dominant Douglas-fir and pine species. Gap creation would allow for the establishment of these less shade-tolerant species. As less than two percent of this habitat type would be treated, no landscape level effects are expected.

Habitat Type 3 Treated

All 3,865 acres of Habitat Type 3 stands in the monument would be considered for thinning over the first decade. Of this total, 1,410 acres are within the connectivity area. It is expected that treating this many acres in the vicinity of the connectivity area would enhance the resource at the landscape level. Selection of preferred trees would accelerate

growth and increase the amounts of historical species composition in these stands. Reduced densities would mimic, or at least approach, the stocking levels of young stands that developed into late-successional forests in the past. Accelerated growth and development would be obvious within five years.

Existing pine plantation stand densities would be thinned to a level that would decrease fire hazard and reduce risk to beetle attack as stands with a higher than natural pine component grow to maturity. Lower densities in the pine plantations would allow for the growth of other conifer species where desirable. Thinning mixed conifer stands would have the effect of promoting fire-dependent species and facilitating the removal of white fir from these stands. Some pile burning of thinned trees would occur at a low level, but underburning would not be feasible for 10 to 20 years given potential damage to young trees.

Within the WUI, pile burning would take place on approximately 70 acres of Habitat Type 3. Some pruning would enhance protection of homes and resources from wildland fire.

Habitat Type 5 Stands Treated

A maximum of 1,600 acres of Habitat Type 5 or about 19 percent of the 8,654 acres found in the monument would be thinned. Approximately 1,140 acres in the connectivity area and 460 acres in the WUI would be thinned. The net effect of this amount of localized thinning would reduce the risk of bark beetle and stand-replacing wildland fire events in these and adjacent stands. However, few landscape level effects would occur. Groups of dense trees would be thinned from below. The thinning across these stands would be highly variable given the current structure of forest stands in this habitat type. Growth within these groups would be accelerated. Pine species, incense cedar and Douglas-fir would increase, while white fir would decrease. Ladder fuels would be reduced, lowering the risk of stand-replacing wildland fire in the treated units. Thinned Habitat Type 5 stands would be put on a better trajectory to potentially become Habitat Type 2 in a few decades, thus increasing mature forest types in the monument. This anticipated increase in mature forest would benefit wildlife species, such as the northern spotted owl, through increased late-successional habitat and connectivity.

Habitat Type 5 Stands Untreated

Approximately 81 percent of the Habitat Type 5 stands would remain untreated. Over the short term, Habitat Type 5 forest stands would grow slowly within residual groups of larger trees left from previous logging. Over the long-term, stand conditions would be expected to stagnate due to increased stand density. Fire hazard would continue to increase in dense stands of small trees which would be more susceptible to stand-replacing wildland fires as fire-dependent species of pine and Douglas-fir become less common. Insect outbreaks would increase in severity. The effects of untreated dense stands would continue to be seen throughout the monument as increasing sporadic outbreaks of insects occur.

DEA Management

No direct effects from the limited pilot studies proposed in the DEA are expected in the OGEA. Indirect effects from prescribed fire treatments in shrublands could include a slight reduction in risks of high severity wildland fire to adjacent OGEA stands. Other OGEA stands adjacent to the DEA would continue to have an increased risk of high severity wildland fire spreading from these fire-prone plant communities.

Approximately 50 percent of the DEA lands within the WUI would be treated to reduce densities and associated fire hazard. Forest stands that were historically more open pine types would benefit from reduced risk of wildland fire and insects as DEA plant communities are treated adjacent to and among the these stands.

Management of Riparian Areas and Aquatic Resources

The proposed plan identifies the current condition of riparian areas and aquatic connectivity as a management concern for the OGEA. Monument forests show unfavorable shifts in historic vegetation composition in riparian areas. Management actions taken to improve and restore riparian structure and function and allow for the re-establishment of historic vegetation composition would directly benefit late-successional habitat and associated species in the OGEA.

Weed Management

Weeds are common on disturbed roadside sites and landings and in Habitat Types 3 and 5, where much disturbance has occurred. Noxious weeds would decrease in abundance with thinning and management that moves these stands toward maturity. Generally, weeds have not had much effect on undisturbed sites. Canadian thistle, which occupies disturbed sites such as roadsides and old landings, should diminish as well with forest management and noxious weed control.

Transportation and Access

Continuing human access would increase the likelihood of the introduction of noxious weeds. The current road density in the OGEA is 4.12mi./mi²; following implementation of the plan the road density would be reduced to 3.68mi./mi². Reduction of roads followed by planting and rehabilitation efforts would benefit stand structure and increase habitat connectivity in these areas. Direct impacts to forests would occur in areas where illegal off-road use takes place. Off-road use by motorized vehicles can result in surface disturbance such as soil compaction and herbaceous vegetation disturbance.

Recreation and Visitor Services

Short- and long-term effects on forest stands would occur in the vicinity of the Hyatt Lake Campground. The area has heavy root rot incidence and, combined with human impacts within the campground, hazardous dead, injured, and dying trees must be removed as a safety precaution. Thinning of often large trees would reduce canopy and structure of the forest adjacent and within the campground. Planting of resistant trees (pine species) would change composition in both the short-and long-term.

Livestock Operations

The direct and indirect effects of livestock grazing in the OGEA are generally concentrated in specific sites where livestock congregate near water. In the short-term, riparian areas in mature stands would continue to show the effects of trampling and exposed soils. Negative impacts to soils and ground vegetation commonly occur in late-successional stands with a significant Pacific yew presence

where tree seedlings and herbaceous vegetation can be trampled. The indirect effects of livestock in established pine plantations are sometimes beneficial where grazing reduces competition to trees from understory grasses. Following the completion of the Livestock Impact Study and the Rangeland Health Assessments and Evaluations, livestock grazing practices would be modified or eliminated in areas where livestock use is not considered compatible with the protection of monument resources. Recovery due to the modification or elimination of grazing practices would be rapid (2-3 years) in most areas.

Wildland Fire Suppression

Although fire is a natural ecological process, few forest stands would be able to withstand any significant level of wildland fire given the present accumulation of fuels and increased tree density in most stands. The continued suppression of wildland fire would protect forest stands that would otherwise suffer stand replacement during these events.

Collections/Special Forest Products

The unauthorized collection of objects, including plants and plant parts, is prohibited by the proclamation and this plan. To the extent possible, visitors would be educated on the prohibition on collection to prevent inadvertent damage to vegetation resources. The continued collection of fruits, nuts, berries, and mushrooms for personal use is allowed with certain restrictions. The limited collection of these resources for personal use is not expected to have an effect on the OGEA.

Utility Rights-of-Way and Road Rights-of-Way

Requests for major utility rights-of-ways (ROWs) outside of existing corridors are expected to be minimal and would not affect the OGEA. Few new road ROWs are anticipated, as most are already in place in the OGEA as a result of past timber practices on all land ownerships. Direct and indirect effects from new road construction could include an increase habitat fragmentation by breaking up forest stands, creating areas predisposed to windfall, and introducing disturbed areas that are conduits for weed species.

Inventory, Monitoring, Research, and Adaptive Management

Most inventory, monitoring, and research activities are non-disturbing and would increase knowledge of forest structure, function, and disturbance responses. These activities would often be initiated in association with management activities in the OGEA. Results from inventory, monitoring, and research would be utilized in the adaptive management framework and would help improve management efforts to protect and enhance late-successional habitat. Forest inventories would usually not include the collection of forest products.

PROPOSED ACTIONS WITH NO REASONABLY FORESEEABLE EFFECTS

No reasonably foreseeable effects to the OGEA would be expected from proposed decisions listed under the following sections of this plan: *Wilderness Study Area Protection*.



Effects on the Diversity Emphasis Area

INTRODUCTION

The Diversity Emphasis Area (DEA) constitutes 52 percent of the total Cascade-Siskiyou National Monument and is home to plant communities, wildlife and individual vascular plants, mosses, fungi, and lichens identified as objects of biological interest by the presidential proclamation. The monument's proclamation emphasizes protection within the monument at different levels of biological organization (community, population, and individual species), as well as ecosystem processes on which these "biological objects" depend. The following analysis considers the influence of a range of factors within the management plan on DEA resources and important ecological processes.

SUMMARY OF EFFECTS

The main goal of DEA management is to maintain, protect, and restore habitat and ecological processes critical to the richness and abundance of the objects of biological interest for which the monument was proclaimed. The management proposed in this plan would move DEA plant communities toward this goal through the monument's weed management strategy and the improvement of riparian and wetland plant communities and habitats.

Noxious weed invasion may be the most important process affecting the future condition of plant communities in the DEA. Ongoing research indicates that noxious weeds are associated with all types of major disturbance, including timber harvest, road corridors, and high livestock utilization. Although it is likely that wind is the primary dispersal mechanism for the predominant weeds (yellow starthistle and Canada thistle) in the DEA, native ungulates, livestock, hikers, and vehicles also provide weed seed transport, particularly during the wet season. Linear weed distribution along streams indicates that water-flow may be another dispersal vector. Since many of these dispersal mechanisms would continue, controlling current weed populations, curtailing weed seed production, and reducing the amount of disturbance are critical for the short-term control of weeds. These are key components of the current management plan and would be beneficial to plant communities of the DEA.

Management for healthy plant communities able to withstand future invasions is the best long-term management strategy. Livestock grazing and fire (or fire exclusion) are two processes that affect plant communities and their ability to withstand weed invasion. The ongoing study of livestock impacts will provide information about current conditions and deviation from historic conditions; this information will be used to guide future management direction. The use of pilot studies to test restoration procedures prior to large-scale application would increase knowledge about these plant communities and create the foundation for future management in the DEA.

Management in the DEA would also be designed to complement OGEA management in the wildland-urban interface.

DIRECT AND INDIRECT EFFECTS OF PROPOSED MANAGEMENT

OGEA Management

Coordinated management of the DEA with fuel reduction and other activities of the OGEA will facilitate the use of prescribed fire in the DEA. Since fire is a key process across the CSNM, it is expected that OGEA management will benefit DEA resources in the future. As described above, disturbance activities in the OGEA may facilitate the introduction and spread of noxious weeds (e.g., Canada thistle). The monument's active noxious weed program is expected to control any new populations that result from management activities.

DEA Management

Management in the DEA would strive to balance current uses such as livestock grazing and recreation with ecological processes (e.g., fire, plant community succession, weed invasion) so as to maintain and protect the objects of biological interest. However, ecological processes of the DEA are complicated and poorly understood relative to those of the OGEA. Proposed management in the DEA focuses on increasing knowledge about these processes through research, pilot studies, and monitoring. For example, ongoing livestock impact

studies and other monitoring projects have been implemented to examine the influence of different disturbances on natural resources and ecological processes in the DEA. The results of these studies will help provide managers with the information needed to implement management practices that improve current conditions in the DEA. The impacts on the DEA from weed abatement and riparian management are described in the weed and riparian sections below.

Potential management actions in the form of pilot studies include prescribed fire, weed management treatments, thinning, and shrub reduction. Due to the limited size of these pilot studies (10 - 100 acres), any impacts to the DEA would be minimal.

Specific management activities would include treating up to 50 percent of the DEA (320 acres) in the wildland-urban interface (WUI) primarily through manual thinning and prescribed fire. The combination of manual thinning and prescribed fire in these plant communities would reduce fire hazard by altering the structure of vegetation at the stand level. The DEA lands in the WUI only account for two percent of all DEA lands, and although these treatments would be concentrated geographically, impacts to the plant community would be minimized as treatments would be spread out spatially and temporally.

Except as described in the Noxious Weed Strategy (Appendix G), prescribed fire would be constrained to 10-acre study sites for understory burning and handpile burning and 100 acres for broadcast burning. Specific circumstances or specialized habitat may reduce study sites to less than 10 acres and include (1) the use of fire during the winter or spring; (2) burning in specialized habitat (riparian or unusual species compositions); and (3) areas of complete domination by native bunchgrasses would be used to maintain grasslands.

The effects of prescribed fire vary with the composition of the above-ground vegetation and the seedbank. For example, fire can be used effectively to reduce annual grass seed production if applied in the spring, thereby favoring native grasses. However, spring use of fire can also impact the abundance of native grasses and forbs. Fire used outside of the natural burning season may have deleterious effects on the native seedbank

component cued to respond to summer or fall fire. Site-specific relative abundance of native and non-native plants, their individual response to fire, and other factors will play a role in locating pilot studies examining the use of prescribed fire.

For example, chaparral typifies fire-dependent plant communities regenerated by fire. Wildlife are also tied to fire as an ecological process through the maintenance of patchy habitat and improvement of browse quality. Fire-mediated grassland and oak savanna are dependent on shorter fire return interval for their persistence on the landscape. Prescribed fire used inappropriately could result in the conversion of natural plant communities to plant compositions or structures not present in historic times. Knowledge of plant community dynamics and historic condition would be used to determine where and when prescribed fire would be used to move plant communities towards a desired condition.

In summary, the positive and negative aspects of prescribed fire would be balanced to meet site-specific and landscape level objectives. The literature and use of pilot studies will help identify specific circumstances where prescribed fire can be harnessed to enhance the objects of biological interest in the DEA.

Given that the DEA pilot studies are designed to benefit natural resources and only a small percentage of the landscape would be actively managed, the direct and indirect effects on monument resources would be minimal. Furthermore, many of the pilot studies will examine the potential of different treatments for reducing noxious and other weed abundance and will therefore be located in areas already degraded by past management activities. Knowledge gained from the pilot studies will contribute to an understanding of DEA ecosystem dynamics and improve future management through the adaptive management process. Surveys and site-specific analysis prior to the implementation of pilot studies would prevent the loss of special status plants and wildlife.

Management of Riparian Areas and Aquatic Resources

Riparian areas are a critical component of the DEA. This plan proposes the following treatments

in riparian areas: survey and/or inventory, planting and seeding of native species, thinning, reducing road density, fencing, and livestock management. The improvement of riparian areas through these activities would have a beneficial effect on the condition of plant communities and wildlife of the DEA. Riparian areas serve as movement corridors for weeds and native plants. The noxious weeds Canada thistle and dyers woad may show reduced abundance with the improvement of riparian condition and therefore consequent reduced ability to disperse through the landscape. Improved hydrologic function through floodplain restoration could indirectly benefit non-riparian plant communities as more natural flood events convey seeds and root bits of desired plants to non-riparian plant communities in the DEA.

Improved structure and composition of the riparian vegetation would most likely increase the abundance of wildlife dependent on riparian vegetation for forage and habitat. Future management of the riparian area may displace livestock use to the DEA uplands. However, this is unlikely to change current trends in vegetation condition of upland plant communities, as the proposed monitoring and adaptive management of the DEA would identify negative trends and change management accordingly.

Weed Management

The monitoring and control of weeds (especially noxious weeds with the ability to disrupt native plant communities) is critical for the long term-maintenance of native plants and other vegetation attributes of the CSNM, and the factor that will most strongly influence the future condition of DEA resources. The reduction of existing weed populations (especially noxious weeds) and the prevention of weed spread through selection of the most effective types of reduction treatments are management priorities in the DEA. Although the proposed plan doesn't set a limit on the number of acres that can be treated each year, it is expected that funding and other constraints would limit noxious weed treatments to approximately 2,000 acres a year. The monument's weed treatment strategy identifies priority areas for treatment to ensure that treatments are targeted in critical areas. While design protocols would mitigate collateral damage, weed control efforts may have short-term

adverse impacts on some desired plants.

Areas left untreated will continue to be a source of the introduction and spread of weeds in the monument.

Transportation and Access

Under the proposed plan, the road density in the DEA would be reduced from 2.37 mi/mi² to 1.55 mi/mi². In general, the projected reduction in road density and access will reduce visitor impacts and weed seed dissemination to the majority of the DEA landscape and are considered long-term beneficial effect on DEA resources. Closing and decommissioning roads may prevent future weed invasions, but may not help alleviate current weed infestations such as Canada thistle. Some of the worst weed infestations are along roads that will remain open and weed spread along these roads is likely.

Under the proposed plan, the retention of roads for official use would allow the transport of materials for restoration purposes (for example, native seed, and equipment for prescribed fire).

Recreation and Visitor Services

Recreational facilities and use that result in surface disturbance (such as trail and parking construction; motorized and mechanized access to dispersed camping areas; concentrated hiking and horseback riding off of existing trails; and illegal off-road use by OHVs), may have direct and indirect adverse impacts on the DEA. Potential direct impacts would include increased ground disturbance and trampling or removal of existing vegetation, which could facilitate the spread of noxious weeds.

The reduction of motorized and mechanized access to the Agate Flat, as well as group size restrictions in the south management zone, would reduce disturbance in these areas. Increased visitation to key areas such as Pilot Rock, Bocard Point (access areas for the Pacific Crest Trail, and areas with scenic vistas) could increase resource damage in these areas. Visitor education, improved signage for access points, and improvements to existing visitor access (erosion control, trail improvement, etc.) would help to mitigate potential resource damage. Outlying areas will likely show improvement or remain unchanged.

Levels of visitor use and recreational activities would be monitored throughout the CSNM. Recreational uses found to cause unacceptable resource damage in the DEA would be modified, limited, or prohibited. Prior to any trail or facility construction, project level NEPA analysis would be completed and site-specific impacts to DEA resources would be addressed.

Livestock Operations

Livestock utilization has the potential to directly impact vegetation in the DEA through the consumption of vegetation, physical impacts of trampling on soils and vegetation, and the spread of noxious weeds. Cattle can indirectly affect the DEA by altering ecological processes including fire, weed invasion and successional processes. Many of the current impacts associated with livestock grazing in the DEA occur due to the utilization of forage within riparian areas. The management infrastructure (roads, ponds, salting areas, and other localized disturbances) needed for livestock operations can serve as point sources of existing noxious weeds and high impact areas for the introduction of future weeds.

The effects of livestock vary by season and intensity of use. The literature indicates that spring use by livestock can suppress annual grasses, whereas heavy use of native bunchgrasses during the growing season and the consequent reduction of leaf area may result in a loss of bunchgrass health and vigor depending on local conditions. The preferred use of herbaceous species by livestock may alter the competitive balance between palatable herbaceous vegetation and relatively unpalatable vegetation (shrubs and weeds such as yellow starthistle and Canada thistle), thus facilitating shrub accumulation of formerly open plant communities. Long-term fixed seasonal use by livestock may restrict the ability of suites of plant species to mature, set seed, and replenish the seedbank. These and other patterns of change are most likely to manifest themselves in areas of moderate to high livestock use. Livestock impacts to the DEA are complex, dependent on timing and intensity of livestock use, and therefore require site-specific verification by the Livestock Impacts Study.

Given the past history of high livestock utilization in the DEA, it is unlikely that short-term changes

in livestock management will affect the objects of biological interest across the monument landscape. Continued monitoring and proactive management within the framework of adaptive management are likely to maintain current conditions. Areas of high utilization likely will show impacts such as weed invasion, loss of soil cover, and retarded rates of recovery from past disturbances in comparison to livestock exclusion. The presence of livestock could inhibit future restoration and prescribed fire activities in the DEA.

Existing grazing leases authorize a total of 2,780 active AUMs during the grazing season. In 2003, the livestock lessees only used a percentage (35 percent) of the AUMs authorized under their grazing leases. The ten-year actual use average shows that livestock lessees used only approximately 58 percent of the authorized AUMs. If all the permitted AUMs were put to use, the negative impacts to the DEA from cattle could increase. In general, however, improvements in the timing and movement patterns of livestock could help reduced the impacts of increases in AUMs.

Short-term efforts to reduce impacts in riparian areas under the existing terms and conditions of livestock leases may reduce livestock impacts to riparian areas and allow for increased recovery of these plant communities. However, reducing livestock utilization in riparian areas may increase the utilization of grasslands, shrublands, and woodlands of the DEA.

For purposes of long-term management, this plan describes the process for completing the Livestock Impact Study and the Rangeland Health Assessments and Evaluations. The information derived from this process will be used to determine if grazing is “incompatible with protecting the objects of biological interest.” If current livestock operations are found incompatible with protecting the resource values found in the DEA, changes to existing grazing management practices in these areas would prevent degradation and allow for future restoration of problem areas.

Wildland Fire Suppression

The current strategy of wildland fire management will continue to affect plant communities of the DEA in a direct and indirect manner. Where fires

occur, the creation of firelines, dozer lines and other disturbances associated with fire suppression will likely result in localized displacement of native species with weeds. Continued fire suppression will promote indirect and ongoing plant community change associated with “fire exclusion”

Considering the role of fire as an ecological process, wildland fire management will likely lengthen the fire return interval for all plant communities in the DEA. While this may not alter the ecological functioning of many plant communities (chaparral, Brewers oak woodlands, rocky meadows, etc.) other plant communities may be impacted. Fire-mediated grasslands and woodlands are most likely to change under current wildland fire management. A lengthened fire return interval coupled with the accumulation of fuels may result in stand-replacement fire and further loss of old-growth conifer and oak structure still found in some areas of the DEA. A lengthened fire-return interval also implies that a lower percentage of the landscape will have a younger cohort of shrubs available as browse for deer.

Collections/Special Forest Products

The unauthorized collection of objects, including plants and plant parts, is prohibited by the proclamation and this plan. To the extent possible, visitors would be educated on the prohibition on collection to prevent inadvertent damage to vegetation resources. The continued collection of fruits, nuts, berries, and mushrooms for personal use is allowed with certain restrictions. The limited collection of these resources for personal use is not expected to have an effect on the DEA.

Utility Rights-of-Way and Road Rights-of-Way

Requests for major utility rights-of-ways (ROWs) outside of existing corridors are expected to be minimal and would not affect the DEA. In cases where existing rights-of-way are found to negatively impact the DEA, BLM will work with authorized holders to reduce those impacts where feasible. Few new road ROWs are anticipated. However, where road construction occurs, weeds may increase in abundance and further plant and wildlife habitat degradation would occur.

Inventory, Monitoring, Research, and Adaptive Management

Where feasible, inventory, monitoring, and research are conducted using non-destructive techniques and will therefore not influence the abundance of objects of biological interest. Furthermore, it is not envisaged that management will affect a significant portion of the CSNM since most forms of management in the DEA are restricted in extent (10 or 100 acres, noxious weed management and riparian management excepted), depending on treatment type. The form of adaptive management adopted in the monument would allow for a continued improvement of treatment methods and the hypothesized benefits to the natural resources of the CSNM.

Research conducted by other agencies, non-governmental organizations, or individuals would be considered on a site-specific basis. To mitigate the effects of research and collection activities, no collections of organisms or other natural resources threatening the continued persistence or recovery to historic abundance of “objects of biological interest” and important ecological processes would be allowed in the CSNM.

Wilderness Study Area (WSA) Protection

Protection of the wilderness study area has resulted in a low impact area in terms of past habitat improvement projects (scarifications) by the BLM. Continued protection with the ability to manage noxious weeds provides a control for similar plant communities subjected to future management activities, including prescribed fire. While lack of fire may promote perceived negative plant community change associated with fire exclusion, the lack of management inside the WSA also provides a component of the adaptive management strategy for the CSNM and may improve our understanding of ecological processes across the landscape.

Effects on Riparian Areas and Aquatic Species

INTRODUCTION

Riparian areas in the Cascade-Siskiyou National Monument are a critical habitat element for many different aquatic and terrestrial organisms that use these areas for forage, rearing, nesting, and migration. They provide ribbons of connectivity for terrestrial and aquatic wildlife and create special zones where vascular plant diversity is high (Naiman et al. 1993). Within the monument, designated riparian reserves account for 20 percent of the landscape.

SUMMARY OF EFFECTS

The primary management goal for riparian areas is to protect and restore riparian features critical to ecosystem health in order to support the monument's diverse populations of plants and animals. The following actions all contribute to an increase in protection for and understanding of riparian resources and aquatic connectivity in the monument: attainment of Aquatic Conservation Strategy (ACS) objectives; compliance with the Clean Water Act; limits on surface disturbing activities; mechanisms to control visitor use; elimination of vehicular travel via closure of designated routes; monitoring of proper functioning condition (PFC) for riparian areas; the identification of priority areas for restoration; road decommissioning; proactive livestock management in riparian areas; thinning treatments; restoration and revegetation provisions; protection for special status species; and an active noxious weed control program. Additionally, research and use of the adaptive management framework (Appendix C) would facilitate and increase knowledge about these areas in the monument, providing mechanisms for changing management to increase protection of these unique and vital resources. Effects on riparian resources result directly and indirectly from high road densities and from congregation and forage utilization by livestock. These activities impact stream banks and riparian vegetation, often causing erosion, reduced vigor of vegetation, reduced shade and cover, and reduced sediment capture capabilities. Road systems generate fine sediments that would continue to settle in fish habitat, reducing the permeability of spawning gravels, filling in pools, eliminating

habitat for aquatic insects and restricting migration. Cattle in riparian areas impact stream banks and riparian vegetation which can lead to erosion, fine sediment, reduced vigor of vegetation, reduced shade and cover, and reduced sediment capture capabilities. Weed invasion in riparian areas is also associated with road corridors and cattle distribution. Aquatic organisms are interrelated and interdependent; impacts on any one are likely to have an impact on others.

Other management activities within the monument that would affect riparian areas and aquatic organisms include illegal off-highway vehicle traffic, water withdrawals, diversions and dams, prescribed fire, and fire suppression.

Specifically, riparian areas would benefit from a 21 percent reduction of roads in riparian reserves through decommissioning; an additional 11 percent of roads in riparian reserves would be improved or closed. Grazing at current levels would continue to result in areas where livestock utilization of riparian vegetation is beyond what is optimal for fish and other aquatic organisms. Thinning along intermittent streams and in dry draws would reduce the fuel hazard in these areas, thereby lowering the risk of high intensity fire in these types of riparian areas.

DIRECT AND INDIRECT EFFECTS OF PROPOSED ACTION

OGEA Management

Proposed management in the OGEA would benefit riparian areas and aquatic species by limiting activities in riparian reserves to restorative actions that might include thinning small diameter conifers and adding large wood to riparian areas. Thinning within the riparian reserves would only be initiated to improve riparian and stream habitat. Restorative thinning in a stand with uniformly-aged young trees would encourage increased tree size and species diversity, as well as understory canopy layering (for riparian habitat improvement and improved nutrient input to the stream). Thinning would only occur in areas where past management has created unnaturally dense stands. Trees that might provide large wood to stream systems would not be removed. The long-term effects of thinning would be to facilitate late-successional characteristics and improve aquatic habitats by increasing riparian

shade and eventually contributing large diameter wood to the stream systems.

Peak flows may increase where thinning occurs in the transient snow zone (TSZ) (see **Effects on Water Resources** section). Yarding activities could result in compaction and soil erosion. Peak flow increases and erosion can negatively affect aquatic organisms. However, subsequent environmental analysis would address potential negative effects prior to implementation of treatments in the OGEA.

Prescribed fire would be used in riparian reserves within the OGEA only to the extent that fire would be allowed to back into riparian reserves, creeping along the ground, creating a mosaic that would mimic natural conditions. Some organisms may be displaced or otherwise harmed during the burn and after; however, the reintroduction of fire is expected to be minimal and will provide long-term benefits to riparian areas and associated inhabitants.

DEA Management

Pilot studies proposed for the DEA are designed to enhance understanding of the effects of management activities on plant communities and ecological processes. Non-surface disturbing pilot studies in riparian and aquatic habitats that would increase the knowledge of riparian resources in the monument or that would help protect and restore these areas would be encouraged. Surface-disturbing pilot studies would be analyzed on a case-by-case basis and could be permitted in cases where the study would benefit monument resources and provide a greater understanding of riparian ecosystem function.

Prescribed fire would be used in riparian reserves only to the extent that fire would be allowed to back into riparian areas, creeping along the ground, creating a mosaic that would mimic natural conditions. The short- and long-term effects of prescribed fire would be beneficial to riparian areas and associated inhabitants. In intermittent streams where perennial vegetation is minimal or non-existent, fire would also be allowed to back into the draws. Some organisms may be displaced or otherwise harmed during the burn and after, however reintroduction of fire is expected to be minimal and will provide long-term benefits. It is not anticipated that these actions would have negative effects on

riparian habitats or aquatic organisms and long-term habitat improvements are projected.

Management of Riparian Areas and Aquatic Resources

By conservative estimates, approximately 20 percent of the monument's total acreage is in riparian reserves. Management goals and tools proposed in this plan would begin to restore riparian conditions. The ACS is designed to restore and protect hydrologic function, aquatic connectivity, wetland and riparian plant communities and structure, as well as habitat for terrestrial and aquatic organisms. Restoration and maintenance of riparian areas to proper functioning condition (PFC) would enhance these areas throughout the monument. Surveys to assess PFC have been completed on approximately 30 percent of the monument and additional inventories are proposed as part of the monument management plan. Inventory is proceeding in priority areas and will be accomplished throughout the monument as funding is available. Non-functioning and at-risk riparian areas have the potential for continued degradation until actions are taken to reverse or stop activities causing these impacts.

The development of a Water Quality Restoration Plan as described in **Riparian Areas and Aquatic Resources** (Chapter 2), would include recovery goals for BLM-managed land to enhance riparian conditions and improve water quality.

Instream flow is critical to aquatic organisms and their habitat and current flow conditions in the monument are less than optimal. Improvements to this situation would be pursued when opportunities arise but at this time it is expected that current conditions would not change as a result of this plan.

Weed Management

Noxious weed abatement has been identified as a key objective in riparian areas and will take place as funding permits. Noxious weeds indirectly affect aquatic habitat and aquatic organisms by replacing native species and de-watering critical riparian habitat. Removal of these species, though temporarily removing cover, would facilitate the return of native species in the long-term. The recovery of native vegetation structure and function

would improve habitat for populations of species dependent on native riparian vegetation. There is the potential for continued degradation of habitat in areas left untreated.

Weed management in riparian areas would be limited to manually pulling the weeds where possible; where more intense actions are required, wicking or spot spraying could be used. These treatments would be used sparingly and only where necessary to reduce an invasion of noxious weeds that compete with native riparian plants. Spot spraying would not be used within ten feet of the water surface and only glyphosate would be used within riparian areas. This buffer will eliminate the potential for any drift entering waters (Hatterman-Valenti et al. 1995).

Transportation and Access

Road densities in riparian reserves currently average 3.66 mi/mi². The plan would allow a 21 percent reduction of roads in riparian reserves, while 11 percent of roads in riparian reserves would be improved or closed. The resulting overall reduction in road densities to 2.87 mi/mi² in riparian reserves would help aquatic resources by limiting sediment inputs to streams, and culvert removals would restore hydrologic function to some stream segments. Remaining roads would still contribute fine sediment to streams although overall sedimentation from roads would be reduced.

Where road decommissioning takes place in riparian areas, fine sediment inputs would be reduced and stream function would improve through the restoration of formerly constricted stream channels. Removing culverts would help re-establish aquatic connectivity where it was previously restricted, improving passage for all aquatic organisms. Short-term increases in sediment as a result of road improvement and decommissioning would be off-set by the long-term beneficial effects of decreasing road densities and improving road systems. Road construction in riparian reserves would be limited and only occur where alternate routes are not available.

Recreation and Visitor Services

Due to the presence of water and vegetation for shade, visitors prefer to use riparian areas over surrounding areas, concentrating use and

subsequent impacts. Recreational use that takes place close to waterways and riparian areas may lead to increased erosion and sedimentation, affecting water quality and aquatic habitats and aquatic populations. This plan would prohibit vehicle use on closed or unauthorized routes in riparian reserves, which could reduce sediment input to nearby streams. Over time, riparian conditions would improve as trees grow in these old road beds, improving riparian cover and loosening compacted soil as roots become established.

Dispersed camping would not be permitted in riparian areas, which would limit compaction and trampling of vegetation. Overnight animal stock users would not be allowed to hold stock within 200 feet of any water's edge. This would provide additional protection to fragile riparian soils and vegetation necessary to maintain functioning riparian areas.

Livestock Operations

Short-term improvement in riparian areas may occur as livestock operations are managed under existing laws and regulations in an effort meet the Oregon Standards and Guidelines for Rangeland Health (Appendix I). The tools currently available for managing livestock include moving cattle out of the area, changing season and timing of use, reducing AUMs, fencing, rest, or other options under the terms and conditions of existing grazing leases. Fencing seeps and springs would improve water quality conditions in areas where trampling, sedimentation, and lack of shade negatively affect water quality and aquatic organisms, specifically endemic mollusk species. Monitoring riparian areas regularly and frequently would be the best option for determining condition and moving cattle before an area becomes over-utilized.

Unless their distribution is rigidly controlled, cattle prefer to spend a disproportionate amount of time in riparian areas, preferring cooler temperatures and access to water (Skovlin 1984). Thus, livestock have the potential to impact riparian resources directly by consumption and trampling of vegetation, and indirectly by accelerating erosion leading to further damage of riparian resources. The direct and indirect effects of livestock grazing in riparian areas include the physical effects on stream banks and riparian vegetation, and reduced

cover for aquatic organisms. Moreover, intensive grazing of riparian vegetation can reduce the vigor of aquatic vegetation and woody species, change plant community composition, decrease sediment capture capabilities, and alter hydrologic function. Indirectly, livestock grazing has the potential to affect aquatic organisms and their habitats by filling pools with fine sediment, silting in spawning gravels, limiting habitat for macroinvertebrates, reducing undercut banks used for cover, and eliminating overhanging vegetation that provides cover and captures fine sediment during high flows. Associated bank erosion and stream bank trampling can lead to increased width to depth ratios, which can cause temperature increases. Additionally, organisms that rely on well-oxygenated, clean water can be replaced with species more adapted to finer substrate and increased water temperatures.

Existing grazing leases authorize a total of 2,714 active AUMs during the grazing season. In 2003, the livestock lessees only used a percentage (35 percent) of the AUMs authorized under their grazing leases. The ten-year actual use average shows that livestock lessees used only approximately 58 percent of the authorized AUMs. If all the permitted AUMs were put to use, the negative effects to riparian areas and aquatic organisms could increase significantly.

This plan describes the process for completing the Livestock Impact Study and the Rangeland Health Assessment and Evaluations. The resulting information will be used to determine if grazing is “incompatible with protecting the objects of biological interest.” If current livestock operations are found incompatible with protecting the resource values found in riparian areas, changes to existing grazing management practices in these areas would prevent continued degradation and allow for future restoration of problem areas.

Wildland Fire Suppression

Historically, wildland fire has been one of the most significant contributors of large wood to stream systems; however, years of fire suppression have drastically curtailed this large wood-to-stream mechanism in the monument. Fire suppression would continue, but this plan prohibits use of dozers in riparian areas unless set perpendicular to streams and water-barred as part of the post-fire

rehabilitation. Fire retardant would not be used near water. These restrictions would limit some of the most degrading suppression activities that can occur in riparian areas.

Leaving large wood in riparian areas would set the stage for improved large wood recruitment into stream segments. Large wood in streams would provide long-term improvement in aquatic organism habitat, improve channel function, and increase channel complexity. The short-term effects of fire suppression activities would include clearing vegetation and potential for immediate sediment input into streams where dozer lines are created. Proper restoration of dozer and hand lines would reduce the long-term inputs of sediment and vegetation would eventually re-grow over the suppression lines.

Utility Rights-of-Way and Road Rights-of-Way

Requests for major utility rights-of-ways (ROWs) outside of existing corridors are expected to be minimal and would not affect riparian areas. Few new road ROWs are anticipated. Any new rights-of-way construction must avoid adverse effects that retard or prevent attainment of the Aquatic Conservation Strategy objectives. Where legally possible these projects would be designed outside riparian reserves and efforts would be made to ensure that all other options are considered before activities in riparian reserves are approved. If no other options were available, mitigating measures would be incorporated to maintain riparian ecosystem integrity. However, there would likely be short-term sediment pulses from new road construction in riparian areas and long-term consequences from such activities.

Inventory, Monitoring, Research, and Adaptive Management

Non-surface disturbing research activities which focus on increasing the knowledge of riparian resources in the monument, or which would help restore and protect these resources, would be encouraged. Monitoring initiated as part of the adaptive management framework (Appendix C) would provide information regarding the condition of riparian resources in the monument and thus a mechanism for alteration in management if

degradation to riparian resources was determined to be occurring.

Surface-disturbing research activities could degrade riparian and aquatic habitats and as such would only be considered on a project-specific basis and only if the benefit was determined to provide greater understanding to monument ecosystem functions.

PROPOSED ACTIONS WITH NO REASONABLY FORESEEABLE EFFECTS

No reasonably foreseeable effects to the riparian areas and aquatic species would be expected from proposed decisions listed under the following sections of this plan: *Collections/Special Forest Products, Wilderness Study Area Protection.*



Effects on Water Resources

INTRODUCTION

Water resources within and around the Cascade-Siskiyou National Monument (CSNM) are vital to sustaining the monument's plant and animal species. Riparian vegetation is dependent on the soil moisture adjacent to streams, lakes, seeps, springs, and wetlands. Seasonal wetlands provide habitat for rare plants. Jenny Creek is home to three endemic fish species and springs in the monument support a variety of fresh water snails. Isolated springs and seeps of Soda Mountain and Keene Ridge, and the sag ponds such as those found at Parsnip Lakes are water features that are biologically important on the landscape.

Water flowing through the monument is also important for the surrounding communities and the ranching and forest industries. It is used for domestic water supply, irrigation, livestock watering, hydroelectric production, water-based recreational activities, and forest management operations.

Water quality that meets the standards set by State of Oregon is essential for all water uses in the monument. Nine streams (Jenny, Johnson, Keene, South Fork Keene, Mill, Carter, Emigrant, Hobart, and Tyler creeks) in the monument were identified by the Oregon Department of Environmental Quality (DEQ) in 2002 as not meeting water quality standards for summer temperature (<http://www.deq.state.or.us/wq/303dlist/303dpage.htm>). In addition, the DEQ moved three streams (Beaver, Corral, and Lincoln creeks) in the monument from the water quality limited list to the potential concern list because temperature data submitted for listing was collected during a drought year.

SUMMARY OF EFFECTS

Negative, short-term impacts to water resources in the monument could result from proposed activities that decrease vegetative cover, increase soil compaction, or increase soil erosion. These types of activities could include facility construction; road construction; forest thinning; prescribed fire; wildfire suppression; livestock grazing; unauthorized OHV use; and road decommissioning. Potential effects on water resources could include increased turbidity, sedimentation, and temperature,

in addition to changes in hydrologic function and streamflow regimes.

Additional short-term water quality degradation in the monument could result from increased nutrient leaching from prescribed burning and increased levels of bacteria and pathogens from recreational use and livestock grazing. There would be a low potential for the introduction into a waterbody of herbicide used for noxious weeds or retardant or foam used for wildfire suppression.

Implementation of best management practices (BMPs) and the Aquatic Conservation Strategy (ACS) would be essential to minimize adverse effects on water resources, especially the water quality limited (303(d)) streams in the monument. Completion of the livestock grazing assessments and implementation of allotment-specific management to protect water resources would be critical to achieving compliance with water quality standards and moving riparian areas to proper functioning condition. Effectiveness monitoring would be necessary to ensure that water resources are being protected.

As the presidential proclamation is implemented, protection of the ecological integrity of the monument would move the uplands and riparian areas toward proper functioning condition. This would have a positive long-term effect on water resources in the monument. Road restoration work including drainage improvements and decommissioning would provide an overall improvement to the hydrologic function and water quality in the drainages affected.

DIRECT AND INDIRECT EFFECTS OF PROPOSED MANAGEMENT

OGEA Management

The primary OGEA management tools would be forest thinning and prescribed fire. Potential effects of these proposed tools on water resources include increased magnitude and frequency of peak flows from extensive vegetation removal and increased erosion and sedimentation from soil disturbance due to yarding and burning. Vegetation removal reduces canopy closure, which can result in

increased snow accumulation in the transient snow zone. This can lead to higher peak flows during rain-on-snow events. All proposed thinning would occur in either the transient snow zone or the snow dominated zone.

No increase in water temperature is anticipated from thinning or prescribed burning in the OGEA since shading would be maintained on perennial streams. Treatments in riparian reserves along perennial streams would be done in accordance with the Sufficiency Analysis for Stream Temperature (USDA, USDI 2004d). Thinning in riparian reserves along perennial streams would only be proposed where vegetation density is high and will benefit from thinning. Vegetation treatment would not result in more than a 50 percent reduction in canopy closure and would not occur in the primary shade zone (USDA, USDI 2004d).

Current and post-treatment canopy closures vary between Habitat Type (Table 3-1).

Proposed OGEA thinning in Habitat Type 2 would not change the canopy closure and therefore would not be likely to affect streamflows. The low number of Habitat Type 2 acres (200) proposed for treatment would not likely have any adverse effects on water quality, providing BMPs were followed if any yarding occurred and during prescribed burning.

OGEA treatments in Habitat Type 3 would have the greatest potential for affecting water resources due to the large number of acres proposed for thinning (3,840 acres) and burning (1,900 acres), and the amount of canopy closure proposed for removal. While the majority of the proposed Habitat Type 3 thinning would be dispersed across the OGEA, treatments would be concentrated in the following three drainage areas: (1) Emigrant Creek above Porcupine Creek in the Upper Emigrant Creek subwatershed (24 percent of the drainage area); (2) South Fork Keene Creek (27 percent

of the drainage area); and (3) Lincoln Creek (19 percent of the drainage area) in the Keene Creek subwatershed (Map 4). Historic crown closure in these drainage areas ranges from greater than 30 percent to greater than 50 percent (Appendix H, Table H-1). Estimated post-treatment canopy closures would range from 5 to 40 percent, and therefore both treated and untreated areas would have canopy closures that are less than the historic levels. Of the three areas likely to have concentrated treatments, only the Emigrant Creek drainage area above Porcupine Creek falls predominately in the transient snow zone. There could be a potential risk of peak flow enhancement in the Emigrant Creek above Porcupine Creek drainage area due to canopy closures that are less than 30 percent (Watershed Professionals Network 1999). The potential risk of peak flow enhancement would be short term, as increased growth rates would quickly provide canopy closures over 30 percent. Yarding activities in Habitat Type 3 would be minimal and not likely to have any effect on erosion rates or sedimentation. Prescribed burning on 1,900 acres in OGEA Habitat Type 3 would consist of selective handpile burning. Handpiles would be kept away from streams, seeps, springs, wetlands, and other waterbodies to minimize the movement of soil and ash to water sources.

Proposed treatments in Habitat Type 5 (1,600 acres) would aim for a 60 percent canopy closure, with a minimum of 50 percent, except where existing canopy closure is less than 50 percent. The majority of Habitat Type 5 treatments would occur in the Keene Creek Subwatershed (more specifically in the seven drainage areas below Keene Creek Dam); the rest would occur in the Middle Jenny Creek Subwatershed (more specifically the Corral Creek drainage area and the drainage area along Jenny Creek below Beaver Creek and above Keene Creek). Ecoregions associated with the proposed Habitat Type 5 thinning are the Southern Cascades and Klamath

Habitat Type	Estimated Current Canopy Closure (%)	Estimated Post-Treatment Canopy Closure (%)	Estimated Reduction in Canopy Closure (%)
2	80	80	0
3	5-60	5-40	0-20
5	30-70	30-60	0-20

River Ridges which have historic crown closures of 40-45 percent and greater than 30 percent, respectively (Appendix H). Proposed Habitat Type 5 thinning would not reduce existing canopy closures below the historic levels. There would be a low risk for peak-flow enhancements during rain-on-snow events as a result of thinning in Habitat Type 5 because the pre- and post-treatment canopy closures would be greater than 30 percent (Watershed Professionals Network 1999). Yarding and prescribed burning activities could be a concern for water quality, especially the three water quality limited streams and two streams listed on DEQ's 303(d) integrated report as potential concerns in the proposed treatment area. Ground-based yarding, especially with tractors, would result in soil compaction and possibly soil erosion. Prescribed burning in Habitat Type 5 would consist of handpile burning during the first entry and then underburning during a second entry. Handpiles would be kept away from streams, seeps, springs, wetlands, and other waterbodies to minimize the movement of soil and ash to water sources. Prescribed underburning would be conducted during weather conditions when moisture levels allow for low intensity fire. Sediment increases from low intensity, prescribed underburns would be very slight given that there would be minimal burning within riparian reserves.

Over the long term, canopy closures in the monument would be maintained at or above historic levels thus reducing the open canopy influence on peak flow enhancement.

Project level NEPA analysis would be required to address effects on water resources prior to implementation of treatments in the OGEA.

DEA Management

Management objectives for the DEA include protecting and enhancing hydrologic function and water quality. Proposed management in the DEA would address weed abatement, restoration and protection of riparian areas and wetland plant communities, and pilot studies in fire-dependent plant communities. Treatment of noxious weeds is discussed in the Weed Management section below. Restoration and protection of riparian areas and wetlands would be beneficial to water resources, improving hydrologic function and water quality.

Effects of prescribed fire on water resources would be a concern with the broadcast burning pilot studies on grasslands and shrublands that may extend up to 100 acres within a drainage area. These would be fairly high intensity burns with the intent to eliminate the duff layer in grasslands and to reinitiate shrub stands. These burns would likely expose mineral soil that would be subject to erosion, especially for burns that result in hydrophobic soils. This is especially a concern in the fall, since the burned area would not revegetate until the following spring. Intense fall and winter rains immediately following the burn could move soil and ash to stream channels. There could also be a localized increase in runoff until the burned area revegetates. Direct impacts of fire in riparian areas should be minimized with site-specific prescriptions for riparian areas and placement of pilot studies to avoid sensitive plant communities associated with perennial streams, seeps, springs, and wetlands. Riparian areas for waterbodies on the DEQ's 303(d) list would be protected from any impact on stream shading.

Site-specific NEPA analysis would be required to address effects on water resources prior to implementation of pilot studies in the DEA.

Management of Riparian Areas and Aquatic Resources

All management actions/treatments throughout the monument would be consistent with the Aquatic Conservation Strategy (ACS). Protection and restoration of riparian areas and water resources are key elements of the ACS. One of the primary objectives for riparian management in the CSNM is to protect and enhance hydrologic function and water quality. This management strategy would indirectly improve water resources throughout the monument.

Weed Management

Noxious weeds in riparian areas replace native species resulting in reduced shade and base flows and increased water temperatures. A major objective of the proposed plan is controlling noxious weeds through treatments such as manual weeding, bio-control, spot spraying with herbicides and hot foam, prescribed fire, and prescribed livestock grazing. Long-term effects of noxious weed control would be beneficial to water resources as ecological processes are restored.

Approximately 425 acres (four percent) of the riparian reserves in the monument were treated for noxious weed control in 2003. Spot spraying with herbicides was the dominant treatment method with a small percentage (5-10 percent) treated with hand pulling. Based on funding estimates, this would likely represent a yearly average for the amount of riparian reserves to be treated for noxious weeds using these two methods.

No effects on water resources from the hot foam (alkyl polyglycoside) treatments are expected for several reasons: no foam would be sprayed directly in any waterbody; the foam is only used on annual species which are not anticipated to be within 20 feet of water sources; and low concentrations (.0004 mg/l) are proposed for application. The LC50 for mortality of *Brachydanio rerio* (the zebra danio, Cyprinidae) is 101 mg/l and the EC50 for swimming ability of *Daphnia magna* is 20 mg/l (Steber et al. 1995).

Potential impacts to water resources from prescribed livestock grazing are addressed in this section under **Livestock Grazing**.

Short-term direct and indirect effects on water resources such as the introduction of herbicides into waterbodies and increased sediment could result from spot spraying and prescribed fire. The degree of impact would depend on the size of the treated area, closeness to water, existing water quality, and type of treatment.

Proposed mitigation measures for herbicide treatments in riparian areas (i.e., a ten-foot “no spray” buffer, ground application within 10 feet of flowing streams and wet areas, limiting herbicides to glyphosate or a similar product, and only spraying when wind velocity is less than 5 mph) should minimize the introduction of a herbicide into a waterbody. Little potential exists for drift from spot spraying and glyphosate has a low tendency to run off or leach into ground water because it strongly adsorbs to soil particles (USDI 1989). The mitigation measure that prevents herbicide treatment if any rain is predicted within 24 hours should keep glyphosate from being washed off by precipitation into seasonal streams without riparian areas or entering ground water.

Potential impacts on water resources from prescribed burning to control noxious weeds

include increased sedimentation, increased nutrients leached from ashes, and increased runoff during storms (USDI 1989). The degree of impact would vary depending on the amount of exposed soil, severity of the burn, and distance to the nearest waterbody (USDI 1985). Site-specific prescriptions would be developed for prescribed burning in riparian reserves to minimize adverse impacts to water resources.

Transportation and Access

Roads directly and indirectly affect natural sediment and hydrologic regimes by altering streamflow, sediment loading, sediment transport and deposition, channel morphology, channel stability, substrate composition, stream temperatures, water quality, and riparian conditions within a watershed. Transportation management objectives for the monument include reducing the amount of existing roads with decommissioning being preferred over road closures. Proposed transportation management actions that could potentially affect water resources include road construction, drainage improvement, maintenance, and decommissioning.

Road construction in the monument would take place under limited circumstances and would be designed to minimize resource damage. BMPs for road construction would be implemented to meet water quality objectives. Road construction in riparian reserves or across stream channels would only occur if there is no alternate route. Any proposed road construction would be analyzed for site-specific impacts to water quality during the NEPA process.

Proposed drainage improvements within the CSNM would take place on approximately 25 road miles, with seven miles being within the riparian reserves. Road stabilization could also occur as needed to reduce surface erosion. Replacing or installing drainage structures in perennial streams could potentially result in direct soil input into the streams. Any turbidity/sediment increase would be localized and of short-term, limited duration. Sediment entering an intermittent stream during in-channel work would indirectly affect water quality after the first storm events when water is again present in the channel. Indirect effects on all streams where drainage improvement takes place

could result from soil moving offsite and reaching a stream channel after the work is completed. Adverse sediment impacts would be minimized through implementation of BMPs. Drainage improvements and road stabilization that meet current BLM standards would provide a net long-term benefit to the water quality of the affected stream systems, as they would reduce erosion and the likelihood of high water damage.

Proper maintenance of road drainage systems and stream crossing culverts would protect water quality and reduce erosion and sedimentation.

Proposed decommissioning of 53 road miles would provide an overall improvement to the hydrologic function and water quality in the drainages affected. The benefits would include reduced road-caused sedimentation and reduced risk of a culvert-related road failure. However, there would likely be some adverse short-term direct and indirect effects on turbidity and sedimentation as a result of road decommissioning. The highest risk would occur from the approximately 13 road miles to be decommissioned within riparian reserves and at the proposed road stream crossing removals on approximately 5 perennial streams. Proposed road decommissioning would involve the removal of approximately 23 culverts from intermittent and perennial stream crossings. The channel area associated with the removed culverts would be shaped to match the natural configuration as much as possible and become self-maintaining.

Potential adverse direct effects would be short-term increases in turbidity and sedimentation during culvert removals from perennial streams. For all streams, streambank erosion resulting from culvert removal would continue to have an indirect effect during successive bankfull events until vegetation becomes sufficiently established to protect the banks. Soil disturbed during ripping operations in riparian reserves could possibly be delivered to nearby stream channels resulting in increased sedimentation. Once vegetation becomes established on the ripped area, soil erosion would no longer be a concern. Approximately 24 road miles will be examined for decommissioning in the future. This additional decommissioning would further reduce impacts to water resources in the CSNM.

Road density provides a means to compare the effect of roads in different areas. If everything

else is equal, areas with higher road densities will experience more road-related effects. However, many other factors such as design, location, maintenance, use, surface type, and geology can influence the effect of any particular road. Road density calculations used in this document are based on roads included in the BLM database. It does not include unauthorized cross-country routes, skid roads, or other types of non-system roads. Therefore, road density estimates are conservative. Based on field inventories outside the monument the actual road miles could be 20-40 percent more than what is in the BLM database.

Road densities in some areas of the monument would decrease under the proposed plan. Middle Cottonwood Creek, Scotch Creek, and Camp Creek subwatersheds would experience the greatest decrease (greater than 1 mi./mi.²) in road density (Table 3-2). Subwatersheds that would have road densities reduced by less than 0.5 mi./mi.² include Lower Jenny Creek, Keene Creek, East Fork Cottonwood Creek, and Upper Emigrant Creek. There would be no change in road density for Upper Jenny Creek, Johnson Creek, Middle Jenny Creek, or Fall Creek subwatersheds. Road density within riparian reserves would decrease by 0.79 mi./mi.², from 3.66 to 2.87 mi./mi.² after completion of the proposed road decommissioning.

The percentage of a subwatershed occupied by roads is an index used in the Oregon Watershed Assessment Manual (Watershed Professionals Network 1999) to determine the potential risk for peak-flow enhancement. Subwatersheds with roaded areas less than 4 percent would have a low potential risk for peak-flow enhancement; a moderate category of potential hydrologic impact would be assigned when roaded area occupies from 4 to 8 percent of a subwatershed; and a high potential for peak-flow enhancement would be assigned to subwatersheds with roaded areas greater than 8 percent. All subwatersheds (level 6) within the CSNM have a low potential risk for peak-flow enhancement (less than 4 percent of the area in roads) except for the East Fork Cottonwood Creek, which has a moderate potential risk (between 4 and 8 percent of the area in roads) (Table 3-3). The East Fork Cottonwood Creek Subwatershed contains I-5 and the Old Siskiyou Highway. Considering that actual road miles could be up to 40 percent greater than what

Table 3-2. Road Density within the CSNM by Subwatershed before and after Proposed Road Decommissioning

Level 5 Watershed	Level 6 Subwatershed	Existing Road Density (mi./mi. ²)	Road Density after Proposed Road Decom. (mi./mi. ²)	Change in Road Density (mi./mi. ²)
Bear Creek	Upper Emigrant Creek	3.65	3.58	-0.07
Bear Creek Watershed Totals		3.65	3.58	-0.07
Jenny Creek	Upper Jenny Creek	5.84	5.84	0.00
Jenny Creek	Johnson Creek	4.32	4.32	0.00
Jenny Creek	Middle Jenny Creek	4.21	4.21	0.00
Jenny Creek	Keene Creek	4.00	3.76	-0.24
Jenny Creek	Lower Jenny Creek	2.85	2.48	-0.37
Jenny Creek Watershed Totals		3.86	3.67	-0.19
Klamath-Iron Gate	Fall Creek	5.40	5.40	0.00
Klamath-Iron Gate	Camp Creek	2.13	1.07	-1.06
Klamath-Iron Gate	Scotch Creek	2.02	0.37	-1.65
Klamath-Iron Gate Watershed Totals		2.22	1.02	-1.20
Cottonwood Creek	East Fork Cottonwood Creek	3.08	3.00	-0.08
Cottonwood Creek	Middle Cottonwood Creek	3.09	1.28	-1.81
Cottonwood Creek Watershed Totals		3.09	2.43	-0.66

is in the BLM database, the Upper Jenny Creek and Fall Creek subwatersheds may also fall in the moderate potential risk category. Proposed road decommissioning would slightly reduce the area in roads for East Fork Cottonwood Creek Subwatershed. Future road decommissioning in the monument would benefit the Upper Jenny Creek Subwatershed (and also Middle Jenny Creek and Johnson Creek subwatersheds).

Use of the road system in the monument may contribute to impacts on water quality from erosion and subsequent increases in sedimentation, particularly where routes are in close proximity to watercourses. This is especially true for the 70 miles of natural surface roads that are to be left open year-round and those roads that are closed seasonally or year-round but are authorized for administrative use. Increases in visitor use would increase the potential for this type of impact.

Motorized and mechanized vehicles would not be allowed to travel off designated open routes. This would afford substantial protection from surface disturbance and erosion that could lead to

degradation of water quality. There is the potential for impacts to water quality from unauthorized vehicle travel off of designated routes in the monument. Law enforcement, as described in the **Transportation and Access** section of Chapter two, would be essential to accomplish this management practice.

Recreation and Visitor Services

Recreational facilities and use that result in surface disturbance (such as trail and parking construction, motorized and mechanized access to dispersed camping areas, concentrated hiking/horseback riding off designated trails, and illegal off-road use by OHVs) may have direct and indirect adverse impacts on water quality. Potential direct impacts would be increased sedimentation of adjacent waterbodies. Indirect impacts would occur if these actions cause erosion and subsequent movement of sediment to a waterbody.

Inadequate waste disposal by recreational users could result in water quality contamination. Affected water quality parameters would be increased pathogen levels.

Table 3-3. Percent of CSNM in Roads by Subwatershed before and after Proposed Road Decommissioning				
Level 5 Watershed	Level 6 Subwatershed	Existing % of Area in Roads	% of Area in Roads after Proposed Road Decom.	Change in % of Area in Roads
Bear Creek	Upper Emigrant Creek	2.11	2.07	-0.04
Bear Creek Watershed Totals		2.11	2.07	-0.04
Jenny Creek	Upper Jenny Creek	3.32	3.32	0.00
Jenny Creek	Johnson Creek	2.45	2.45	0.00
Jenny Creek	Middle Jenny Creek	2.44	2.44	0.00
Jenny Creek	Keene Creek	2.40	2.27	-0.13
Jenny Creek	Lower Jenny Creek	1.62	1.41	-0.21
Jenny Creek Watershed Totals		2.25	2.14	-0.11
Klamath-Iron Gate	Fall Creek	3.07	3.07	0.00
Klamath-Iron Gate	Camp Creek	1.21	0.61	-0.60
Klamath-Iron Gate	Scotch Creek	1.15	0.21	-0.94
Klamath-Iron Gate Watershed Totals		1.26	0.58	-0.68
Cottonwood Creek	East Fork Cottonwood Creek	4.86	4.81	-0.05
Cottonwood Creek	Middle Cottonwood Creek	2.19	1.17	-1.02
Cottonwood Creek Watershed Totals		3.98	3.61	-0.37

The proposed recreation management attempts to protect monument resources and natural ecosystem processes, including those processes that affect water resources. Examples of management proposals that would protect water resources include restricting motorized vehicles to designated roads; requiring vehicle parking within the road prism and away from wet areas; prohibiting dispersed camping in riparian areas; and not allowing pack or riding animals to overnight within 200 feet of any water's edge.

Levels of visitor use and recreational activities would be monitored throughout the CSNM. Recreational uses found to cause unacceptable resource damage would be limited or prohibited. Prior to any trail or facility construction, project level NEPA analysis would be completed and site-specific impacts to water quality would be addressed.

Livestock Operations

Livestock grazing has the potential to affect water quality through the removal of vegetative cover, trampling streambanks, and bacterial

contamination. Many streams, springs, and wetlands in the monument have been adversely affected by concentrated livestock grazing. Direct effects to water quality include increased temperature, turbidity, sediment, bacteria, and pathogens. Accelerated bank erosion and sedimentation lead to increased width-to-depth ratios which have an indirect negative effect on temperature. Observed stream/wetland grazing impacts in the monument have been noted within the past 10 years when the average usage rate was 58 percent of the authorized AUMs. Full use of the authorized AUMs would substantially increase the adverse effects on water quality.

Livestock grazing in the monument would continue to be managed in accordance with the "Standards for Rangeland Health and Guidelines for Grazing Management for Public Lands in Oregon and Washington" (Appendix I). Evaluation of allotments as part of the Standards and Guidelines implementation would assess the effects of livestock grazing on watershed function (uplands and riparian/wetland areas) and water quality. Steps would be taken to ensure

that livestock grazing is consistent with current laws and regulations and meets the intent of the monument proclamation. Management specific to allotments would be developed, consistent with the BLM-wide grazing lease renewal process. Results of the Rangeland Health Evaluation and Livestock Impact Study would be used to determine whether livestock grazing is compatible with protecting monument resources. If livestock grazing on specific allotments is found to be incompatible with protecting monument resources, the grazing systems would be modified to achieve compatibility or the allotment would be retired.

Wildland Fire Suppression

The wildland fire management policy in the CSNM would be to take immediate action to control and suppress all wildland fires. Ground disturbing fire suppression activities such as dozer and hand lines, and helispot construction could adversely affect water resources. Soil compaction from heavy equipment reduces infiltration rates and can disrupt surface flow patterns with subsequent effects on streamflows. Soil erosion from disturbed surfaces may result in increased turbidity and sedimentation in streams and other waterbodies. Water quality degradation could occur from accidental dropping of retardant or foam on or near surface waters. Effects on water quality would either be direct or indirect, depending on the proximity of the activity to a waterbody. Fire suppression guidelines for the CSNM include minimizing the use of dozers, the size of dozer lines, and the construction of helispots. Dozer lines would be prohibited within or along stream channels or dry draws, unless they are perpendicular to stream channels or dry draws. The construction of properly designed and adequately spaced water bars on all fire lines would reduce the potential for erosion and soil delivery to waterbodies.

Utility Rights-of-Way and Road Rights-of-Way

Construction of new utility facilities within the CSNM would likely be restricted to the three existing corridors. These corridors cross numerous waterbodies and riparian areas. Vegetation removal and ground-disturbing activities associated with construction of new utility facilities have the potential to directly and indirectly impact water resources. Potential impacts include increases in

erosion and sedimentation, water temperature, and runoff. Any applications for new utility facilities would be thoroughly reviewed and analyzed for potential impacts to water resources.

New linear non-road/utility rights-of-way would be minimized in the CSNM. Examples of linear non-road/utility rights-of-way include water pipelines and ditches. Potential adverse effects from water diversions would be reduced or disrupted flows. Surface disturbance from placement of water pipelines and ditches could result in erosion and sedimentation. Few new road rights-of-way are anticipated as most are already in place in the OGEA as a result of past timber practices on all land ownerships. New road rights-of-way have the potential to adversely impact water resources as a result of vegetation clearing and ground disturbance. Direct impacts could include increased sedimentation, turbidity, and temperature where a road is constructed across or adjacent to a water body. Sedimentation resulting from both road and non-road rights-of-way would either be a direct impact if the soil disturbance occurred in close proximity to a waterbody, or an indirect impact if it was transported to a waterbody or downstream from the original source. New road rights-of-way would also result in soil compaction and possibly disruption of both subsurface and surface flows. Indirect impacts to water resources could include reduced time to hydrograph peak and increased magnitude and frequency of peak flows. Every measure would be taken to minimize negative rights-of-way impacts to monument resources. Rights-of-way should avoid adverse effects that retard or prevent attainment of the Aquatic Conservation Strategy objectives. Efforts would be made to ensure that all other options are considered before new non-utility rights-of-way in the CSNM are approved. If no other options were available, the authorization may be denied for non-road rights-of-way or BMPs would be incorporated to minimize effects on water resources.

Inventory, Monitoring, Research, and Adaptive Management

Inventory, monitoring, and research activities that provide information about the characteristics or conditions of hydrographic features (streams, springs, wetlands, etc.) or watershed conditions within the monument would be encouraged. It is

anticipated that these types of activities would not result in any significant surface disturbance or vegetation removal and therefore would not have any noticeable impact on water resources.

Inventory, monitoring, and research activities conducted to benefit other resources may involve surface disturbance and/or vegetation removal. Such actions may cause temporary water quality degradation in the immediate vicinity. Surface disturbing inventory, monitoring, and research activities would be evaluated on a project-specific basis to determine whether the impacts to water resources would be acceptable.

Adaptive management would have a beneficial affect on water resources providing that the monitoring program is sufficient to determine the impacts of management actions and conclusions and necessary management changes are achieved in a timely manner.

PROPOSED ACTIONS WITH NO REASONABLY FORESEEABLE EFFECTS

No reasonably foreseeable effects on water resources would be expected from proposed decisions listed under the following sections of this plan: *Collections/Special Forest Products*, *Wilderness Study Area Protection*.

Effects on Soils

INTRODUCTION

The majority of the soils within the Cascade-Siskiyou National Monument (CSNM) are influenced by montmorillonitic clays, have high rock content and/or are shallow in depth. These soil characteristics make the soils of the CSNM very vulnerable to impacts from management activities and recreational use. Two main concerns regarding impacts to soils are soil erosion and soil productivity.

Soil erosion is the detachment and movement of soil by water, wind, ice, or gravity. Two detrimental actions occur when soil erosion by water is accelerated. First, eroded soil particles, especially clay particles, often become suspended in water forming sediments that affect water quality. Second, soil decreases in depth when the soil profile loses more particles than it accumulates. Loss of soil depth diminishes water holding capacity and rooting space available for plant growth resulting in a reduction in soil productivity.

Nutrient recycling is another soil productivity concern. It is important that nutrients contained in organic matter, available from needle/leaf fall, plant and animal mortality, animal fecal matter, etc., be consumed, assimilated by insects and soil organisms and returned to the soil. Soil nutrient recycling is very important to soil health, and the plants and animals that depend on it. As a plant community matures and produces more organic material, the soil organism population increases and recycles more organic material thus supplying nutrients back to the plants, improving soil structure, water holding capacity and disease suppression. This process continues until a disturbance agent, such as fire, insect infestation, human activities, etc., breaks the cycle. At this point the soil-plant relationship becomes unbalanced, and soil organism types and number are affected, which ultimately affects the health of the soil.

SUMMARY OF EFFECTS

Impacts to soils from the proposed plan would primarily result from road decommissioning, forest management and prescribed burning. Most negative impacts would be direct and short-term.

Over the long term, soils in the monument would indirectly benefit from proposed management as project areas stabilize and the risk of high severity fire is reduced.

Approximately 53 miles of existing roads would be decommissioned resulting in some negative short-term effects to soils. Most of these roads are in the southern portion of the monument and an increase in erosion and sedimentation would occur the first few years after the decommissioning. Over the long term, the soil would be put back into producing vegetation and natural drainage patterns would become stable.

This plan proposes forest management activities on up to 5,640 acres over the next 10 years in order to protect, restore, and facilitate the development late-successional and old-growth habitat in the OGEA. Treatments would also be designed to reduce high fire hazard in the wildland-urban interface. Treatments would primarily include thinning in dense tree stands and burning the excess fuel created by the thinning. Prescribed underburning and pile burning could take place on up to 3,700 acres in the OGEA. Although moderate direct, short-term negative impacts to the soil resource would occur on these acres, Best Management Practices (BMPs) should limit the effects.

DIRECT AND INDIRECT EFFECTS OF PROPOSED MANAGEMENT

OGEA Management

The primary OGEA management tools would be forest thinning and prescribed fire. Potential effects of thinning on soil resources include soil compaction and increased erosion and sedimentation from soil disturbance. Potential effects from burning include soil erosion and sedimentation.

OGEA treatments in Habitat Type 3 would have the greatest potential for affecting soil resources due to the large number of acres proposed for thinning (3,840 acres) and burning (1,900 acres). However, the majority of the proposed Habitat Type 3 treatments would be dispersed across the OGEA. Yarding activities in Habitat Type 3 would

be minimal and not likely to have any effect on erosion rates or sedimentation. Prescribed burning on 1,900 acres in OGEA Habitat Type 3 would consist of selective handpile burning which could create isolated areas with altered soil structure and hydrophobic soils.

Proposed treatments in Habitat Type 5 would take place on approximately 1,600 acres and would primarily impact soils through yarding and prescribed burning activities. Ground-based yarding, especially with tractors, would result in soil compaction and possibly soil erosion. Existing skid roads will be used where feasible. Prescribed burning in Habitat Type 5 would consist of handpile burning during the first entry and then underburning during a second entry. Prescribed underburning would be conducted during weather conditions when moisture levels allow for low intensity fire with minimal duff consumption.

DEA Management

Treatments in the Diversity Emphasis Area (DEA) to protect, maintain or restore native plant communities would primarily consist of pilot studies limited to 10 acres in size. These studies, which include prescribed handpile burning, underburning, broadcast burning, weed treatments and thinning, could have direct impacts to soils in these areas. Treatments that involve broadcast burning would be limited to 200 acres per year with no more than 100 acres in a drainage area. These would be fairly high intensity burns with the intent to eliminate the duff layer in grasslands and to reinitiate shrub stands. Broadcast burning could bare the soil for a short time period and cause short-term increases in erosion rates within the treatment areas. Over the long term, however, these treatments could increase soil productivity and reduce the risk of high severity fire in these areas.

Management of Riparian Areas and Aquatic Resources

This plan proposes to protect and restore riparian areas through planting and seeding native species, forest thinning, fencing and other livestock management techniques. Soils in riparian areas are more easily damaged due to the increased presence of water. Short-term direct impacts could result from the disturbance created during

the planting and seeding of native species. Once established, these species should help protect the soil from additional disturbance. Short-term impacts in the form of soil compaction and erosion could occur during thinning or other restorative activities. Prescribed fire may be allowed to back into riparian reserves. Prescribed fire in these areas should be low intensity and would directly impact soils. In areas where cattle congregate in riparian areas, soil compaction and erosion is often evident. Fencing or other livestock management techniques would help protect soils in these areas.

Weed Management

Throughout the monument, non-native annual grasses have replaced native bunchgrasses as the dominant vegetation. A major objective of the proposed plan is controlling noxious weeds through treatments such as manual weeding, bio-control, spot spraying with herbicides and hot foam, and prescribed fire. The direct impacts of noxious weed treatments would be minimal. Prescribed burning could expose soils and increase the potential for erosion in the short-term. In the long term, the restoration of native perennial bunchgrasses would help provide better protection for soils as their root systems are more adept at holding soil in place than are the roots of non-native annual grasses. Some noxious weeds and non-native annual grasses in the monument are conducive to high severity fire which can damage soils. The restoration of native species would reduce this risk. The long-term effects of noxious weed control would be beneficial to soil resources as native species are restored.

Transportation and Access

Roads directly and indirectly affect soils through soil compaction, erosion and the removal of existing vegetation. Transportation management objectives for the monument include reducing the amount of existing roads primarily through decommissioning. Proposed transportation management actions that could potentially affect soil resources include road decommissioning, road construction, drainage improvement, maintenance, and decommissioning.

Natural and mechanical decommissioning would take place on approximately 53 miles of existing roads. Approximately 21 miles of road would have

drainage facilities improved and then blocked which would reduce erosion and sedimentation short-term. Approximately 4 miles of road would be upgraded and left open. Across the monument, the reduction in road density could benefit the soil resource through decreased compaction and the revegetation of these areas.

Road construction in the monument would take place under limited circumstances and could directly impact soils through the removal of vegetation compaction and erosion. Road construction would be designed to minimize impacts to soils.

Motorized and mechanized vehicles would not be allowed to travel off designated open routes. This would afford substantial protection from surface disturbance and erosion.

Recreation and Visitor Services

Recreational facilities and use that result in surface disturbance, such as trail and parking construction, motorized and mechanized vehicles pulling no more than 50 feet off designated roads to access existing dispersed campsites, concentrated hiking/riding off designated trails, and illegal off-road use by off-highway vehicles (OHVs), may have direct and indirect adverse impacts on soils. Potential direct impacts would be increased soil compaction and erosion.

The proposed recreation management attempts to protect monument resources and natural ecosystem processes, including those processes that affect soils. Examples of management proposals that would protect soils include restricting motorized vehicles to designated roads, requiring vehicle parking within the road prism and away from wet areas, and prohibiting dispersed camping in riparian or other sensitive areas.

Levels of visitor use and recreational activities would be monitored throughout the CSNM. Recreational uses found to cause unacceptable resource damage would be limited or prohibited. Prior to any trail or facility construction, project level NEPA analysis would be completed and site-specific impacts to soils would be addressed.

Livestock Operations

Livestock grazing has the potential to affect soils through the removal of vegetative cover and the trampling of streambanks. Direct and indirect effects to soils include increased compaction and accelerated erosion, particularly on steep slopes or in wet areas.

Livestock grazing in the monument would continue to be managed in accordance with the “Standards for Rangeland Health and Guidelines for Grazing Management for Public Lands in Oregon and Washington” (Appendix I). Evaluation of allotments as part of the Standards and Guidelines implementation would assess the effects of livestock grazing on soils. Steps would be taken to ensure that livestock grazing is consistent with current laws and regulations and meets the intent of the monument proclamation. Management specific to allotments would be developed, consistent with the BLM-wide grazing lease renewal process. Results of the Rangeland Health Evaluation and Livestock Impact Study would be used to determine whether livestock grazing is compatible with protecting monument resources. If current livestock operations are found incompatible with protecting soils and associated resources, changes to existing grazing management practices in these areas would prevent continued degradation and allow for future restoration of problem areas.

Wildland Fire Suppression

The wildland fire management policy in the CSNM would be to take immediate action to control and suppress all wildfires. Ground-disturbing fire suppression activities such as dozer and hand lines, and helispot construction could adversely affect soils. Soil compaction and increased erosion could result from heavy equipment. Fire suppression guidelines for the CSNM include minimizing the use of dozers, the size of dozer lines, and the construction of helispots. The construction of properly designed and adequately spaced water bars and fire line rehabilitation on all fire lines would reduce the potential for erosion.

Utility Rights-of-Way and Road Rights-of-Way

Construction of new utility facilities within the CSNM would likely be restricted to the three

existing corridors. Vegetation removal and ground disturbing activities associated with construction of new utility facilities have the potential to directly and indirectly impact soil resources. Potential impacts include increases in compaction, erosion and sedimentation. Any applications for new utility facilities would be thoroughly reviewed and analyzed for potential impacts to soils.

New linear non-road/utility rights-of-way would be minimized in the CSNM. Examples of linear non-road/utility rights-of-way include water pipelines and ditches. Surface disturbance from placement of water pipelines and ditches could result in erosion and sedimentation. Few new road rights-of-way are anticipated as most are already in place in the OGEA as a result of past timber practices on all land ownerships. New road rights-of-way have the potential to adversely impact soil resources as a result of vegetation clearing and ground disturbance. Direct impacts could include increased compaction and erosion. Efforts would be made to ensure that all other options are considered before new non-utility rights-of-way in the CSNM are approved.

Inventory, Monitoring, Research and Adaptive Management

Activities associated with inventory, monitoring and research are not anticipated to result in any significant surface disturbance or vegetation removal and therefore would not have any noticeable impact on soils. Inventory, monitoring, and research activities conducted to benefit other resources may involve surface disturbance and/or vegetation removal. Surface disturbing inventory, monitoring, and research activities would be evaluated on a project-specific basis to determine whether the impacts to soils would be acceptable.

PROPOSED ACTIONS WITH NO REASONABLY FORESEEABLE EFFECTS

No reasonably foreseeable effects to soils would be expected from proposed decisions listed under the following sections of this plan: *Collections/Special Forest Products, Wilderness Study Area Protection.*

Effects on Terrestrial Wildlife Species and Habitats

INTRODUCTION

The Cascade-Siskiyou National Monument is home to a remarkable variety of terrestrial wildlife species, including insects, amphibians, reptiles, birds, and mammals. The monument is home to the bald eagle and northern spotted owl, both of which are listed as threatened species under the Endangered Species Act. Also at home in the monument are the following BLM special status species: peregrine falcon, great gray owl, American marten, northwestern pond turtle, Franklin's bumblebee, and the mardon skipper. In addition, the monument includes lands that have been designated as Critical Deer Winter Range by the Oregon Department of Fish and Wildlife.

SUMMARY OF EFFECTS

Terrestrial wildlife species are interrelated and interdependent; impacts on any one are likely to impact others. Impacts to animal populations occur primarily through activities that disturb habitat such as thinning of vegetation, prescribed fire, and grazing. Furthermore, the use of facilities such as roads, campgrounds, and hiking trails has the potential to directly disturb wildlife species. This plan outlines ways to protect and enhance monument resources and attempts to move toward landscape-level restoration, which would benefit all terrestrial wildlife species.

Impacts to all special status wildlife species would be avoided to the extent possible in management activities planned for the monument. This will be accomplished either through pre-activity surveys to locate occupied sites, or through seasonal and treatment restrictions on all habitat determined to be suitable. Nest sites of bald eagles and northern spotted owls would be protected from both seasonal disruption and from habitat disruption in their vicinity. Also occurring in the monument are a variety of terrestrial wildlife species appearing on the BLM's Special Status Species List (Appendix N). All special status species would be considered when management activities are being planned.

The goals and objectives described for the Old-Growth Emphasis Area (OGEA), Diversity Emphasis Area (DEA) and Riparian Areas

would enhance habitat for wildlife throughout the monument by facilitating a return to native vegetation and historical conditions across the landscape. Activities such as road decommissioning and improvements, forest restoration and fuels reduction, noxious weed treatments, and enhanced large wood recruitment would result in improved habitat for terrestrial wildlife species.

The amount of road decommissioning proposed in this plan would dramatically benefit some terrestrial wildlife species. Overall, a 21 percent reduction in road densities would help terrestrial wildlife species through the restoration of habitat connectivity and the removal of wildlife dispersal impediments.

Grazing at current levels will continue utilization of habitats otherwise available to native wildlife species. Many wildlife concerns are directly related to plant community composition and structure. Throughout the monument, a reduction in the abundance of palatable forage, a preponderance of annual grasses with hazardous awns, and the loss of woody riparian vegetation have had a direct impact on wildlife. Ongoing research and monitoring, pilot studies proposed in the DEA, and the monument's Adaptive Management Strategy would improve the BLM's understanding of historical and current conditions across the landscape as they relate to wildlife. These efforts, in addition to the ongoing Livestock Impact Study, will enhance understanding of the impacts of livestock grazing on wildlife and help direct management in a manner that protects wildlife species and associated habitats.

The removal of excess fuels within the monument landscape, both through manual clearing and through the re-introduction of fire to these historically fire-influenced landscapes will improve wildlife habitat. By reinvigorating forage species and opening densely overgrown stands, the use of prescribed fire would provide wildlife with increased opportunities for foraging and movement. With management objectives and activities that emphasize the restoration of vegetative communities within the monument, native wildlife species habitat conditions will be directly and positively enhanced.

DIRECT AND INDIRECT EFFECTS OF PROPOSED ACTIONS

OGEA Management

The OGEA is home to a diverse suite of wildlife species. Species dependent upon late-successional and old growth forests include northern spotted owls, great gray owls, American martens, and fishers. The primary management concerns in the OGEA that affect wildlife are habitat fragmentation, fire exclusion, high road densities, noxious weeds, and impacts to riparian habitat and aquatic connectivity from past management activities. As they apply to terrestrial wildlife species, these concerns pertain directly to habitat connectivity or to habitat protection. This plan would begin to address those concerns through restorative actions (e.g., thinning, prescribed fire, road decommissioning, native grass seeding), and protective actions (e.g., reducing the risk of wildland fire near existing late-successional habitat through thinning and prescribed fire).

Over time, these management activities will help improve habitat connectivity across the landscape, particularly in the area of connectivity concern. The reintroduction of fire into these ecosystems will hasten the return of historic wildlife habitat conditions. Management activities proposed in the OGEA would help promote late-successional conditions and wildlife species associated with these forests (e.g., northern spotted owl and pileated woodpecker) will benefit from larger areas of late-successional forest habitat.

Short-term improvements to terrestrial wildlife habitat will occur as connectivity issues are addressed (as roads are closed and as overstocked understories in mature stands are thinned); long-term improvements will occur as small conifers are released through thinning. Some short-term impacts are likely. As management activities take place, existing wildlife populations may be displaced. Any such displacement is likely to be off-set by subsequent habitat improvement and wildlife species population stabilization.

No treatments are planned within Habitat Type 1 and only limited pilot studies are proposed in Habitat Type 2. In the short term, excluding treatments from these stands would ensure the continuation of habitat critical to the persistence

of species dependent on late-successional forests, such as the northern spotted owl. Indirect impacts of this treatment regimen, combined with continued exclusion of fire, would include increases in high tree densities, fire hazard, risk of insect infestation, and large tree mortality. Over time, it is likely that these processes will lead to attrition of Habitat Types 1 and 2. This decrease in breeding and foraging habitat may affect wildlife species dependent on late-successional forests.

Habitat Type 3 currently does not provide habitat of late successional species. Proposed thinning in Habitat Type 3 may disturb some wildlife species during thinning activities. In the long term this alteration in stand structure will provide an increase in available habitat for a variety of wildlife species, and will serve to restore connectivity of late successional and old growth habitat in the OGEA.

The proposed treatments (primarily thinning) to Habitat Type 5 (spotted owl dispersal habitat) may cause some disruption to dispersal patterns of northern spotted owls in the short term, especially during thinning activities. Any such impacts would be localized to the immediate area of treatment. These impacts would be mitigated through seasonal restriction of such treatment activities, and are expected to provide long-term benefits to late-successional forest species as Habitat Type 5 stands develop into Habitat Type 1 and 2 stands, increasing connectivity throughout the OGEA.

Proposed management activities in the OGEA that have the potential to impact nest sites of northern spotted owls and bald eagles would follow seasonal restrictions established by the U.S. Fish and Wildlife Service. The restrictions are as follows: northern spotted owl—within $\frac{1}{4}$ mile and between March 1 and September 30; bald eagle—within $\frac{1}{3}$ mile and between February 1 and July 15. These restrictions would protect nest sites from disturbance during the breeding season.

DEA Management

This plan identifies several primary concerns that affect wildlife in the DEA: noxious weeds; existing impacts to riparian areas; the loss of fire-dependent plant communities; and impacts to wildlife habitat from past management activities. The effects of weed treatments and proposed management

for riparian areas are described in the Weed Management and Riparian Areas Management sections below.

The pilot studies proposed within the DEA would be designed to provide better information regarding the effectiveness of different management tools for protecting and restoring the area's ecological diversity. In the short term, the effects from treating such a limited number of acres across the landscape would not adversely impact terrestrial wildlife populations. Likewise, any beneficial effects to wildlife would be limited to the project site and would not change or improve wildlife habitat conditions over the majority of the DEA.

Over time, wildlife habitat in the DEA has been degraded through the exclusion of natural fire events. This plan proposes to study the effectiveness of prescribed burning on a limited number of acres a year in the DEA (10 to 100 acre study sites). The limited re-introduction of fire into this landscape is expected to improve wildlife habitat in these areas by returning grasslands and shrublands to earlier states of succession.

In general, existing conditions in wildlife habitat may continue to degrade in these plant communities. However, the knowledge gained from these studies in association with the monument's adaptive management strategy would help improve long-term future habitat and species management. Pilot studies that could impact terrestrial wildlife habitat would be considered on a project-specific basis. These activities would be approved only if the expected benefit was determined to be yield greater understanding of monument ecosystem functions, and to outweigh any potential impacts to existing wildlife populations and habitats.

Vegetative Management in the Wildland-Urban interface (WUI) (DEA & OGEA)

Vegetative treatments and prescribed fire in the wildland-urban interface (WUI) would result in the creation of more open forest habitat. Short-term negative impacts to wildlife species from these activities are unavoidable. Species dependent on existing conditions would be displaced by removal of their existing habitat. Burrowing rodents may suffer loss of hiding cover, forage, or mortality

when fire is used to remove decadent grass and shrubs, and when slash piles are burned. Reduction in rodent populations is generally short in duration, but is likely to result in a corresponding—and equally short in duration—decline in reproduction in predatory species dependent on rodents as a prey source. For example, two northern spotted owl (a federally listed threatened species) sites (one owl core area and dispersal and roosting/foraging habitat within $\frac{1}{4}$ mile of another owl core area) are located within the WUI.

Prescribed fire, chainsaw operation, and other potentially disruptive activities in these locales would be restricted to outside the breeding season of the northern spotted owl (March 1 to September 30). Again, even with this restriction, some indirect impact on the species is possible. Prey species may experience a significant population decline if prescribed fire adversely impacts their habitats (e.g., removal of hiding cover, removal of forage, and fire-induced mortality). This in turn may result in a short-term reduction in reproductive success within these northern spotted owl sites. The limited spatial and temporal extents of proposed treatments in the WUI are unlikely to cause a significant impact to any wildlife populations. These treatments will result in the long-term improvement of wildlife habitat by returning grassland and shrubland to a more productive earlier seral stage. Forest habitat will be improved for species which prefer more open forest settings and may benefit species that prefer late-successional forests.

Management of Riparian Areas and Aquatic Resources

Many terrestrial wildlife species are dependent on riparian areas for cover, forage, movement, or breeding, as well as for frequently scarce water. The main goal of riparian area management would be to protect and restore riparian features critical to ecosystem health in order to support the monument's diverse populations of plants and animals. Proposed restorative treatments (e.g., road decommissioning, fencing springs and wetlands, planting vegetation, and altering livestock use patterns) would all contribute to the return of riparian areas to proper functioning conditions. Fencing of riparian areas may impact some wildlife species by excluding them from water sources or by restricting their movement across the landscape.

The improved function of riparian areas would benefit all terrestrial wildlife species that utilize this type of habitat.

Weed Management

Noxious weeds can impact wildlife indirectly by replacing palatable native species with non-palatable weed species for herbivores such as deer and elk. Noxious weed management to restore these areas of infestation through manual removal, selective spraying, controlled grazing, biological control agents, and prescribed fire coupled with native species seeding is likely to result in an improvement in habitats available to terrestrial wildlife species. Removal of these species, though temporarily removing cover, would facilitate the return of native species in the long term. The recovery of native vegetation structure and function would, in turn, improve habitat and populations of native wildlife species. Although removal of noxious weed species is a management priority, it is estimated that funding and other constraints will limit the treated areas to approximately 2,000 acres each year. There is the potential for continued degradation of wildlife habitat in untreated areas.

Transportation and Access

Terrestrial wildlife species are negatively affected by high road densities. Roads act as barriers to connectivity of wildlife habitat. These barriers hinder movement, foraging, and breeding of various wildlife species. The plan proposes to decommission 53 miles of road and identifies an additional 21 miles that will be considered for decommissioning in future planning actions. Road decommissioning contributes to the restoration

of wildlife habitat by restoring connectivity and returning large areas of habitat to a more natural condition. Road densities would be slightly decreased in northern spotted owl core areas, moderately decreased in elk management areas and riparian reserves, and significantly decreased in big game winter range (Table 3-4).

These road density reductions will enhance wildlife habitat through the reduction of disturbance by motor vehicle traffic, and through the restoration of connectivity to large blocks of wildlife habitat. This is especially true in the Big Game Winter Range where road densities will be reduced to less than the 1.5 mi / mi.² recommended by Oregon Department of Fish and Wildlife for Big Game Winter Range areas.

As specified in the proclamation, motorized and mechanized travel off of designated routes would not be allowed, except in limited situations. This would afford protection to wildlife species from the direct effects of vehicle use off of designated routes, including noise and the presence of people and vehicles in the area, and possibly disrupting wildlife travel patterns, nesting activities, roosting, foraging, and migration. With these restrictions in place, wildlife would be protected further from the indirect effects of travel off of designated routes, including removal and damage of vegetation and habitat, erosion from surface disturbance causing loss of habitat, and degradation of water quality. There is the potential for direct and indirect impacts to wildlife from unauthorized vehicle travel off of designated routes in the monument. Education and law enforcement efforts as described in Chapter 2 would reduce the occurrence of unauthorized use off of these routes.

Item	Miles of Road	Area (mi. ²)	Road Density (mi./mi. ²)	Road Density After Proposed Plan Decommissioning (mi./mi. ²)
Northern Spotted Owl Core Areas (BLM Only)	9.74	3.14	3.10	2.96
Elk Management Areas	68.48	21.57	3.17	2.64
Big Game Winter Range	23.48	11.60	2.02	0.29
Riparian Reserves (BLM Only)	60.63	16.56	3.66	2.87

Recreation and Visitor Services

All types of recreation have the potential to impact wildlife. Inadvertent or unintentional harassment of wildlife occurs from the use of developed recreation sites: hikers (on and off trails); and motorized and mechanized vehicle use. Impacts to terrestrial wildlife species due to recreation would be minimized through regulating areas and types of use, and size of groups. Seasonal closures are often an effective means of protecting terrestrial wildlife species from recreational impacts. Collections of terrestrial wildlife, or parts thereof, are prohibited unless otherwise regulated by the Oregon Department of Fish and Wildlife.

To minimize any impacts to wildlife through recreational activities, specific management strategies are proposed in this plan. For example, to protect peregrine falcons nesting on Pilot Rock, a seasonal closure on climbing and hiking which accesses the south and east sides of the rock will be in place from February to July 30 each year. In the south zone, size of hiking and camping groups would be limited to 12. Restrictions such as these and others set forth in this plan will benefit wildlife species through minimizing disruption of their habitats and life-cycles.

Snowmobile use in the monument is unlikely to have a significant impact on wildlife species. During the period of use for snowmobiles, deer, elk, and many other wildlife species generally move to lower elevations or more southerly latitudes to escape the cold and snow. Species that are known to be present in the vicinity of the snowmobile trails during the period of use (e.g., northern spotted owls, great gray owls, American martens, snowshoe hares) tend to be highly mobile and are not impeded by roads or snowmobile trails as they move through this habitat, nor are they highly susceptible to the intermittent noise produced as snowmobiles pass through.

Livestock Operations

Livestock grazing has the potential to indirectly impact wildlife by changing vegetation composition, structure, and function. Current livestock operations within the monument are likely to result in a reduction of forage available to native herbivores (e.g., deer and elk) as well as reductions in vegetative ground cover for ground-

nesting birds, burrowing rodents, and other wildlife species dependent on ground cover for protection, food, and breeding sites. In the short term, these impacts would continue in areas of high livestock utilization. Over the past ten years, however, livestock lessees used approximately 58 percent of the authorized AUMs. If all the permitted AUMs were put to use, current impacts to terrestrial wildlife would be expected to increase.

This plan describes the long-term process for making decisions regarding livestock grazing. Completion of the Livestock Impact Study and the Rangeland Health Evaluations are an integral part of this process. The study will provide data regarding specific impacts of livestock on terrestrial wildlife and terrestrial wildlife habitats within the monument. The effects of livestock grazing on wildlife species would also be assessed in the evaluation of allotments as part of the Standards and Guidelines (Appendix I). The information derived from the Livestock Impact Study and the Rangeland Health Evaluations will be used to determine if grazing is “incompatible with protecting the objects of biological interest.” If current livestock operations are found incompatible with protecting the terrestrial wildlife, changes to existing grazing management practices in these areas would prevent continued degradation and allow for future restoration of wildlife habitat.

Wildland Fire Suppression

Wildland fire suppression methods have the potential to directly and indirectly impact terrestrial wildlife species and their habitats. Direct impacts are most likely to result from suppression techniques that alter habitat connectivity. Indirect effects of fire suppression may include increases in high tree densities, fire hazard, risk of insect infestation, and large tree mortality. However, with existing high fire hazard levels created by decades of fire exclusion, continued suppression is necessary to protect existing late-successional forests and other important wildlife habitats from stand-replacing fire events.

The impact of wildfire suppression to terrestrial wildlife species in the monument will be minimized through following guidelines set forth in this plan. These guidelines minimize habitat disruption through directing the use of the

minimum interventions required for protection of the monuments resources. Damage to northern spotted owl core areas by fire and suppression efforts will be kept to a minimum. Retardant will not be dropped on active nests of bald eagles or northern spotted owls.

Utility Rights-of-Way and Road Rights-of-Way

Requests for major utility rights-of-ways (ROWs) outside of existing corridors are expected to be minimal. Few new road ROWs are anticipated. Any rights-of-way agreements granted would be designed to avoid adverse effects to the monument's terrestrial wildlife. Where legally possible, these projects would be designed outside areas likely to affect wildlife and efforts will be made to ensure that all other options are considered before activities in areas likely to affect wildlife are approved. If no other options were available, mitigating measures would be incorporated to maintain habitat/ecosystem integrity. However, there would likely be short-term impacts due to activity required for road construction and long-term consequences from roads in areas likely to affect wildlife. Short-term impacts would arise from habitat removal and noise from equipment operation. Long-term impacts would be due to habitat fragmentation by new road corridors through previously contiguous habitat.

Inventory, Monitoring, Research, and Adaptive Management

Non-surface disturbing research activities that focus on increasing the knowledge of the distribution and presence of wildlife species in the monument, or which would help restore and protect wildlife habitat, would be encouraged. Monitoring initiated as part of the adaptive management framework (Appendix C) would provide information regarding the condition of wildlife species in the monument and would provide a mechanism for alteration in management if it were determined that impacts on wildlife species or habitat were occurring.

Projects involving inventory, monitoring, research, and adaptive management must be considered on a project-by-project basis to determine the potential for impacts on terrestrial wildlife species.

Collection of terrestrial wildlife specimens, while generally prohibited, may be permitted in some situations where the value of such collecting outweighs potential impacts to the terrestrial wildlife species population in question.

Wilderness Study Area

The WSA will continue to contribute to the preservation of important wildlife habitat. No short-term treatments are planned in these areas, and thus existing habitat conditions will likely persist. If RNA plans are implemented, there will likely be little impact to wildlife species due to the restrictive nature of these plans.

PROPOSED ACTIONS WITH NO REASONABLY FORESEEABLE EFFECTS

No reasonably foreseeable effects to the OGEA would be expected from proposed decisions listed under the following sections of this plan: *Collections/Special Forest Products*.



Effects on Special Status Plant Species

INTRODUCTION

The Cascade-Siskiyou National Monument's unique geology, climate, and topography contribute to the presence of many rare and endemic plants. The region including and surrounding the monument has one of the highest rates of plant endemism in the United States (The Nature Conservancy, 2000). The monument contains known populations of 33 plant species that are on the current Special Status Species list (see Appendix N), including Gentner's fritillary, which is listed as endangered under the Endangered Species Act.

Occurrences of special status plants are documented in grasslands, chaparral, oak woodlands, conifer communities, rocky openings, vernal pools, seeps, and riparian areas within the Diversity Emphasis Area (DEA) and in the Old-Growth Emphasis Area (OGEA). Open grasslands, chaparral and oak woodlands, and conifer communities blend into a mosaic on the landscape, providing a diversity of habitats for groups of special status plants.

SUMMARY OF EFFECTS

This analysis of effects is based on proposed management actions at the landscape level; spatially explicit treatment areas are not known at this time. Past observations, literature, and professional judgment all are utilized to evaluate effects. Where surveys have not been conducted, presence is assumed in communities capable of supporting special status plants.

Impacts to special status plants occur primarily from the direct effects of ground disturbance, and indirect effects from habitat modifications that result in changes to the structure, function, and composition of the native plant communities with which special status plant species are associated. Impacts can range from adverse to beneficial on multiple temporal scales. Activities that have the greatest potential for impacts to special status plants and their habitats are livestock grazing, vegetation management activities, prescribed fire, and fire suppression.

Pre-treatment surveys for special status species, limits on surface-disturbing activities in these areas, mechanisms to control visitor use, and an active weed control program all contribute to the protection of special status plant species, as well as promote their recovery. Restrictions on cross-country travel by motorized and mechanized vehicles will reduce one of the primary disturbances to special status populations from recreational activities.

The magnitude or significance of beneficial or adverse effects can depend on the duration and the severity of the event, the type of activity, the time of year, the type of plant community, and species involved. Some short-term adverse effects to individuals and localized populations from proposed activities can be offset by long-term benefits to the plant community. Proposed monument management actions that include project design features are unlikely to trend any special status plant toward federal listing.

A programmatic consultation for the federally listed plant Gentner's fritillary (*Fritillaria gentneri*) has occurred (USDI 2003) and the monument plan, with conservation measures, is consistent with the "May effect, but will not likely adversely effect" determination made for the listed plant.

DIRECT AND INDIRECT EFFECTS OF PROPOSED MANAGEMENT

OGEA Management

Management within the OGEA focuses on enhancing connectivity and habitat for species associated with late-successional forests and protecting the existing late-successional forest from severe disturbance such as high severity wildland fire. Understory forest thinning inside and outside of the wildland-urban interface (WUI), limited commercial harvests, and prescribed fire to reduce fragmentation can impact special status plants within the OGEA. Any ground-disturbing activity has the potential to affect adversely existing special status plant populations, depending on the timing (season) and intensity of the treatment. Direct effects can occur to individuals and localized populations of special status plants from physical

trampling by crews and machines, yarding, piling, or burning of thinned material.

Prescribed fire, including hand-pile burning, underburning and broadcast burning, has the potential to have short-term adverse effects to individuals and localized populations (especially vascular plants) if burning is done during the growing season (spring). Lower intensity burns would have reduced adverse effects. Burning can directly kill growing plants, and reduce annual reproduction and population size in the short-term; fall burning during the dormant period, however, should have reduced effects. Pile burning can also bake roots and bulbs of special status plants. Soil disturbance from thinning activities can result in increased levels of noxious weeds in affected stands, especially weedy thistle species. These invasive plants can compete with special status plants.

Over the long term, the resulting habitat following thinning or burning activities can provide better growing conditions (increased light and moisture) and reduced fuel loads for many special status plants associated with the OGEA. Reducing the risk of stand-replacing wildland fire in the OGEA by reducing fuel loads should have a long-term beneficial effect for existing special status plants and those in adjacent evergreen, hardwood, and chaparral communities.

Several species found in the white fir conifer communities in the OGEA are more adapted to higher canopy cover and later successional states (Appendix N), including several species of rare fungi. In these areas, the management objectives for the OGEA should be, in the long term, of benefit to these species by maintaining later successional states, restoring connectivity, and reducing fuel loads.

The full protection of all special status plant sites from treatments, i.e., buffering all sites from any disturbance, can have long-term deleterious effects for many species by creating small closed canopy, sub-optimal habitats, and creating pockets of dense fuels that can burn hot and adversely affect populations during wildland fires. For other species, like those associated with wetlands and seeps, full protection is an appropriate management action.

Pre-disturbance surveys, documentation of populations, and implementation of site-specific mitigating measures during project planning and implementation will reduce any direct or indirect effects to special status plants.

DEA Management

Many special status plant locations are documented in the DEA. Management specific to the DEA primarily involves the implementation of pilot studies in fire-dependent plant communities. The elimination of all special status plant sites from these pilot studies would limit the opportunity to study the beneficial and adverse effects from different types of management activities. Pre-disturbance surveys, documentation of populations, and implementation of site-specific mitigation measures during project planning and implementation will reduce or eliminate adverse effects to special status plant species. -

Management activities designed to reduce fire hazard could take place in up to 50 percent of the DEA plant communities located in the WUI. Treatments on approximately 320 acres in a relatively concentrated area would increase the likelihood of direct and indirect effects in special status plant communities. Buffering all sites from any disturbance could have long-term deleterious effects for many species by creating small closed canopy, sub-optimal habitats, and creating pockets of dense fuels that can burn hot and adversely affect populations during wildland fires.

Broadcast burning, manual thinning, hand-piling, and pile burning used to reduce shrub and tree densities and restore grasslands, chaparral and oak woodlands could adversely affect individual plants and small populations of special status plants. Individual plants can be directly affected from trampling by hand crews during thinning and fuel reduction projects, and from the piling slash on plants. In addition, pile burning can bake the roots and bulbs of special status plants.

Prescribed fire could have short-term adverse effects to individuals and localized populations (especially vascular plants) if burning is done during the growing season (spring). Broadcast burning can directly kill growing plants, reduce annual reproduction, and reduce population size

in the short term. Over the long term, the habitat resulting from a thinning or burning activity can provide better growing conditions for special status species through increased light and moisture, and reduced fuel loads, if plants survive or can re-colonize from adjacent occupied habitat.

Reducing the risk of high severity wildland fire by reducing shrub and tree densities and opening canopy cover can provide indirect beneficial effects by restoring, maintaining, and creating suitable habitat for many special status plants associated with these diverse communities. Indirect effects from these treatments include a potential increase in noxious weeds which can compete with special status plants for water, space, and nutrients.

The federally listed plant Gentner's fritillary occurs in the DEA. The U.S. Fish and Wildlife Service programmatic biological opinion describes specific conservation measures for activities and future actions in the DEA (Appendix D). Management activities proposed for the DEA are not likely to have an adverse affect on these populations.

Management of Riparian Areas and Aquatic Resources

A number of special status plants occur in riparian areas, including seeps, and seasonally wet meadows. Most of the riparian objectives involve restoration or enhancement activities for aquatic systems. Direct effects to special status plants would only occur in areas where equipment would disturb or unearth intact special status plant habitat during watershed restoration activities. Individual plants could be crushed by equipment, or excavated while moving soil to restore aquatic function. Fencing wetlands, seeps, and spring areas to exclude livestock would likely provide a beneficial effect to existing special status plants.

Weed Management

Treating noxious weeds can result in direct effects to individual special status plants. For example, manual treatments (hand-pulling) can result in trampling of individual plants by work crews during the growing season. Herbicide spot spraying can result in adjacent special status plants being inadvertently sprayed (drift), resulting in effects to special status plants. The wicking or wiping

of individual weeds is not likely to affect special status plants due to direct application.

The hot foam method is used on individual weed plants, usually in the rosette stage. The hot steam (212 degrees) can kill individual special status plants if treated, but pre-disturbance surveys for special status plants will identify plants to be protected. Weed treatments using prescribed fire in the late spring through summer could kill special status plants; however, the lack of prescribed fire could also pose an increased fire risk that may eliminate special status plants if a wildland fire were to occur.

Roadways and other disturbed areas (landing, recreation sites, etc.) that have a reduced potential to support special status plants are target areas for weed treatments. Treatments in these areas are not likely to have a direct affect on special status plants. Treatments in intact environments such as oak woodlands, grasslands, and chaparral can affect individuals and localized portions of populations.

The indirect effects from weed treatments can be beneficial to neutral, as decreasing the competition from noxious weeds could benefit special status plants. Sowing native grasses can fill the niche left from weeds, and these native species (bunch grasses and forbs) are not likely to compete with special status plants.

Pre-treatment surveys, and using wicking and wiping methods within special status plant populations would reduce adverse effects. The monument's noxious weed strategy would indirectly benefit special status species by reducing noxious weeds that compete with special status plants.

Transportation and Access

Decommissioning road work, if kept within the previously disturbed road prism, should have little effect on special status plants. Using native grasses and forbs following mechanical decommissioning should not affect special status plants. Under some circumstances, however, such as culvert removals, road obliteration, or unstable, erosive road segments, disturbance from decommissioning could occur outside of the road prism into intact special status plant habitat. Some individual plants or localized portions of populations could therefore be affected.

Road closures would have no adverse effects to existing special status plant populations. The reduced vehicle traffic would decrease the potential to introduce or spread noxious weeds that can compete with special status plants. Access for vegetation treatments that could benefit special status plants would be more limited, but not eliminated.

New road construction would only occur under limited circumstances. Road construction activities could directly affect special status plants through the use of equipment and permanent habitat modification. Ground disturbance from road construction can introduce noxious weeds into new areas where weeds may then compete with special status plants. Re-opening decommissioned roads for fire suppression could have minor effects on special status plants, especially if they have colonized the edges of the road prism.

Off-road vehicle use seems to be increasing, even though OHVs are allowed only on open roads in the monument. Some unauthorized “cross county” use has and is likely to continue to occur. Special status plants can be crushed under the wheels of OHVs, and the ground disturbance can facilitate weed movement and introduction. However, the scale of the use is small so that the likelihood and scope of the effects is not large. Law enforcement and a future monument strategy for OHV use on existing roads would help alleviate this unauthorized use and reduce any further effects.

Pre-disturbance surveys, documentation of populations, and implementation of site-specific conservation measures during project planning and implementation would reduce or eliminate adverse affects.

Recreation and Visitor Services

Direct effects from recreation use in the monument are mostly from incidental trampling of individual plants. Hiking, camping, horseback riding, and wildflower viewing can affect incidental special status plants, although the magnitude of affect is likely very low. Some isolated special status plants in close proximity to existing trails, or at other ‘destination’ sites or viewpoints could be affected. Indirectly, heavy recreation use can disturb the soil and facilitate the spread of noxious weeds, which could affect special status plants. Indirect effects

from public education about special status plants are likely to be beneficial; increasing the level of awareness with the public about rare plants could reduce subsequent direct effects.

Levels of visitor use and recreational activities would be monitored throughout the CSNM. Recreational uses found to cause unacceptable resource damage would be limited or prohibited. New trail or facility construction would trigger site-specific surveys and protection of any special status plant sites.

Livestock Operations

Livestock operations can have a range of effects on special status plants, depending on the timing of release, grazing intensity, utilization patterns, palatability, and inherent response by the plants to herbivory. Direct effects from physical disturbance from trampling and grazing can adversely affect individuals and localized populations of special status plants annually. The grazing of flowers and developing seed-heads of special status plants can reduce annual reproduction, and, over the long term, can reduce population sizes.

Indirect effects include soil disturbance from trampling. The congregation of cattle can result in increased levels of introduced and weedy species, including annual grasses. Heavy grazing can result in changes in the composition, structure, and function of habitats containing rare plants, especially riparian zones, vernal pools/wet meadows, grasslands, and oak woodlands. Heavy utilization in riparian plant communities that could contain riparian and meadow special status plants has been documented (see riparian management concerns). Many utilized areas within the monument have not been surveyed for special status plants.

Grazing is not uniform throughout the monument and most of the areas of higher utilization occur within the DEA in close proximity to grassland meadows, road flats, and water sources. Documented special status plant sites occur both in areas of high and low utilization. There is little specific information regarding the direct and indirect effects of existing grazing on most special status plants in the monument, mainly because of limited monitoring. Some effects to individuals

and localized populations are likely occurring, but the extent and significance is not fully known (see grazing management concerns).

Some of the special status plants that are early spring species (e.g., *Plagiobothrys* species) are likely to have nearly completed their life cycle prior to the annual release of the cattle. Other special status plant species are likely not palatable or are poisonous. Some species such as the lilies and fritillaries are known to be palatable by other ungulates. Other special status plant communities of concern are in seasonally wet meadows and riparian areas that have few populations with few individuals and that are therefore inherently vulnerable to impacts.

The CSNM livestock grazing study is examining the effects of grazing on a number of the objects of biological interest, including the sensitive species Green's mariposa lily and Gentner's fritillary. The future completion of rangeland health assessments and the determination of rangeland health will also address special status plant species. The Medford programmatic biological opinion for Gentner's fritillary (USDI 2003) requires surveys in suitable habitat prior to lease renewals; moreover, specific conservation measures are listed to protect existing sites from grazing. These surveys will provide information for many other special status plants species as well.

Wildland Fire Suppression

Wildland fire suppression under the existing agreement with the Oregon State Department of Forestry in the monument has the potential to exert some direct adverse effects on special status plants in the monument, if populations exist in project areas.

Direct effects from line construction with machines (bull-dozers), equipment, or by hand can smash or dig up individual plants and small localized populations, especially sites along ridgelines. Backfires can burn through occupied habitat, although this can have a range of effects depending on the season and fuel loads. The compaction of soil from heavy equipment can affect suitability of special status plant habitat. Equipment and soil disturbance can facilitate the spread of noxious weeds. The construction of emergency helispots can also affect small areas of suitable habitat for special status plants, especially on open ridge lines.

Fertilizer-based fire retardant can effect short-term changes to nutrient levels, especially for species adapted to nutrient limited sites (e.g., shallow soiled and rocky areas along ridge-lines). While most plants benefit from increased nutrient input, some species can experience stress, or be out-competed by other species that can better utilize excess nutrient input (e.g., weeds). Current fire suppression tactics within the monument allow engines and other equipment off road, although efforts to minimize crossings of stream, seeps and springs are mandated. Localized effects on existing special status plants from equipment could occur.

At the landscape level, suppressing fires would provide immediate direct protection of occupied special status plant habitat, especially in grasslands, chaparral, mixed evergreen/oak wood lands, and later successional conifer stands. Indirectly, the exclusion of fire in many of these communities that support special status plants will adversely affect populations through time. Increased canopy cover (shrubs and trees), decreased light and moisture can reduce the reproducing population size of many special status plants, and allow succession to reduce suitable habitat. Some other special status plant species, adapted to later successional conifer communities may benefit from a later successional condition, depending on the potential of the site.

Current suppression tactics will continue to affect plants. Large fire events more severe than recent historical fires are likely inevitable and will affect special status plants.

Many of the lands in the monument have not had formal special status plant surveys; highly suitable un-surveyed habitat exists. All known special status plant sites are mapped and available to wildfire resource advisors in order to minimize effects to special status plants sites, including the location of the federally listed *Fritillaria gentneri*. By law (Endangered Species Act, 1973, as amended), emergency consultation with the U.S. Fish and Wildlife Service (USFWS) is required if emergency situations, including restoration, threaten or affect this species.

Collections/Special Forest Products

There are no direct or indirect effects from the collection of plants and plant parts as this is not an

authorized activity within the monument. Although personal collection and wildflower ‘picking’ of special status plants is prohibited, the effects of any incidental ‘collection’ is likely insignificant. The collection of BLM special status species for research purposes could be authorized under permit within the monument. Any requests for research permits would be strictly controlled and would not have any significant effects to special status plant populations.

The Endangered Species Act prohibits the collection of any federally listed plant (i.e. Gentner’s fritillary) without a permit from the USFWS, and usually only for approved scientific research purposes. Recovery actions outlined in the 2003 USFWS *Fritillaria gentneri* recovery plan will likely occur over the next few years, increasing population sizes by bulblet collection, greenhouse propagation, and out-planting. These actions in partnership with and authorized by the US Fish and Wildlife Service will benefit the species.

Utility Rights-of-Way and Road Rights-of-Way

The construction of new utility rights-of-way and road rights-of-way would be minimal. Where authorizations are granted for these activities, surveys would be completed to determine the presence of special status species in the area. If special status species are discovered, the activity would generally be moved to another site. In cases where these activities occur in the vicinity of special status species, direct effects could result from the use of construction equipment and habitat modification. Indirect effects from new noxious weed invasions following ground disturbance and equipment could affect nearby populations of special status species, but noxious weed control measures will reduce these effects.

Past activities have likely adversely affected or eliminated special status plant populations at communication sites, and along utility rights-of-way corridors. These features have also facilitated the spread of weeds throughout the monument. Future actions, such as implementation of the noxious weed strategy should reduce weed populations and reverse this trend. Renewals of existing grants for communication sites and rights-of-way would address special status species and

protect populations. Pre-disturbance surveys and protection for special status species prior to the construction of any new rights-of-way will reduce adverse effects on special status plants.

Inventory, Monitoring, Research and Adaptive Management

Inventory, monitoring, research and adaptive management would be inclusive of special status plants. Vegetation inventory, including rare plant surveys, will document new sites of special status plants. Monitoring of vegetation trends, or the effects of actions on plant communities, including the effects to special status plants, would provide information to ensure the continued viability of these rare elements, following an adaptive management strategy. Research activities would not likely have any adverse effects to special status populations. Research, including the collection of special status plant parts or individual specimens would not have adverse effects to the populations as a whole.

Wilderness Study Area Protection

Protection of the WSA will have no immediate affect to special status plants. Indirect effects from the continual build up of chaparral fuels and continued fire exclusion, slowly increases the risk of a high severity wildland fire, which could affect special status plants.

Effects on Recreational Use

INTRODUCTION

The area now known as the Cascade-Siskiyou National Monument has long been popular for a wide variety of recreational activities. Recreational activities in the monument include camping, hunting, hiking, horseback riding, sightseeing, fishing, cross-country skiing, snowmobiling, pleasure driving, rock climbing, and nature study. Visitor use in the area varies depending on weather conditions, with the highest use generally occurring in mid-summer to late fall.

The BLM provides one developed recreation facility (Hyatt Lake Recreation Area) located in the north management zone of the monument. It is a 474-acre lakeside facility offering developed campsites in two campgrounds with boat launching facilities, as well as day-use areas and group shelters. This site also serves as a staging area for winter recreation in the north management zone. Many visitors to the monument camp in dispersed, historic campsites in both the north and south management zones. The Pacific Crest National Scenic Trail traverses the landscape of the monument and provides hiking opportunities at multiple locations.

SUMMARY OF EFFECTS

The proposed monument management plan seeks to accommodate existing and future uses in a manner that balances recreation with the protection of monument resources and natural ecosystem processes. Therefore, a variety of recreational opportunities would be available within the monument. Some popular recreational activities, such as rock collecting and cross-country vehicle travel, were eliminated as a direct result of the presidential proclamation. Further direct impacts to recreational use as a result of the proposed plan would result primarily from the closure of areas to certain types of use (e.g., seasonal climbing restrictions at Pilot Rock), and increased limitations on mechanized and motorized vehicular access through road closures and road decommissioning. Similarly, some historic camping areas may be closed in order to protect monument resources. These may be closed on a temporary or permanent basis and/or designated as dispersed campsites.

Group size restrictions on camping in the south management zone limit the number of people within that zone to 12, but would also promote more primitive experiences

Future recreational activities may be affected through temporary or permanent restrictions in areas where resource degradation is occurring. In other areas, new trail construction designed to decrease resource degradation may enhance opportunities for recreation.

Managing recreation across the checkerboard ownership pattern of public and private land throughout the monument is complicated. In cases where the BLM is not able to obtain public easements on roads that access popular BLM sites, the road owner(s) could limit access to these sites, thereby affecting certain recreational experiences.

DIRECT AND INDIRECT EFFECTS OF PROPOSED ACTION

OGEA Management

Proposed management in the OGEA is designed to maintain, protect, and restore conditions of late-successional and old-growth forest ecosystems in order to promote habitat and enhance connectivity for old-growth associated species. The primary management activities would include thinning and prescribed fire. Direct effects of management operations may include limiting visitor access to areas at the time of the operations due to smoke and other hazards. Short-term indirect impacts in the form of fire scars and debris could reduce the aesthetic quality and overall recreation experience. Educational and interpretive displays would be used to educate the public regarding restoration projects in the OGEA. Over the long term, the quality of the recreational experience should increase for those seeking to visit forests with late-successional characteristics.

DEA Management

The DEA is comprised of hardwood, shrub, grass, semi-wet meadow, and wet meadow plant communities. Proposed management in the DEA includes pilot studies in fire-dependent plant communities. Fire-dependent plant communities in

the DEA are primarily categorized as grasslands, shrublands, and woodlands. Pilot studies designed to test vegetation restoration methods in fire-dependent plant communities would be limited to 10 acres in size per study with the exception of treatments involving broadcast burning, which would be limited to 100 acres in size.

These operations may directly impact recreation by limiting access to areas at the time of these activities due to hazards such as falling material, smoke, and other dangers. Short-term indirect impacts in the form of machinery, fire scars and debris could reduce the aesthetic quality and overall recreational experience. Where appropriate, educational and interpretive displays would be used to educate the public regarding restoration projects in the DEA. Over the long term, the quality of the recreational experience should increase for those seeking to enjoy the monument's ecological diversity, as these treatments would be designed to promote a natural range of native plant communities. Treatments could also increase the amount of game available for hunting as wildlife habitat improves.

Management of Riparian Areas and Aquatic Resources

This plan proposes the following treatments in riparian reserves: survey and/or inventory, planting and seeding of native species, thinning, reducing road density, fencing, and livestock management. These treatments may affect recreational use during and following treatments in riparian areas through temporary or permanent closures of these areas. Restoration of riparian areas would indirectly affect recreational use of the monument by providing a more pristine experience. However, restrictions on recreational use in these areas due to resource concerns may also limit access, reducing the opportunity for visitation.

Weed Management

The treatment of noxious weeds would have limited effects on existing recreational uses. Weed treatments generally take place in the spring before summer peaks in visitation and recreation take place. Approximately 2,000 acres are treated annually. These operations may impact recreation by limiting access to areas at the time of operations

due to hazards. The use of prescribed fire would have short-term impacts on visitor experience such as reduced visibility and lack of ground vegetation. Visitors may also be excluded from treated areas for a period of time in order to ensure visitor safety as well as the success of weed removal and the re-establishment of native plant species.

Transportation and Access

The proposed plan would have limited effects on existing transportation and access for recreation and visitation. The presidential proclamation restricted motorized and mechanized travel to designated open roads. This plan proposes to decommission approximately 53 miles of currently closed roads, and to maintain closures on approximately 21 miles of road (Map 18) that were previously closed during interim management in order to comply with the proclamation and protect monument resources. Mechanical decommissioning, including culvert removal, could indirectly limit foot and horse access in these areas by making passage difficult.

Visitors looking for a more primitive experience, away from vehicles, would find opportunity throughout the monument. Hunting opportunities would improve for hunters seeking a non-mechanized hunting experience. Unauthorized vehicle travel off of designated routes could have a negative effect on these experiences. Law enforcement should help limit the occurrence of unauthorized motorized or mechanized access.

Recreation and Visitor Services

Each of the management zones provides different types of visitor experiences as described in the Management Zones and Areas section of Chapter 2. An extensive road system makes the north zone (Map 3) easily accessible and well-suited for visitation. The Hyatt Lake Recreation Complex is located in this zone. Due to higher elevations resulting in greater snow depths, multiple-use winter recreation primarily takes place in this north zone.

The south zone (Map 3) is primarily rugged and undeveloped. This remote area offers excellent opportunities for exploration and discovery. Group size restrictions of 12 people per group would limit the number of large groups in this zone, but self-

directed primitive experiences would be enhanced by these restrictions. Monitoring and adaptive management would ensure that the primitive quality of the recreational experience in this zone would be maintained.

The Pacific Crest National Scenic Trail (PCT) meanders through both the north and south management zones for over 16 miles. A 500-foot, no-cut corridor centered on the trail would help retain a quality visitor experience when management activities are taking place in this vicinity.

Technical climbing takes place on the south and east face of Pilot Rock. Seven recorded technical routes currently exist. New fixed anchors could be established on a limited basis to the extent that they do not detract from the geologic resource or impair the quality of the current climbing experience. To protect peregrine falcons and to help ensure nest productivity, a seasonal climbing closure from February 1 to July 30 would significantly limit climbing activities during the heaviest use periods on the south and east sides of Pilot Rock.

Currently, hikers access Pilot Rock on an unstable trail traversing the ridge west of Pilot Rock before continuing up a chute on the north side of the rock. The PCT travels through the upper Pilot Rock parking area and is often adversely impacted by vehicles traveling over and blocking the trail. The planned improvements to the Pilot Rock trail and parking area would increase the length and the condition of the trail, while reducing resource degradation and enhancing opportunities for recreation with a more natural setting. The seasonal restrictions that apply to climbing would not apply to hiking as long as hiking is determined not to have a negative impact on the falcons.

Limiting vehicle access to some areas of the monument would result in a more primitive recreational experience. The amount of human disturbance to wildlife would be decreased, while the level of solitude experienced by visitors would be increased. The overall experience for hunting and wildlife viewing may also be enhanced by the possible boost in wildlife numbers from decreased human-animal contacts.

As part of the monument's visitor services and interpretation program, improvements and

alterations of existing facilities would take place. Existing trailheads, parking areas, and toilet facilities would also continue to be maintained. Additional toilets would be provided, as necessary, at designated trailheads and parking areas to reduce impacts to monument resources.

Livestock Operations

Livestock grazing has continued as an authorized use since monument designation. Livestock grazing has the potential to affect recreational use directly by contaminating water sources and by altering vegetation. Additionally, although some visitors may enjoy viewing livestock and livestock operations in the monument, others may find their presence an aesthetic and physical intrusion. The presidential proclamation mandated a study of *"the impacts of livestock on the objects of biological interest in the monument with specific attention to sustaining the natural ecosystem dynamics."* Pending the outcome of the Livestock Impact Study, livestock grazing uses within the monument would be managed in keeping with applicable laws and regulations including the Oregon Standards and Guidelines for Rangeland Health. Following the completion of the Livestock Impact Study, any changes made to livestock operations in order to protect monument resources may have a positive impact on recreational activities.

Wildland Fire Suppression

Visitors to the monument are subject to regulations and temporary use closures set by the Oregon Department of Forestry during fire seasons. While the effects of smoke on visitor experiences would be temporary, visual effects of wildland fires would occur. Visitors may also be excluded from burned areas for a period of time to facilitate the re-establishment of native plants species.

Collections/Special Forest Products

The area that is now the monument has been a popular place for the collection of rocks (especially agates), mushrooms, berries, Christmas trees, and other vegetative forest products. The presidential proclamation prohibits the removal of monument features. Removal of features includes, but is not limited to, the collection of rocks, petrified wood, fossils, archeological and cultural items, fish, plants, and animals. The collection of one gallon

of vegetative forest products such as berries and mushrooms for non-commercial use would be allowed to continue. Commercial collections of all forest products would be prohibited. These restrictions would not affect hunting and fishing activities which are regulated by the Oregon Department of Fish and Wildlife.

Inventory, Monitoring, Research, and Adaptive Management

Monitoring of visitor use would increase the knowledge of visitor use patterns, as well as impacts created by recreational use. These studies may indicate where and when use patterns are shifting. Monitoring of resources throughout the monument may also indicate that impacts from visitor and recreational use are occurring. The outcome of some studies or monitoring may lead to restrictions on visitor numbers in a particular area(s) in order to protect monument resources and

the overall quality of the recreational experience. Seasonal restrictions, physical barriers, interpretive displays and educational material may also be used to reduce impacts to sensitive resources. The adaptive management framework (Appendix C), in conjunction with the management objectives, tools, and implementation considerations described in Chapter 2 would provide the mechanism for changes in management based on new data being gathered.

PROPOSED ACTIONS WITH NO REASONABLY FORESEEABLE EFFECTS

No reasonably foreseeable effects on recreational use would be expected from proposed decisions listed under the following sections of this plan: *Utility Rights-of-Way and Road Rights-of-Way, Wilderness Study Area Protection.*



Effects On Livestock Operations

INTRODUCTION

There are nine grazing allotments throughout the monument, two of which are currently vacant. Although grazing seasons vary by allotment, grazing generally occurs from May through October. The presidential proclamation mandated that “Existing authorized permits or leases may continue with the appropriate terms and conditions under existing laws and regulations.” Livestock is managed through authorized grazing leases; terms and conditions in these leases guide grazing activities.

SUMMARY OF EFFECTS

The proclamation mandated a study of “the impacts of livestock on the objects of biological interest in the monument with specific attention to sustaining the natural ecosystem dynamics.” In keeping with this mandate, a *Draft Study of Livestock Impacts on the Objects of Biological Interest* was published in April 2001. This plan defers decisions regarding livestock operations until completion of the Livestock Impact Study and the rangeland health assessments. Upon completion of the decision-making process described in the Livestock Grazing section in Chapter 2, three decisions could be made: (1) Continue existing livestock leases; (2) Modify existing livestock leases; or (3) Eliminate some or all livestock leases in the monument. The impacts to livestock operations from any one of these decisions will be analyzed in a subsequent site-specific analysis.

Throughout the monument, direct impacts to livestock operations from implementation of the proposed plan would be limited and would primarily result from management actions designed to protect monument resources. Proposed plan actions that have the potential to directly or indirectly affect livestock operations include proposed road closures, road decommissioning, vegetation management, and monitoring activities.

DIRECT AND INDIRECT EFFECTS OF PROPOSED ACTION

OGEA Management

Proposed management in the OGEA includes thinning, prescribed fire, and weed abatement. Approximately 5,640 acres would be thinned in the OGEA over the next decade. Thinning treatments in the OGEA are not expected to impact livestock operations. In most cases, livestock would not be excluded from these areas following thinning. Opening of areas through thinning would allow grass and forb species to increase, improving forage conditions within the OGEA. Approximately 3,700 acres would be underburned following thinning treatments over the next decade. Livestock may be excluded from those areas for a period of time after treatment to allow for the re-establishment of native plant species. The impacts of weed abatement on livestock operations are described in the weed management section below.

DEA Management

The DEA is comprised of hardwood, shrub, grass, semi-wet meadow, and wet meadow plant communities. Proposed management in the DEA includes weed abatement, restoration and protection of riparian areas and wetland plant communities, and pilot studies in grasslands, shrublands, and woodlands. Pilot studies designed to test vegetation restoration methods, including prescribed fire, defoliation treatments, and thinning, would be limited to 10 acres in size per study with the exception of broadcast burning which would be limited to 100 acres per study. The increased diversity of native species in the pilot study areas may provide additional forage for livestock in these areas; however, livestock may be excluded from those areas for a period of time following treatment to ensure the success of the vegetative treatments. The impacts on livestock operations would be minimal as broadcast burning would be limited to 200 acres annually. The impacts on livestock operations from weed abatement and riparian area restoration are described in their respective sections, below.

Management of Riparian Areas and Aquatic Resources

The management of riparian areas has the potential to directly impact livestock operations. This plan proposes the following treatments in riparian areas: survey and/or inventory, planting and seeding of native species, thinning, reducing road density, fencing, and livestock management. Proposed livestock management techniques in accordance with existing laws and regulations may limit the amount of time livestock spend in riparian areas in order to reduce resource impacts. Where other management tools are not feasible, fencing may be used to exclude livestock from streams, springs, seeps, and wetlands where damage is occurring. Livestock may also be excluded from riparian areas for a period of time following planting and seeding of native species.

Weed Management

The removal of noxious weeds would increase forage in areas that were previously unpalatable to livestock. However, in order to ensure the success of weed removal and the re-establishment of native plant species, livestock may be excluded from some areas for a period of time following treatment. Due to funding constraints, the monument's weed abatement program is expected to treat approximately 2,000 acres a year. Livestock exclusion following treatments may only occur on some of these acres and would be done in coordination, cooperation, and consultation with livestock lessees and interested parties.

Transportation and Access

The type and availability of access are factors which affect the ability of livestock lessees to operate within the monument. Since monument designation, the BLM has authorized livestock operators to have vehicle and OHV access on otherwise closed roads in the Agate Flat area, portions of the Schoheim Road, Road 41-3E-9.0, Randcore Pass, and through the Box O Ranch (Map 17). Some of the roads currently used by livestock operators would be decommissioned (Map 18), reducing the number of roads available for livestock operations. Livestock operators would continue to have access on closed roads deemed necessary for the management of livestock operations.

Recreation and Visitor Services

Existing visitor site facilities (trailheads, parking areas, picnic areas, pullouts, dispersed camping, trails, etc.) could directly impact livestock operations through disruption of movement and/or grazing patterns. Recreational users could also leave gates open, resulting in unscheduled livestock distribution. This occurs primarily near the Hyatt Recreation Area. Additionally, use of sites by humans has the potential to degrade surrounding vegetation, allowing for erosion of soil and further degradation of vegetation/forage.

Livestock Operations

Livestock grazing continues as an authorized use in the monument and is managed under existing laws and regulations, including the Oregon Standards and Guidelines for Rangeland Health. Existing grazing leases authorize a total of 2,714 active AUMs. In 2003, livestock lessees used only 35 percent of the authorized AUMs.

The **Livestock Grazing** section in Chapter 2 describes the framework for making future livestock grazing decisions and complying with the presidential proclamation. This process would result in the evaluation of allotments, determinations of rangeland health and compatibility with "protecting the objects of biological interest", development of management alternatives for livestock grazing, and the selection and implementation of an alternative. Since this process is governed by existing laws and regulations, its impact on grazing management is not assessed in this plan; rather it would be assessed in subsequent NEPA analysis and under grazing regulations (43 CRF 4160).

This plan proposes a limited number of decisions regarding livestock operations in the monument. None of these decisions would directly affect existing operations as they are specific to new applications, leases and authorizations:

- Applications for new grazing leases on existing vacant allotments (Siskiyou and Agate) would not be approved until completion of the Livestock Impact Study and the evaluations, determinations, and NEPA process described above.
- New grazing leases or applications for

temporary grazing use within the monument would not be approved on lands not currently under a lease.

- Future grazing authorizations on newly acquired lands that were previously leased for livestock grazing must advance the purposes of the proclamation and assure consistency with the determinations from the Livestock Impact Study.

The proposed plan may indirectly affect livestock operators with current leases that wish to file applications to graze livestock in areas where they are not currently authorized.

Wildland Fire Suppression

In the event of a wildland fire, burned areas would be closed to livestock grazing for at least two growing seasons following the fire. This restriction would promote recovery of burned perennial plants, prevent noxious weeds or other non-native invasive species, reduce the risk of erosion and associated effects to riparian areas and stream systems, and protect monument resources and natural ecosystem processes. Adjustments to grazing use may be necessary following a wildland fire and could include temporary, full, or partial reductions of active authorized use. The BLM would consult, cooperate, and coordinate with the livestock grazing lessees for any adjustments to grazing use. An interdisciplinary evaluation is required at the end of the second growing season to determine whether additional livestock exclusion is required to meet rehabilitation objectives. Livestock closures for less than two growing seasons may be justified, on a case-by-case basis, based on sound resource data and experience.

Inventory, Monitoring, Research, and Adaptive Management

Monitoring activities associated with the Livestock Impact Study, adaptive management strategy, and rangeland health standards would continue in the monument. These activities are generally non-obtrusive and should not directly effect livestock operations. However, information derived from these activities may result in changes in grazing distribution, livestock use of a particular area, or access to water. These changes would likely take place in riparian areas where cattle are known to congregate. The BLM would consult, cooperate,

and coordinate with the livestock grazing lessees as required in the grazing regulations when inventory, monitoring, or research activities may affect the grazing leases.

PROPOSED ACTIONS WITH NO REASONABLY FORESEEABLE EFFECTS

No reasonably foreseeable effects to livestock operations would be expected from proposed decisions listed under the following sections of this plan: *Collections/Special Forest Products, Utility and Road Rights-of-Way, Wilderness Study Area Protection.*

Effects on Air Quality

INTRODUCTION

The Clean Air Act requires each state to develop and implement a State Implementation Plan to ensure that National Ambient Air Quality Standards are attained and maintained for particulate matter (PM₁₀). In Oregon, PM₁₀ was identified by the State Implementation Plan as the basis for non-attainment within the Grants Pass and Ashland/Medford area. This area has been in attainment for at least six years.

Prescribed burning is the only management activity that has the potential to affect air quality. The focus of the analysis for the effects on air quality from prescribed burning is on the production of PM₁₀ (particulate matter smaller than 10 microns). In the Medford District Proposed Resource Management Plan/FEIS (USDI 1994b) baseline emissions were established to measure the Medford District's progress towards meeting the 50 percent reduction of particulate matter emissions. This baseline of 20,000 tons per decade is used for this analysis.

SUMMARY OF EFFECTS

Under the proposed management plan, prescribed underburning and handpile burning could take place on up to 3,700 acres in the OGEA during the next decade. Broadcast burning could take place on up to 2,000 acres in the Diversity Emphasis Area (DEA) over the next decade. All prescribed burning would comply with the guidelines established by the Oregon Smoke Management Plan and the Visibility Protection Plan. Prescribed burning is not expected to affect visibility within the Crater Lake National and neighboring wilderness smoke sensitive Class I areas (Kalmiopsis and Mountain Lakes) during the visibility protection period (July 1 to September 15). Prescribed burning is not routinely conducted during this period, primarily due to the risk of wildland fire.

Emissions from prescribed burning are not expected to adversely effect annual PM₁₀ attainment within the Grants Pass, Klamath Falls, and Medford/Ashland non-attainment areas. Any smoke intrusions into these areas from prescribed burning are anticipated to be light and of short duration.

Prescribed burning would be scheduled primarily during the period starting in January and ending in June. This time period minimizes the amount of smoke emissions by burning when duff and dead woody fuel have the highest moisture content, which reduces the amount of material actually burned. Broadcast burning, handpile burning, and underburning would also be planned during the winter and spring months to reduce damage to the site from high intensity burning and to facilitate control of the units being burned.

The greatest potential for smoke intrusions into the non-attainment areas would come from underburning activities. Current avoidance strategies for prescribed fire assume that smoke can be lifted from the project site and dispersed and diluted by transport winds. However, underburning requires a low intensity burn that would not have the energy to lift the smoke away from the project site. Smoke retained on site could be transported into portions of non-attainment areas if it is not dispersed and diluted by anticipated weather conditions. Localized concentration of smoke in rural areas away from non-attainment areas may occur during prescribed burning operations.

Effects on Local Economies

INTRODUCTION

Impacts to local economies result primarily from direct BLM spending and from spending by visitors. Overall, the economic impacts of this plan on local economies are expected to be minimal, but positive.

SUMMARY OF EFFECTS

Direct spending by BLM on management activities such as forest management could have some beneficial effects on local communities. Some of the primary mechanisms for accomplishing restoration projects in the Old-Growth Emphasis Area are service contracts, stewardship contracts, and in some cases, commercial timber sales. Local contractors may benefit from these activities. However, the limited scale of projects proposed over the next 10 years is not likely to have any long-term impacts on local economies.

Increased visitation to the monument is expected based on general trends in public land use, increased name recognition associated with monument status, and regional increases in population growth. Direct spending by visitors to the monument could benefit local businesses that specialize in visitor accommodations and services.

Local economies could also be affected by many factors that are not directly the result of BLM actions, but may be influenced by how the monument is managed. Some of these factors may have socio-economic impacts that are even larger than those associated with this plan. Private enterprises, local government, and others make decisions regarding infrastructure, business development, and service expansions. These decisions may result in significant economic impacts. For example, a decision made by a private business to open a lodging establishment could have the effect of capturing more visitor spending, employing more people, and generating higher tax revenues. Similarly, decisions made about restaurants, grocery stores, tour guides, and research projects are not decisions made by the BLM, but could impact local economies. Many small rural communities in the western United States that have been supported by extractive industries or agriculture have

experienced a transition toward greater reliance on tourism. This of course drives a different type of development in these communities, bringing in services that had not previously been present and changing the economies and character of these communities. Property values are often driven upward and greater demands are made on local governments to provide for the increased infrastructure and service needs. Adequate data does not exist to systematically evaluate or quantify these potential impacts to the area.

Issues Considered but not Analyzed in Detail

There are several factors that must be considered in all Environmental Impact Statements because of laws, regulations, and executive orders, but which are not necessarily analyzed in detail. They are discussed below.

EFFECTS ON AREAS OF CRITICAL ENVIRONMENTAL CONCERN

At the time of monument designation, the Pilot Rock and Jenny Creek Areas of Critical Environmental Concern (ACECs) were superseded by the monument designation. The monument designation provides equal or greater protection for these areas. Therefore, there would be no impact on the relevance and importance criteria for any ACEC.

EFFECTS ON ARCHAEOLOGICAL AND CULTURAL RESOURCES

Lands within the monument possess an extensive range of cultural and archaeological resources from Native American sites to national historic trails. Tribes such as the Takelma Indians, the Shasta Indians, and the Klamath Tribe all inhabited these lands. Traditional use areas, as well as archaeological sites reflecting tribal histories exist throughout the monument. The majority of the archaeological sites documented to date have been discovered close to travel routes due to accessibility. Numerous non-inventoried sites are expected to occur throughout the monument.

Damage, degradation and destruction of archaeological and cultural resources can result from surface disturbing activities such as vehicle, human, and livestock use; road maintenance; wildland fires; vegetative restoration methods; and some noxious weed treatments. Disturbances to known cultural and archaeological sites would be avoided. Surveys for cultural sites or archaeological resources would be conducted prior to ground disturbing activities. Minimal impacts are expected to these resources as new and existing sites would be protected from disturbance.

EFFECTS ON PRIME AND UNIQUE FARMLANDS

There are no prime or unique farmlands or farmland of statewide or local importance on public lands in the monument. None of the actions proposed in this plan would disturb farmlands. Therefore, impacts on prime and unique farmlands are not analyzed further in this Environmental Impact Statement.

EFFECTS ON FLOODPLAINS

This plan does not propose any projects or activities that would result in permanent fills or diversions in, or placement of, permanent facilities on special floodplain areas (as designated by the Federal Emergency Management Agency). Therefore, impacts on floodplains are not analyzed in detail.

EFFECTS ON OR FROM HAZARDOUS AND SOLID WASTES

No hazardous, toxic, or unapproved solid waste sites are known to occur on public lands in the monument. None of the actions, activities, and uses projected to occur with implementation of this plan would require the handling, storage, or release of large quantities of these wastes. Therefore, impacts on or from hazardous and solid wastes are not analyzed in detail.

EFFECTS ON NATIVE AMERICAN TRUST RIGHTS

Impacts on Native American Trust Rights are not analyzed in detail in this Environmental Impact Statement because no trust rights are associated with lands inside the monument.

EFFECTS ON ENVIRONMENTAL JUSTICE

Executive Order 12898 of February 11, 1994 as amended by Executive Order 12948 provides that “each federal agency make achieving environmental justice part of its mission by identifying and addressing, as appropriate,

disproportionately high and adverse human health and environmental effects of its programs, policies, and activities on minority populations and low-income populations.” Environmental Justice “is achieved when everyone, regardless of race, culture, or income, enjoys the same degree of protection from environmental and health hazards and equal access to a healthy environment in which to live, work, and play”. (Whorton and Sohocki 1996) The management actions, directions and strategies in this proposed plan comply with Executive Order 12898 as amended and there will be no disproportionately high effects on minority or low-income populations as a result of the proposed management. Native American populations would not be disproportionately affected by decisions in this plan. Exceptions to restrictions on uses of plants, collection of natural resources, and access to certain locations would be granted for Native American traditional practices.

EFFECTS ON WILD AND SCENIC RIVERS

There are no wild and scenic rivers located on lands in the monument. None of the actions proposed in this plan would disturb wild and scenic rivers. Therefore, impacts on wild and scenic rivers are not analyzed further in this Environmental Impact Statement.

EFFECTS ON WILDERNESS OPPORTUNITIES

The Soda Mountain Wilderness Study Area (WSA) would continue to be managed under BLM’s *Interim Management Policy for Lands under Wilderness Review*, H-8550-1 (USDI 1995b). Proposed management would not detract from the wilderness characteristics of this area or opportunities for solitude and primitive recreation. This plan proposes to decommission the Schoheim road and many other road segments adjacent or near the Soda Mountain WSA. This decrease in road density adjacent to the WSA would enhance the wilderness characteristics of the surrounding landscape.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The irreversible commitment of resources refers to those impacts that cannot be reversed except, perhaps, in the extreme long term. The irretrievable commitment of resources refers to those resources that would be lost for a period of time.

The monument’s landscape is dynamic in nature and will continue to change and develop regardless of specific management actions. Plan implementation is not likely to result in significant impacts that may be characterized as irreversible and irretrievable commitments. The overall integrity of the area and its ecological values would be retained.

Some small-scale disruptions to resources may occur, which may in turn prove long term or permanent. These are most likely to be associated with this plan’s concentration of visitation in the North Management Zone, primarily in the Hyatt Lake area and along the Pacific Crest National Scenic Trail. Increased visitation to popular sites could yield irremediable impacts on resources such as soils and vegetation. Similarly, increased visitation could increase the risk of spreading noxious weeds and disrupt the habitat of certain species. Impacts would be monitored to determine the extent to which they may prove irreversible and irremediable, and adaptive management as described in Appendix C would be employed as appropriate.

Cumulative Effects

Cumulative effects are the effects on the environment resulting from the incremental impact of this plan in combination with other past, present, and reasonably foreseeable future actions outside the scope of this plan, either within the monument or outside of it. Cumulative effects are discussed because the quality of the human environment is the result of many different factors acting together. The real effect of any single action cannot be determined by considering that action in isolation, but must be determined by considering the likely effect of that action in conjunction with the effects of other actions. These involve determinations that are necessarily complex and, to some degree, intuitive.

Cumulative impacts on specific resources, local communities, and other users of the monument that result from BLM actions within the scope of this plan are included in each of the resource discussions above within the Summary of Effects sections. The cumulative effects discussion below considers this proposed plan in the context of the broader human environment.

CUMULATIVE EFFECTS OF PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS

The lands adjacent to the monument are a mixture of other federal lands managed by the BLM, lands managed by the State of California, and private lands. Management of BLM lands and state lands in California are not likely to have an adverse affect on monument resources. Before the monument designation, the Cascade Siskiyou Ecological Emphasis Area Draft Management Plan (USDI 2000) recognized the Horseshoe Ranch Wildlife Area in California as an important part of the natural processes in the Slide Creek, Scotch Creek, and Camp Creek subwatersheds. In order to coordinate management across state lines, a Memorandum of Understanding was established among the BLM's Medford District (Oregon), the Redding Field Office (California), and the California Department of Fish and Game in March of 2001.

Reasonably foreseeable future actions on BLM-administered lands within the cumulative effects

analysis area, but outside the monument, include two landscape projects: (1) Plateau Thin in the Upper Jenny Creek Subwatershed; and (2) Sampson Cove in the Upper Emigrant Creek Subwatershed, tentatively scheduled for 2006 and 2008, respectively. These landscape projects would include forest thinning and prescribed fire treatments to improve forest health in addition to road renovation and decommissioning. No road construction is anticipated for either of these projects.

The largest impact to monument resources will be from actions taken on private land adjacent to the monument. Thirty-eight percent of the land within the monument's boundary is privately owned and consists of private residences, ranches, resorts, and timberlands. Actions on surrounding private land could continue to affect adversely monument resources.

New timber harvest activity on private industry forest lands is unlikely in the reasonably foreseeable future, since large portions of this forest land have been harvested over the last 10 years. Minimal new road construction is anticipated, with few exceptions, since the industrial forest lands and private residential inholdings have established road access. Herbicide treatments could occur on industrial forest lands to reduce competing vegetation for conifer production. Land clearing could continue, especially for residential developments along the Highway 66 corridor. Livestock grazing on private lands would likely continue at the existing levels. Water withdrawals would continue to reduce summer flows. Reservoir and hydroelectric operations, including associated interbasin transfers, would continue to affect flows in Keene, Jenny, Spring, Fall, Tyler, and Emigrant creeks. Restricted off-highway vehicle (OHV) use in the monument could lead to future increased use on private forest lands, especially during deer hunting season in the fall. Private lands can also have effects on visual resources in the vicinity of the monument, especially on the periphery of the monument where housing and other developments could alter the scenic quality.

Population growth is among the factors that would influence the monument environment in the

long term. Population growth in the surrounding communities of the Rogue Valley is projected to increase by 30 percent over the next 20 years. Tourism in the region, including visitation to the monument and other public lands, is expected to continue to grow, which could add to the level of development beyond that attributable to population growth alone. Such development in the communities surrounding the monument could lead to more noise and visual impacts, as well as greater demands for water, all of which could impair the quality of the monument environment.

Water Resources

Water resource issues of concern in terms of cumulative effects include water quality, streamflow, and hydrologic function. The geographic scope for the water resources cumulative effects analysis includes all subwatersheds that fall partially or completely within the monument. These subwatersheds are listed in Table 2-7 and displayed on Map 13 of the Draft CSNM RMP/EIS.

Past and present human actions that likely influence water resources in the monument are described in the Hydrology and Water Quality sections of Chapter 2 in the Draft CSNM RMP/EIS. These actions include road construction; timber harvest; residential and agricultural land clearing; water withdrawals and augmentation; reservoirs; livestock grazing; and OHVs. The incremental effects of proposed activities in the monument would be negligible relative to the past levels of human-caused disturbance in the cumulative effects analysis area.

The cumulative effects of past, present, and reasonably foreseeable future management actions in the analysis area would likely result in a trend of improving water quality, especially water temperatures in small perennial tributaries due to revegetation of previously harvested riparian areas on federal lands, as well as implementation of water quality management plans for private lands. Water quality management plans developed by the Oregon Department of Environmental Quality would identify management necessary to meet water quality standards for all lands in the analysis area. Decreases in summer water temperatures for the 303(d) listed streams and other perennial

mainstems in the monument would require major changes in management of riparian areas on private lands and would take many years to detect. High temperatures in all perennial streams affected by water withdrawals would likely persist.

Overall sediment production originating from BLM-administered lands in the analysis area would likely decrease over time with implementation of Best Management Practices (BMPs) and the Aquatic Conservation Strategy (ACS), which includes riparian reserves and watershed restoration. Watershed restoration projects such as the road drainage improvements and decommissioning proposed for the monument are essential for sediment reduction efforts from BLM-administered lands in the analysis area. The water quality management plans developed for the analysis area should identify restoration opportunities for sediment reduction on all lands. However, it is likely for the reasonably foreseeable future that fine sediment produced from private natural surfaced roads and those with inadequate drainage would continue to enter stream systems that flow through the monument.

Other activities that would likely continue to contribute to water quality degradation in the reasonably foreseeable future include: livestock grazing adjacent to streams and springs on both private and federal lands; OHV use on private lands, especially at natural stream crossings; private residential land clearing, particularly in riparian areas; and aerial spraying of pesticides on private timber lands.

Future proposed road drainage improvements and decommissioning on federal lands would reduce the influence of the road network on peak flows, especially in the Camp, Scotch, and Middle Cottonwood subwatersheds which would have the greatest decrease in road density. No road decommissioning is known to be planned for private lands. Future timber harvests on federal lands would likely maintain canopy closures that are already 30 percent in the transient snow zone. The average canopy closure on industrial forest lands is likely to be less than 30 percent for the foreseeable future. Cumulative effects of management actions on the timing and magnitude of peak flows would not likely result in a noticeable change. Low summer flows would likely

remain unchanged with the implementation of the proposed monument plan.

There would likely be little to no change in the cumulative effects of the proposed actions in the monument with past, present, and other reasonably foreseeable future actions on hydrologic function. The proposed monument plan would, however, contribute toward hydrologic recovery as it attempts to restore ecological processes, although this would amount to a small percentage of the cumulative effects analysis area. It is unlikely that the hydrologic function in the cumulative effects analysis area would ever return to natural conditions. Proposed vegetative treatments in the monument would strive to attain historic conditions that would improve hydrologic function. Road drainage improvements and decommissioning proposed for the monument would also improve the hydrologic network..

Riparian-Wetland Areas and Aquatic Resources

As described earlier in the document, the monument has experienced numerous human-caused disturbances at many spatial and temporal scales. Fire suppression activities, timber harvest and road construction in riparian zones, livestock grazing, continued irrigation water withdrawals and rural residential development have all contributed to the degradation of aquatic habitat. The proposed plan would begin the gradual restoration of riparian-wetland conditions and aquatic habitat on federal lands.

Overall, the condition of aquatic habitat and aquatic populations on federal land would remain stable under this plan, with an increased emphasis on protection and potential for improvements. BMPs, ACS, and other restorative actions would further guide actions proposed in riparian areas. Proposed road decommissioning, for example, would improve aquatic connectivity and reduce sediment at the site-specific scale. Thinning of small diameter trees within some riparian areas is proposed to improve the growth rate of conifers for future large wood recruitment at a site-specific level; this may produce some site-specific improvements along the small headwater streams, benefiting aquatic insects, amphibians, or riparian flora and fauna. As trees respond to

treatment, there should be some improvement in large wood recruitment. Over time, as these trees fall into streams, there could be an increase in pool frequency at individual sites. Although large wood placement may occur on the monument as a restoration measure, it is unlikely that increased large woody debris from federal lands will be enough to create channel complexity and restore the sediment regime at the subwatershed or monument scale.

If current trends continue on adjacent private lands, the affects to aquatic habitats could include (1) continued sediment input from roads and stream crossings; (2) loss of shade and increased stream temperatures as a result of harvesting near streams; and (3) further disruptions to aquatic connectivity. Sediment and temperature are discussed in the Water Resources section. Excess fine sediment in fish-bearing streams can eliminate aquatic insect habitat (food supplies), reduce the permeability of spawning gravels, fill pools and winter refugia, and block the interchange of subsurface and surface waters. Temperature is a limiting factor for many aquatic species, influencing their metabolism, migration, food availability, behavior, and mortality. A lack of connectivity would restrict migration and genetic exchange, reduce habitat availability, and impact nutrient cycling,

Water withdrawals improvements would be pursued but are expected to be limited, and would therefore continue to limit aquatic connectivity. Roads would also continue to limit aquatic connectivity on private and federal land.

In addition, livestock grazing in riparian areas within the greater monument boundary would continue to cause bank disturbance, increase fine sediment, and reduce streamside vegetation beyond what is optimal for fish and other aquatic organisms.

Gradual improvements to riparian areas on federal lands would improve aquatic habitat at those site specific levels but would not improve the conditions at the watershed scale. The treated riparian reserves are such a small portion of the landscape that at large scales (HUC-5 and HUC-6), there are no expected improvements to fish habitat condition or aquatic populations.

Old-Growth Emphasis Area

Few direct effects from management are expected at the landscape level for the first decade. Therefore, as most of the OGEA will remain untreated, few cumulative impacts will result at a landscape level. Furthermore, little impact is expected as a result of management adjacent to the monument. This is because forest structural characteristics change over time due to disturbance agents at the landscape level. Most of the future impacts to the monument landscape can be predicted based on current trends. Only where specific stands are managed will these general trends change. These will be highly localized and will result in few, if any, cumulative impacts of note at a landscape level.

Table 3-5 below outlines anticipated impacts from proposed management for treated stands (T) and untreated stands (UT). This table really represents the landscape level, as most of the OGEA will go unmanaged. Treated stands would show direct effects of management, while landscape level structural characteristics would continue to develop on the current trajectory, unless major disturbance events occur.

Table 3-5. Impacts at the Stand and Landscape Level		
Forest Structural Characteristics	UT	T
Stand Density	I	D
Canopy Cover	I	I
Individual Tree Vigor	D	I
Average Tree size (Diameter and height)	D	I
Coarse Woody Debris Large > 16	U	I
Coarse Woody Debris Small < 16	I	D
Snags Large > 16	U	I
Snags Small < 16	I	D
Dwarf Mistletoe (not a disease that is considered a disturbance agent, but is important wildlife habitat)	I	U
Species Composition	UT	T
Ponderosa pine	D	I
Sugar pine	D	I
Douglas-fir	D	D
Incense cedar	U	U
White Fir	I	D
Hardwoods	I	D
I = Increase D = Decrease U = Unaffected		

OGEA - Relative Trends for Disturbance Agents

Prior to 1900, the primary disturbance agents were wildland fires with some insect outbreaks and occasionally root rots and windthrow at higher elevations. Timber harvest has been the primary disturbance agent during the past century. At present the primary disturbance agent in the monument is insects. Timber harvest is still widely practiced on private ownerships adjacent to the monument. Assumptions made for disturbance agents' effects are based on the degree to which activities such as thinning and prescribed burning would occur. Stand structural characteristics change in response to disturbance agents and also determine to what extent a disturbance agent may alter stand development. For instance, lower densities in natural stands generally would result in lower levels of mortality due to beetles. In addition, species composition would determine the extent to which host specific root rots effect future stand development. Often beetle-pathogen interactions occur together and are affected by density and species composition. Fir engraver/ root rot interactions are common in the CSNM, particularly in white fir plant communities and the more mesic higher elevation mixed conifer forest communities where white fir is found. Most of the assumptions pertain to mixed conifer because mixed conifer plant communities make up approximately ninety percent of the conifer forest types found in CSNM, while white fir accounts for about ten percent. Overall, few impacts will occur given the low level of management proposed over the next decade; disturbance agents will continue to have an increasingly negative impact to forests in the monument because they are not occurring at historic levels in forests with historic structural composition.

Small tree thinning and prescribed burning would be the primary management activities that would affect forest structure and species composition in the future. Generally, lower stand densities and larger tree size would accompany a shift away from small dense white fir toward larger ponderosa and sugar pine while maintaining other coniferous and hardwood species present. Thus the subsequent species shift would be toward historic compositions. Specifically, historic forest community attributes and current land designations would drive management decisions. Overall trends

indicated in the table below are generally landscape level trends, but are sometimes applicable to actual individual stand treatments proposed. The limited management activities accomplished during the first decade would likely have little overall effect at the landscape level. Insect outbreaks and occasional stand replacement wildland fires would likely occur. Cumulative impacts to the OGEA would be negligible given the small area that is proposed for treatment.

Table 3-6 summarizes the effects of the proposed management plan on disturbance agent trends. Untreated (UT) is generally synonymous with landscape level effects, while Treated (T) represents managed areas that would be thinned and/or prescribed burned.

Diversity Emphasis Area

Fire exclusion and weed invasion associated with disturbance are the major factors resulting in change on the DEA landscape. Aerial photo comparisons (1939 versus 2001) indicate an increase in woody canopy over portions of the DEA within the CSNM and adjacent private lands. While this increase is not ubiquitous (certain plant communities were historically close-canopied and others remain unchanged), change has resulted in a loss of open habitat. Shrub stands of serviceberry and buckbrush show a decline in condition associated with fire exclusion. Shrubs with a majority of dead branches are a common observation throughout

the monument. The fire-dependent nature of these shrubs and plant communities is also indicated by compositional changes identified as an increase in abundance of shrub species not dependent on fire for reproduction or rejuvenation (for example, Klamath plum). The accumulation of shrubs in areas of large hardwoods (Oregon white oak and California black oak) may result in local stand replacement fire and loss of certain plant community structural remnants of Native American management (ethnographic features). These trends will continue in the foreseeable future under current fire-fighting guidelines and the need to complete pilot studies before the implementation of larger-scale restoration efforts using prescribed fire.

While non-native annual grasses have declined in abundance at some study locations in the CSNM, other locations continue to show domination by cheatgrass and medusahead. Bulbous bluegrass (also a non-native) has increased in abundance from initial trial seedings and establishment as a forage plant following scarification projects on public lands within the DEA. Bulbous bluegrass can now be found in all plant communities (with the exception of white fir) and within the full elevational range of the CSNM and adjacent lands. Noxious weeds, in particular Canada thistle and yellow starthistle, have also increased on private and public lands. Spatial analysis indicates that these weeds are closely associated with disturbance in the form of high livestock utilization, road construction, and logging. While ongoing eradication efforts may reduce the abundance of

Table 3-6. Disturbance Agents – Trends Over Time			
Disturbance Agent		UT	T
Laminated Root Rot	(<i>Phellinus weirii</i>)	I	D
Annosus Root Rot	(<i>Heterobasidion annosum</i>)	I	D
Shoestring Root Rot	(<i>Armellaria mellea</i>)	I	D
White Pine Blister Rust	(<i>Cronartium ribicola</i>) Not normally considered a disturbance agent, but listed here due to its impact on seedling and pole size sugar pine (i.e., young sugar pine are being lost from the stand and being replaced by white fir, Douglas-fir, and incense cedar in mixed conifer stands).	I	D
Fir Engraver	(<i>Scolytus ventralis</i>)	I	D
Western Pine Beetle	(<i>Dendroctonus brevicomis</i>)	I	D
Mountain Pine Beetle	(<i>Dendroctonus ponderosae</i>)	I	D
Wind (windthrow resulting in tree mortality)		I	D
Wildland fire (stand replacing events and tree mortality) With Prescribed Burning implemented		I	D
I = Increase D = Decrease U = Unaffected			

noxious weeds across the landscape, continued disturbance and the retention of a management infrastructure (roads and stockponds) implies that noxious weeds will continue to be a problem in the future. The current cycle of logging on private lands will increase the potential for weed outbreaks in the near future. Weed abundance in conifer plant communities and associated meadows will decline as tree canopy recovers over the next 10 to 20 years. Increased recreational pressure and road traffic will provide more opportunities for the introduction of new weeds. Recurrent outbreaks of weeds are thus expected to continue, especially within heavily grazed meadows along roadways, unless deeper rooted native grasses, forbs and shrubs are allowed to re-establish to capture problem areas and provide competition against weeds.

Special Status Plant Species

For special status plant species the cumulative effects from past, present, and reasonably foreseeable actions are varied across the landscape within the monument. Spatially and temporally, different actions have occurred, and the distribution of non-federal and federal lands (as well as special status plants) is not uniform. The primary issues that have influenced special status plant species populations and habitat on federal and non-federal lands have been ground disturbance from road construction, timber harvests, fire suppression activities, development (commercial, residential, or agricultural), and a long history of livestock grazing. The introduction of noxious weeds and the conversion of native perennial grasslands to non-native annual grasses have likely had an adverse effect on special status plants associated with those habitats. Fire suppression that has resulted in more dense plant communities (e.g., chaparral) has likely affected special status plant species better adapted to more open conditions, especially in areas in the DEA. Scarification, water diversions, range improvements (sowing non-native forage grasses), and noxious weed treatments have also likely affected special status plants and habitat in the past.

Prior to the development of federal special status species policies for federal lands in the 1970s, no surveys, mitigation, or management occurred for special status plants on federal lands in the monument. Ground disturbing actions from construction, development, resource extraction,

and grazing (prior to this time on federal land) undoubtedly affected populations both directly and indirectly. Current policies on federal lands require the conservation of special status plants, which is accomplished by inventories and mitigation to reduce any adverse effects. Full protection of sites is sometimes warranted for certain species (especially listed species). State and federal laws and policies (e.g., Endangered Species Act) that conserve or protect rare plant populations do not apply to non-federal lands, unlike imperiled wildlife or fish. Current and recent ground disturbing actions (road building, timber harvest, grazing, and development) on private and corporate lands owners have likely affected remaining populations of special status plants.

The proposed and reasonably foreseeable actions on federal lands within the monument will likely result in an overall positive trend for special status plants. The monument proclamation recognized the plant diversity of the area, including special status plants, and the conservation and management of these rare elements is addressed in proposed actions. For instance, future thinning and fuels reduction projects should result in neutral to beneficial effects on special status plants. The effects of livestock grazing are being studied, and the viability of special status plant populations will be addressed for future proposed actions.

The trend of special status populations on non-federal lands are less certain, as no laws or policies address rare plants. Few inventories have occurred and distribution patterns can only be inferred from patterns on adjacent federal lands. Much of the adverse effects have already occurred from past activities on non-federal lands. For instance, new large-scale timber harvest on non-federal lands is unlikely to occur, as large portions have already been harvested. Any future conservation measures implemented by adjacent non-federal land owners for special status plant species would occur at the discretion of non-federal landowners. Any remaining special status plant populations on non-federal lands will likely continue to be subject to adverse effects from actions that cause ground disturbance such as development, herbicide spraying, road construction, grazing, OHV use, and timber management.

Overall, even with the likely loss of any remaining special status plant populations on non-federal lands, there is likely little change in the cumulative effects of the proposed action combined with past, present, and reasonably foreseeable future actions on both federal and non-federal lands. The trends for special status plants on federal lands are positive, and should off-set the losses from adjacent non-federal lands within the monument. In the future, larger special status plant populations on federal lands could serve as a source for re-colonization of suitable habitat on non-federal lands.

Terrestrial Wildlife

Wildlife species have been and will continue to be affected by most past, present, and future actions taking place within the boundaries of the monument and in the general vicinity of the monument.

Past, present, and future actions that have impacted wildlife populations in the monument include, but are not limited to, road construction, timber harvest, residential and agricultural land clearing, forest thinning, prescribed fire, fire suppression, herbicide treatments, animal control (e.g., gopher baiting), livestock grazing, water withdrawals, and OHV use.

Relatively little wildlife inventory work was done within the CSNM until the last two decades. This data provides a recent baseline with which to compare future wildlife population trends. There is little data available that allows comparison of present or future wildlife population trends with those of wildlife before European settlement and subsequent habitat modification.

It is likely that many terrestrial wildlife species have declined from historic levels due to habitat fragmentation, habitat alteration, and habitat removal over the last century or more. Most highly affected would be species with limited mobility (e.g., terrestrial mollusks), species with a highly specialized relationship to a specific habitat type (e.g., spotted frog), and species tied to a frequently modified habitat type (e.g., northern spotted owl).

Some wildlife species have experienced an expansion of available suitable habitat. This is especially true for species which prefer open areas (i.e., clearcuts or scarified shrublands).

Activities that appear neutral to a species may exhibit secondary impacts via direct impacts on another species. For example, through adverse impact to a prey species (e.g., pocket gophers, one action (e.g., gopher poisoning/trapping) may cause a reduction in predatory species population (e.g., great gray owls).

Some short-term negative impacts are likely, but unavoidable, in the course of returning a larger proportion of the CSNM to a natural historic condition. Short-term negative impacts from foreseeable actions include reduction in prey species populations through prescribed fire; loss of nesting habitat through forest thinning; and reduction of forage available to native herbivores through livestock grazing. Long-term negative impacts include loss of habitat for many species through continued and/or increased habitat altering activities on nearby private lands, and loss of existing habitat through plant community succession via fire suppression.

Positive impacts from foreseeable actions include increased foraging habitat and improvement of and increase in quantity of late-successional habitat through forest thinning and fuels reduction and improvement of aquatic and riparian habitats for amphibians and other wildlife species through implementation of BMPs, ACS, and other restorative actions.

Overall, cumulative effects to terrestrial wildlife species from proposed management activities should be largely positive in outcome, providing more and better quality habitats for many species. The scope of impacts from proposed management will be limited by the small area on which they are proposed to occur.

Landscape Connectivity

Prior to monument designation, approximately 32,952 acres of the CSNM were part of the Jenny Creek Late-Successional Reserve (LSR). Late-successional reserves were designated and are managed to protect and enhance conditions of late-successional and old-growth forest ecosystems, which serve as habitat for late-successional species including the northern spotted owl. These reserves were designed to maintain a functional, interacting, late-successional and old-growth forest ecosystem

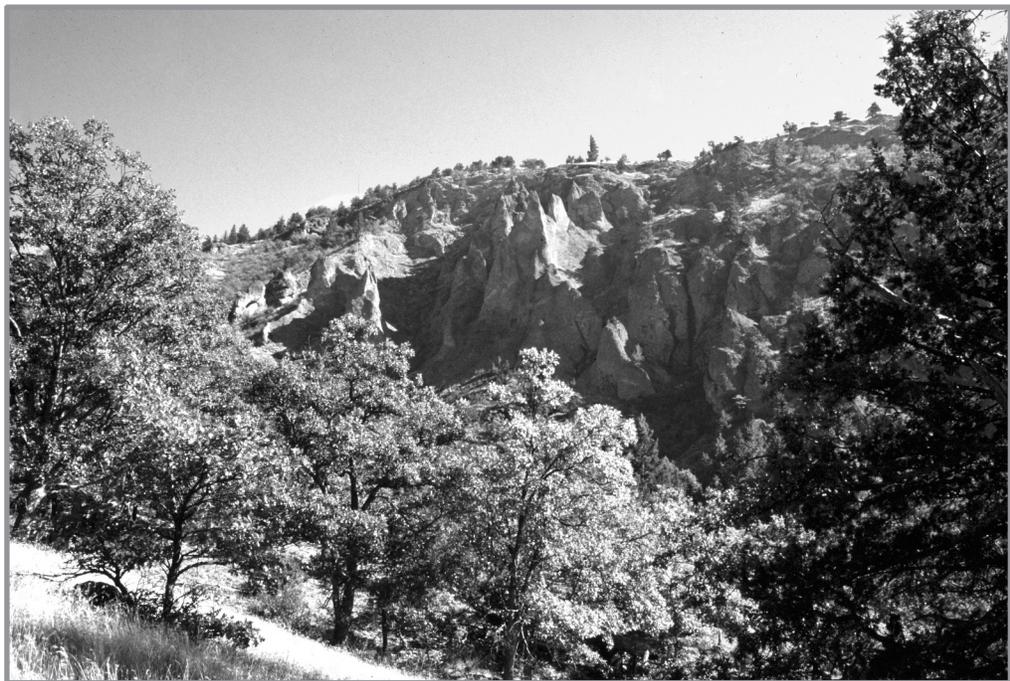
(USDA/USDI 1994, page C-11). The Jenny Creek Late-Successional Reserve Assessment (USDI 2000) describes in detail the linkages between the Jenny Creek LSR (including the portion now within the CSNM) and neighboring LSRs.

The Jenny Creek LSR is located south of the Oregon South Cascades Dead Indian Plateau LSR, east of the Mount Ashland LSR, and north of the California Cascade Gooseneck LSR. The US Fish and Wildlife Service designated Critical Habitat Units (CHUs) on federal lands throughout the range of the northern spotted owl after the species was listed as threatened (before the Northwest Forest Plan). The specific purpose of OR-38 was to provide genetic linkage between the Western Cascades and Klamath Province spotted owl populations through the Interstate 5 (I-5) Area of Concern. The Jenny Creek LSR lies on the eastern flank of the I-5 Area of Concern and overlaps much of the CHU OR-38 designated acreage.

Proposed treatments within the OGEA and DEA areas that are part of the previous Jenny Creek LSR and CHU OR-38 designations (Map 1-4 of the Jenny Creek LSR Assessment) are not expected to significantly affect the quality of habitat within these areas, nor affect the connectivity to the other LSRs outside the monument boundary. Proposed activities will likely result in localized improvements in habitat and ecosystem processes.

Chapter 4

Consultation and Coordination



CHAPTER 4

Consultation and Coordination

INTRODUCTION

The Bureau of Land Management (BLM) is committed to providing opportunities for meaningful participation in resource management planning processes. Effective planning processes provide opportunities for the public to become involved early, to comment on draft land use plans, and ensure that the BLM has met the provisions of the National Environmental Policy Act (NEPA). Since the Cascade-Siskiyou National Monument (CSNM) designation in June of 2000, the BLM has maintained an ongoing public participation process. These efforts are included below:

SCOPING

The formal scoping period began with publication of the Notice of Intent to produce a management plan, which appeared in the Federal Register on July 31, 2000 (Volume 65, No.147, pg. 46,731). Written comments were accepted through August 31, 2000. Although the original intent was to supplement the Cascade-Siskiyou Ecological Emphasis Area (CSEEA) Draft Management Plan/ Environmental Impact Statement (DMP/DEIS), it became clear that a stand- alone CSNM Resource Management Plan would better serve the planning process and the public.

During the scoping process, a letter inviting public input was sent to adjacent landowners and interested parties that announced the establishment of the monument and detailing the planning process. In addition, the CSNM web page provided up-to-date information on the monument and solicited public input. All relevant information received during the comment period for the CSEEA DMP/DEIS was incorporated into the planning process.

During the scoping period, 267 letters, cards and e-mails were received. Comments were received from 12 different states. Form letters or e-mails were submitted by many respondents (174) and three letters had petitions attached. During and after the scoping period, meetings were held with representatives of state and local governments (as well as other federal agencies) to discuss management of the monument.

DRAFT PLAN COMMENTS

In addition to printed copies, the draft plan was available for review through the CSNM's website and on CD-ROM (in an effort to reduce paper used in printing). The DEIS was sent to 11 elected officials, 21 federal agencies, 22 state and local governments, seven American Indian Tribes and Nations, three libraries, 44 organizations; approximately 300 CD-ROMs were made available upon request. A specific letter and copies of the draft plan were sent to the 400+ landowners adjacent to the monument. Due to the number of requests received, a 90-day extension of the comment period for the DRMP/DEIS was granted. A plan summary in the form of a "Reader's Guide" was developed and made available at key locations (Medford BLM front desk, CSNM Information center, and the Pinehurst Inn in Lincoln) and posted on the monument website.

More than 17,000 comment letters, faxes or e-mails on the DRMP/DEIS were received by December 19, 2002. The majority of comments were received as e-mail messages and followed consistent formats distributed by various organizations.

DRAFT PLAN BRIEFINGS/ OPEN-HOUSE SESSIONS

Two open-house sessions were held in May and December 2002, in Medford and Ashland (160 people attended). At the first session, an overview of the draft management plan was presented; this meeting was followed by a second open house to discuss and answer questions. In addition, specific issue-oriented meetings were held in the local community focusing on recreation and facilities, transportation planning and access, and vegetation treatments. From November 19 until December 17, 2002, monument staff were available every Tuesday at a local establishment to answer questions about the DRMP/DEIS. During the comment period 12 individual briefings were held for interested groups and local officials.

INTERNET HOMEPAGE

The BLM maintains a homepage at www.or.blm.gov/csnm that contains monument news and events, visitor information, and planning information. The homepage also provides an electronic link to planning information. The entire DEIS is available on the website in digital and down-loadable formats.

OTHER GOVERNMENTS

Upon release of the draft, the BLM contacted Native American tribal officials to answer any questions and to discuss the draft plan. This consultation effort will continue throughout the implementation of this plan.

COLLABORATIVE MANAGEMENT

The BLM recognizes that social, economic, and environmental issues cross land ownership lines. Extensive cooperation during the planning stage and beyond is also needed to address issues of mutual interest. In keeping with the concepts outlined in the Implementation, Monitoring, and Adaptive Management Framework section in Appendix C, the BLM would also engage in a collaborative management process that would seek to:

- Form innovative partnerships with local and state governments, Native American tribes, qualified organizations, and appropriate federal agencies to manage lands or programs for mutual benefit consistent with the goals and objectives of this management plan;
- Work with communities, counties, state and federal agencies, and interested organizations in seeking non-traditional sources of funding, including challenge cost-share programs, grants, in-kind contributions, and allowable fee systems to support specific projects needed to achieve plan objectives;
- Place greater emphasis, where appropriate, on contracting with private sector businesses, non-profit organizations, academic institutions, or state and local agencies to accomplish essential studies, monitoring, or project development;
- Increase the use of citizen and organizational volunteers to provide greater monitoring of resource conditions, and to complete on-the-

ground developments for resource protection, effective land management, and human use and enjoyment.

Where it is found to be mutually advantageous, the BLM would enter into cooperative agreements or memoranda of understanding with federal, state, local, tribal, and private entities to manage lands or programs consistent with the goals and policies of this management plan. Such agreements could provide for the sharing of human or material resources, the management of specific tracts of lands for specific purposes, or the adjustment of management responsibilities on prescribed lands. This would be done in order to eliminate redundancy and reduce costs.

Non-profit organizations and citizens and user groups that have adequate resources and expertise could enter into cooperative agreements to assist in the management of public lands in the monument. Assistance could include, but would not be limited to, research, resource monitoring, site cleanups, and the construction of authorized projects.

PLANNING CONSISTENCY

The Federal Land Policy and Management Act (FLPMA), Title II, Section 202, provides guidance for the land-use planning system of the BLM to coordinate planning efforts with Native American tribes, other Federal departments, and agencies of the state and local governments. In order to accomplish this directive, the BLM is directed to: keep informed of state, local, and tribal plans; assure that consideration is given to such plans; and assist in resolving inconsistencies between such plans and federal planning. The section goes on to state in subsection c) (9) that *“Land use plans of the Secretary under this section shall be consistent with State and local plans to the maximum extent he finds consistent with Federal law and the purposes of this Act.”*

The provisions of this section of FLPMA are echoed in Section 1610.3 of the BLM Resource Management Planning regulations. In keeping with the provision of this section, state, local, and tribal officials were made aware of the planning process through the previously described mailings and meetings. Planning team members also met with local governments and maintained

communications with tribal officials regarding the CSNM planning process.

According to Section 1610.4-7 of the Bureau of Land Management Resource Planning Regulations, the Draft CSNM Management Plan and Draft Environmental Impact Statement is provided to the Governor, other federal agencies, state and local governments, and Native American tribes for comment. The resulting comments will be addressed in the proposed management plan. The formal 60-day consistency review by the Governor will occur after the proposed management plan is published, as outlined in 1610.3-2(e) of the BLM Planning Regulations.

BLM planning regulations require that resource management plans (RMPs) be consistent with officially approved or adopted resource-related plans and the policies and procedures contained therein, of other federal agencies, state and local governments, and Native American tribes, “so long as the guidance and RMPs are also consistent with the purposes, policies and programs of federal laws and regulations applicable to public lands...” (43 CFR 1610.3-2). Consistency is construed as the absence of conflict. Based on BLM’s knowledge of the plans of such other agencies, the FEIS has been compared for consistency to the following agencies’ plans, and BLM has reached the conclusions stated.

Federal Agencies

Before the monument designation, the Cascade Siskiyou Ecological Emphasis Area Draft Management Plan (USDI 2000g) recognized the Horseshoe Ranch Wildlife Area in California as an important part of the natural processes in the Slide Creek, Scotch Creek, and Camp Creek subwatersheds. In order to coordinate management across state lines, a Memorandum of Understanding was established among the BLM’s Medford District (Oregon), the Redding Field Office (California), and the California Department of Fish and Game in March of 2001.

This FEIS is believed to be consistent with the following plans of other federal agencies:

- *Final Supplemental Environmental Impact Statement on the Management of Habitat for Late-Successional and Old-Growth Forest*

Related Species Within the Range of the Northern Spotted Owl (USDA/USDI, 1994) and subsequent amendments.

- The Forest Service’s forest-wide land and resource management plans for the adjacent Rogue River (1990) and Klamath (1993) National Forest.
- The BLM’s Klamath Falls Resource Area Resource Management Plan/EIS (1994).
- Natural Resource Conservation Service watershed plans.
- The Endangered Species Act and the following Fish and Wildlife Service plans:
 - Pacific Bald Eagle Recovery Plan
 - Northern Spotted Owl Recovery Plan
 - Fish and Wildlife Service determination of critical habitat for the Northern Spotted Owl
 - Peregrine Falcon Recovery Plan
- The Bonneville Power Administration’s latest annual Transmission System Facilities Resource Program.
- The Northwest Power Planning Council, Columbia River Basin, Fish and Wildlife Program, and subordinate species-specific strategies.

State Government

The FEIS is believed to be consistent with the following plans, programs, and policies of the State of Oregon agencies, and in Table 4-1 that follows:

- Department of Environmental Quality
 - Smoke Management Plan
 - Visibility Protection Plan and Air Quality Policies
 - Prevention of Significant Deterioration Requirements
 - TMDL Implementation Plans
- Water Resources Department River Basin Programs for the Rogue and Klamath Rivers
- Water Resources Commission Rules and Statutes
- Department of Agriculture
 - Weed Control Plans
 - State-listed Endangered Plant Species
- Division of State Lands
 - Removal - Fill Law
 - Oregon Natural Heritage Program
- Parks and Recreation Department

- Statewide Comprehensive Outdoor Recreation Plan
- State Parks and Recreation System Plan
- State Recreation Trails Plan
- State Historic Preservation Program
- State Scenic Waterways Program and related projects
- Department of Transportation, Highway Division
 - Oregon Highway Plan
- Economic Development Department, Regional Economic Development Strategies

Local Government

The Oregon statewide planning program attached substantial importance to the coordination of federal plans with acknowledged local comprehensive plans. To the extent that BLM actions and programs are consistent with acknowledged county and city comprehensive plans and land use regulations, they can also be considered consistent with statewide planning goals. Local plans do not, however, address protection of Goal 5 values from the effects of forest management, as state law prohibits local government from regulating forest practices.

Table 4-1. Consistency of Plan with State of Oregon Plans		
State Plan/Statute	Objective	Consistency of Alternatives
State Planning Goal 5	Open spaces, scenic and historical areas, and natural resources.	The proposed plan conforms with this goal in that priority is given to protection, maintenance, and restoration of the monument landscape.
Oregon Statutory Wildlife Policy, Revised Statute 496.012	<p>Maintain all species of wildlife at optimum levels and prevent the serious depletion of any indigenous species.</p> <p>Develop and manage the lands and water of the state in a manner that will enhance the production and public enjoyment of wildlife.</p> <p>Develop and maintain public access to the lands and waters of the state and the wildlife resources thereon.</p> <p>Regulate wildlife populations and public enjoyment of wildlife in a manner that is compatible with primary uses of the lands and waters of the state and which provides optimum public recreational benefits.</p>	<p>The proposed plan would meet the objectives of this statute. There could be some short-term affects on population of species dependent on old-growth conifer forest, but in the long term these species would benefit from these alternatives.</p> <p>Some reductions in public access.</p> <p>The resulting habitat management will be conducive to most wildlife populations. The northern portion of the monument will benefit late-successional habitat dependent species and the southern portion will provide a diversity of habitat.</p>
Oregon Threatened and Endangered Species Act	Protect and conserve wildlife species that are determined to be threatened or endangered.	All state species found within the monument are also federally listed under the Endangered Species Act.
Oregon's Sensitive Species Rule	Help prevent species from qualifying for listing as threatened or endangered.	Most species on Oregon's sensitive species list would be well protected.
Non-game wildlife	Plan to maintain populations of naturally occurring Oregon non-game wildlife at self-sustaining levels within natural geographic ranges in a manner that provides for optimum recreational, scientific and cultural benefits, and where possible, is consistent with primary uses of lands and waters of the State.	Most species on Oregon's non-game wildlife species would be well protected.

Table 4-1. Consistency of Plan with State of Oregon Plans		
State Plan/Statute	Objective	Consistency of Alternatives
Big Game Population Management Objectives	Develop, restore and/or maintain big game (along with associated recreation, aesthetic, and commercial opportunities and benefits) at the level identified as the planning target level by game management unit. This is accomplished through hunting season regulation and implementation of multiple-use management practices on public lands; these practices tend to stabilize the cover-forage relationship in space and time, provide for wildlife emphasis in management of sensitive wintering areas, and offer habitat improvement opportunities.	The habitat for big game will be enhanced. This area complements the habitat provided in California by the Horseshoe Ranch Wildlife Habitat Area.
Wild Fish Policy	Protect and enhance wild stocks.	Protection of aquatic habitat for wild fish stocks will be a priority. The Aquatic Conservation Strategy provides for optimum protection of aquatic habitat.
Coho, Steelhead, and Trout Plans	Maintain and enhance production.	The Aquatic Conservation Strategy provides for optimum protection of aquatic habitat.
Basin Fish Management Plans	Establish compatible objectives for management of all fish stocks in each basin. Present tasks for attaining objectives, described unacceptable management strategies, and set priorities on achievement.	The Aquatic Conservation Strategy provides for optimum protection of aquatic habitat.
Oregon Forest Practices Act Rules	Establish minimum standards that encourage and enhance the growing and harvesting of trees while considering and protecting other environmental resources such as air, water, soil, and wildlife.	This plan would follow appropriate Best Management Practices as described in the Medford District Resource Management Plan. The Aquatic Conservation Strategy would provide minimum standards for all management activities. Harvesting of trees would only occur for restoration or enhancement of late-successional habitat.
Forestry Program for Oregon—Forest Use	Preserve the forest land base of Oregon. Stabilize the present commercial forest land base. Manage habitat based on sound research data and the recognition that forests are dynamic and most forest uses are compatible over time.	The proposed plan preserves the conifer forest land and minimizes the conversion of forest land to accommodate expansion of transportation, power, and communication facilities. Forest lands will be maintained in that capacity. All lands capable of sustaining coniferous forest would be managed toward providing late-successional habitat.
Forestry Program for Oregon—Timber Growth and Harvest	Promote the maximum level of sustainable timber growth and harvest on all forest lands available for timber production consistent with applicable laws and regulations, and taking into consideration landowner objectives.	All lands capable of sustaining coniferous forest would be managed toward providing late-successional habitat.

Table 4-1. Consistency of Plan with State of Oregon Plans		
State Plan/Statute	Objective	Consistency of Alternatives
Forestry Program for Oregon - Recreation, Fish and Wildlife, Grazing, and other Forest Uses	Encourage appropriate opportunities for other forest uses, such as fish and wildlife habitat, grazing, recreation and scenic values on all forest lands, consistent with landowner objectives. A full range of recreational opportunities is encouraged. Where needed to reduce harassment and/or over-harvest of wildlife, road closure programs are supported. Integration of sound grazing management practices compatible with timber management goals and wildlife habitat goals is encouraged.	The proposed plan provides for other appropriate forest uses such as wildlife habitat, fish habitat, recreation, and collection of special forest products (i.e., personal use). Road closures in forest land base will be minimal as a result of reciprocal rights-of-way agreements with other landowners adjacent to the monument. Grazing will continue in the short term and will be re-evaluated in the future.
Forestry Program for Oregon - Forest Protection	Devise and use environmentally sound and economically efficient strategies to protect Oregon's forests from wildfire, insect, disease, and other damaging agents. Use integrated pest management. Employ cost-effective fire management policies that emphasize planned ignition fires over natural ignition fires and that consider impacts to the State's forest fire protection program.	The proposed plan provides economically efficient protection strategies while minimizing the disturbance to the landscape, particularly in the Soda Mountain Wilderness Study Area (WSA) and the Research Natural Areas. The use of integrated pest management strategies is incorporated. A fuel reduction strategy is proposed in the wildland-urban interface. Some road decommissioning in the southern portion of the monument may restrict access for fire suppression. Natural fire ignitions and prescribed natural fire will not be incorporated in this plan.
Statewide Planning Goals - Citizen Involvement	Develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process. Federal and other agencies shall coordinate their planning efforts with the affected government bodies and make use of existing local citizen involvement programs established by cities and counties.	BLM's land-use planning process provides for public input at various stages. Public input was specifically requested in developing issues. Public input will continue to be utilized in development of specific activity plans. Coordination with affected government agencies, including the ODF and ODF&W, has been ongoing and will continue. BLM has been working with Jackson County Commissioners to provide a linkage to their constituents.
Statewide Planning Goals - Land Use Planning	Establish a land use process and policy framework as a basis for all decisions related to use of land and to assure an adequate factual base for such decisions and actions.	The proposed plan been developed in accordance with the land use planning process authorized by the Federal Land Policy and Management Act of 1976, which provides a policy framework for all decisions and actions.
Statewide Planning Goals - Agricultural Lands	Preserve and maintain existing commercial agricultural lands for farming, consistent with existing and future needs for agricultural products, forest, and open space.	The proposed plan will not affect the use of lands for agricultural use.

Table 4-1. Consistency of Plan with State of Oregon Plans		
State Plan/Statute	Objective	Consistency of Alternatives
<p>Statewide Planning Goals - Open Spaces, Scenic and Historic Areas, and Natural Resources</p>	<p>Conserve open space and protect natural and scenic resources.</p> <p>Programs shall be provided that will (1) insure open space; (2) protect scenic and historic areas and natural resources for future generations; and (3) promote healthy and visually attractive environments in harmony with the natural landscape character. The location, quality, and quantity of the following resources shall be inventoried:</p> <ol style="list-style-type: none"> 1. Land needed or desirable for open space; 2. Mineral and aggregate resources; 3. Energy sources; 4. Fish and wildlife areas and habitats; 5. Ecologically and scientifically significant natural area 6. Outstanding scenic views and sites; 7. Water areas, wetlands, watersheds, and ground water resources; 8. Wilderness areas; 9. Historic areas; 10. Cultural areas; 11. Potential and approved Oregon recreation trails; 12. Potential and approved Federal wild and scenic waterways and state scenic waterways. <p>Where no conflicting uses for such resources have been identified, such resources shall be managed to preserve their original character. Where conflicting uses have been identified, the economic, social, environmental, and energy consequences of the conflicting uses shall be determined and programs developed to achieve the goal.</p>	<p>Natural, historic, and visual resources were considered in the development of the proposed plan.</p> <p>The CSNM has been withdrawn from any forms of entry for mineral or resources.</p> <p>The proposed plan prioritizes the protection and maintenance of fish and wildlife habitat. Two ecologically and scientific significant Research Natural Areas were identified and management plans written (Appendices L and M), which are common to all alternatives.</p> <p>The entire monument viewshed is managed as VRM Class I or II.</p> <p>Watersheds, wetlands, and streams were identified and many have been inventoried for proper functioning condition.</p> <p>The Soda Mountain Wilderness Study Area is identified in the monument.</p> <p>Historic trails and significant cultural areas and sites have been identified and many have been inventoried.</p> <p>The Pacific Crest National Scenic Trail (PCT) traverses the western border of the CSNM.</p> <p>There are no wild and scenic waterways identified in the CSNM.</p> <p>There are few conflicts in the monument between preserving the resources or objects and uses. Access throughout the monument is one of the only identified conflicts, with priority in management toward limited access and more resource protection.</p>

Table 4-1. Consistency of Plan with State of Oregon Plans		
State Plan/Statute	Objective	Consistency of Alternatives
Statewide Planning Goals - Air, Water, and Land Resources Quality	Maintain and improve the quality of the air, water, and land resources of the state.	The federal and state water quality standards would be met and water quality would be maintained and/or improved. Burning of vegetation slash would have a slight temporary effect on air quality at the upper atmospheric levels. The proposed plan would comply with the statewide Smoke Management Plan and the State Implementation Plan.
Statewide Planning Goals - Areas subject to Natural Disaster and Hazards	Protect life and property from natural disaster and hazards.	Natural hazard areas—particularly floodplains—and areas with highly erosive soils have been identified. The proposed plan provides for appropriate management of natural hazard areas. Bureau-authorized development within natural areas would be minimal, with project construction engineering reflecting site-specific conditions and requirements.
Statewide Planning Goals - Recreational Needs	Satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, provide for the siting of necessary recreational facilities, including destination resorts. Federal agency recreation plans shall be coordinated with local and regional recreational needs and plans.	BLM actively coordinates its outdoor recreation and land use planning efforts with those of other agencies to establish integrated management objectives on a regional basis. Under all alternatives, opportunities would be provided to meet recreation demand providing they are consistent with protecting monument objects, resources, or processes. The proposed plan would not meet the demand for off-highway vehicle use. The Hyatt Lake Recreational complex provides an array of recreational opportunities.
Statewide Planning Goals - Economy of the State	Diversify and improve the economy of the state.	There is some potential for an economic contribution from the fuels treatment and restoration efforts described in the proposed plan. Potential increases in visitor use could provide some economic opportunities and contribute to the economy of the state.
Statewide Planning Goals - Public Facilities and Services	Plan and develop a timely, orderly, and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.	The proposed plan provides for limited improvements in public facilities.
Statewide Planning Goals - Transportation	Provide and encourage a safe, convenient and economical transportation system.	The proposed plan accommodates transportation needs for access across the monument. Roads in the southern portion of the monument would be closed and some decommissioned to enhance resource protection. Decommissioning the roads would limit vehicle access to some of the monument but does not inhibit valid existing rights.

Table 4-1. Consistency of Plan with State of Oregon Plans		
State Plan/Statute	Objective	Consistency of Alternatives
Statewide Planning Goals - Energy Conservation	Conserve energy.	Conservation and efficient use of energy sources are objectives in all BLM activities.

FEIS Distribution List and Availability on the Internet

This Final Environmental Impact Statement (FEIS) is being made available to the following individuals, groups, and organizations. In addition, the final EIS will be available on the internet at <http://www.or.blm.gov/CSNM/>.

Elected Officials

Oregon

Senator Gordon Smith
U. S. Senator Ron Wyden
U.S. Representative Greg Walden
U.S. Representative Peter DeFazio
Jackson County Commissioners
Coos County Commissioners

California

U.S. Senator Barbara Boxer
U. S. Representative Wally Herger
Siskiyou County Supervisors

Federal Agencies

U.S. Department of Agriculture –
U.S. Forest Service
Applegate Ranger District
Ashland Ranger District
Goosenest Ranger District
Klamath National Forest
Rogue River National Forest

U.S. Department of Energy –
Bonneville Power Administration
Portland Office
Federal Regulatory Commission
Regional Office in Portland

U.S. Department of Interior –
Bureau of Land Management
Klamath Resource Area
Redding Field Office
California State Office
Oregon State Office

U.S. Fish and Wildlife Service
Portland Office
Yreka Office

Bureau of Reclamation
Portland Office
Boise Office

Bureau of Indian Affairs
Portland Office

U.S. Environmental Protection Agency
Washington Office
Portland Office
Seattle Office

U.S. Department of Transportation –
Federal Highway Administration
Portland Offices

U.S. Department of Commerce –
NOAA Fisheries
Portland Office

State and Local Governments

Oregon

Oregon Department of Forestry
Oregon Department of Fish & Wildlife
Oregon Water Resources Department
State Historic Preservation Officer
Oregon Natural Heritage Program
Oregon State Department of Transportation
Oregon Department of Environmental Quality
City of Ashland
Southern Oregon Extension Center
Jackson County Farm Bureau
Jackson County Soil and Water Conservation District

California

California Department of Forestry
California Department of Fish & Game
California Air Resources Board
Siskiyou County Administrator
Siskiyou Co. Air Pollution Control District
Siskiyou County Planning Department

Washington

Northwest Indian Fisheries Commission

Idaho

Idaho Department of Environmental Quality

Washington, DC

National Museum of Natural History

American Indian Tribes and Nations

Confederated Tribes of Siletz
Quartz Valley Indian Reservation (Shasta Tribes)
Shasta Nation
Confederated Bands Shasta Upper Klamath Indians
Confederated Tribes of the Rogue -
 Table Rock and Associated Tribes
Confederated Tribes of Grand Ronde
Klamath Tribes

Libraries

Siskiyou County Library, Yreka Branch
Jackson County Library, Ashland Branch
Southern Oregon University Library,
 Ashland, Oregon

Organizations

Access Fund
American Lands Alliance
AT&T Wireless Services
Birch Creek Arts and Ecology Center
Blue Ribbon Coalition Inc.
Boise Cascade Corporation
Buckhorn Springs
California Oregon Broadcasting, Inc.
California Wilderness Coalition
Colestine Rural Fire District
Dakubetede Environmental Education Programs
Defenders of Wildlife
Farm Service Agency
Friends of Living Oregon Waters

Friends of the Cascade-Siskiyou National
 Monument
Friends of the Greensprings
Friends of the Kalmiopsis
Greensprings Box R Ranch
Headwaters
Hillcrest Corporation
Hutchinson, Cox, Coons, DuPriest, Orr and
 Sherlock, P.C.
Jackson County Farm Bureau
Jackson County Stockman's Association
Klamath Herald and News
Klamath-Siskiyou Wildlands Center
Motorcycle Riders Association
Native Plant Society of Oregon
Northcoast Environmental Center
Northwest Environmental Defense Center
Odion Consulting
Oregon Chapter Sierra Club
Oregon Council Trout Unlimited
Oregon Extension of Houghton College
Oregon Historic Trails Advisory Council
Oregon Natural Desert Association
Oregon Natural Resources Council
Oregon State Public Interest Research Group
Oregon State University
Pacific Crest Trail Association
Pacific Power
PacifiCorp
People for USA, Grange #835
People for USA, Jackson County
People for USA, Rocky Mountain Region
Republicans for Environmental Protection
Rock and Arrowhead Club
Rogue Group Sierra Club
Rogue Valley Audubon
Roxy Ann Gem & Mineral, Inc.
Siskiyou Action Project
Siskiyou Bio-Survey
Siskiyou Chapter, Native Plant Society
Siskiyou County Monument Supporters
Siskiyou Project
Siskiyou Regional Education Project
Siskiyou Resource Geographics
Society for American Archaeology
Soda Mountain Wilderness Council
Southern Oregon Mountain Bike Association
Southern Oregon Research Extension Center
Southern Oregon Timber Industry Association
Southern Oregon University
The Larch Company
The Wilderness Society

Threatened and Endangered Little Applegate Valley
U.S. Public Interest Research Group
Umpqua Watersheds, Inc.
University of California, Davis
University of Florida
University of Oregon
US Timberlands
US West Communications
Wild Hope
Wilderness Rites
Wildwood Consulting
World Wildlife Fund

Chapter 5 Public Comments



CHAPTER 5

Public Comments

INTRODUCTION

This chapter addresses the public comments received on the Draft Resource Management Plan/Draft Environmental Impact Statement (DRMP/DEIS) and the BLM's response to those comments. All written comments were reviewed and considered. Comments that presented new data or addressed the adequacy of the document, the alternatives, or the analysis are responded to in this proposed plan pursuant to the BLM's National Environmental Policy Act (NEPA) Handbook (H-1790-1). There were also many comments which, although not required to be addressed, have been clarified in this chapter. Comments that expressed personal opinions or that had no specific relevance to the adequacy or accuracy of the draft plan were considered but not responded to directly. Similarly, comments received after the close of the comment period on December 19, 2002 were considered, but were not addressed in this document.

Over 17,000 letters commenting on the DRMP/DEIS were received. Specific comments from each letter were organized into 15 broad categories or areas of concern. The broad categories are listed below in alphabetical order:

- Access and Transportation (**ACC**)
- Archeology and Cultural Resources (**ARCH**)
- Biological Resources (**BIO**)
- Diversity Emphasis Area (**DEA**)
- Facilities (**FAC**)
- Fire and Wildland-Urban Interface (**FIRE**)
- General (**GEN**)
- Grazing (**GRA**)
- Lands (**LAND**)
- Monitoring (**MON**)
- Old-Growth Emphasis Area (**OGEA**)
- Recreation (**REC**)
- Special Forest Products (**SFP**)
- Water Resources (**WAT**)
- Wilderness Study Area (**WSA**)

COMMENTS AND RESPONSES ON THE DRAFT PLAN

This section contains the comments received from individuals, organizations, and governmental agencies during the comment period for the DRMP/DEIS. The comments are organized according to the 15 categories described above. Following each comment is the BLM's response.

ACCESS AND TRANSPORTATION

ACC-1

COMMENT: "The Proclamation requires that roads in the CSNM sufficiently justify themselves by their contribution to *protecting the CSNM*."

RESPONSE: The transportation system is essential to providing and maintaining adequate access to and within the monument for protecting the important resources and gaining a better understanding of the unique ecosystems for which the area was designated. The transportation system within the monument must be managed in recognition of valid existing rights, including right-of-way authorizations issued by the BLM to intermingled landowners, grazing lessees, communication site authorization holders, etc. The BLM conducted a detailed review and inventory of these rights and used this information in its transportation management decisions.

The BLM has included a substantial new roads analysis in this proposed plan. The new analysis used the BLM's GIS database to examine road density; proximity of roads to riparian reserves and fishbearing streams; proximity of roads to special reserves; effects of roads on hydrologic function; exotic species/noxious weeds; fire ignition and suppression; and livestock operations. The transportation analysis is described in detail in the **Transportation and Access** section of Chapter 2 of this plan. The BLM used its transportation analysis to help determine the proposed management for the transportation system. The proposed road treatments include road decommissioning, obliteration, closures, stabilization, and upgrades to improve hydrologic function (Map 22).

ACC-2

COMMENT: An array of comments was submitted on decommissioning or removal of roads.

Comments included requests to decommission as many roads as possible (especially “jeep trails”) using aggressive road obliteration techniques that include the re-establishment of natural contours, drainages and vegetation. For these jeep trails, “natural decommission” did not seem adequate, especially in steep terrain. Other comments recommended eliminating maintenance on roads, blocking roads, and letting nature reclaim them.

RESPONSE: The proposed plan would decommission approximately 53 miles of road (Map 22). The draft plan identified where mechanical and natural decommissioning would occur. The proposed plan does not distinguish between the two types of decommissioning. Specific methods for decommissioning a particular road will be determined after a field review at a site-specific level. The potential tools that will be used by the BLM to decommission roads are described in the **Primary Tools for Transportation** section of Chapter 2 in the proposed plan.

ACC-3

COMMENT: The road to Boccard Point should be closed due to its potential overuse.

RESPONSE: The road to Boccard Point (40-3E-5.0) is surfaced with rock and currently does not show signs of overuse. Use on this road is seasonal as snow usually prevents use during the winter months. The BLM continues to monitor road conditions within the monument. If this road shows signs of overuse in the future, the BLM will evaluate the situation and take action to prevent adverse environmental effects.

ACC-4

COMMENT: Numerous responses recommended that most of the roads within the monument be closed with the exception of roads needed for fire management and access to private property. Some respondents suggested locked gates for limiting public access, while allowing passage for management and residents. Some letters also recognized the need for access for recreation, firewood cutting, etc., and suggested managing

access through keyed gates, allowing shuttles to enter designated roads to access recreation or slash decks for firewood. In other words, access should be allowed, but highly controlled.

RESPONSE: Many roads were closed with barricades or gates prior to monument designation, leaving other roads open for general access and management of the CSNM. Approximately 21 miles of road are proposed for closure in this plan (Map 22) in order to protect monument resources. It has been determined that the access needs of the residents and the monument users can be met by the transportation network in this proposed plan. Additionally, livestock lessees have been granted interim access for OHVs and vehicles on some otherwise closed roads. Matters of access to private property within the monument area will be handled in an on-going, case-by-case basis. Private landowners are assured legal access under federal and state law and in accordance with BLM policy. Numerous roads will remain open and available for the recreating public. Transportation management is described in detail in the **Transportation and Access** section of Chapter 2.

ACC-5

COMMENT: An array of comments was received on the monument transportation system including suggestions that some roads should be closed seasonally; some roads should just be closed and some “jeep trails” should remain open. Road closures should be done on a case-by-case basis.

RESPONSE: Every individual request for keeping specific roads open or closed was reviewed and evaluated by the BLM, and a determination was made on their status for this plan. Each request was evaluated on the basis of the considerations stated in the **Transportation and Access** section in Chapter 2 of this plan. The proposed road treatments are shown on Map 22 in this plan. In addition, many roads were closed with barricades or gates prior to monument designation, leaving other roads open for general access and management of the CSNM.

ACC-6

COMMENT: Some letters requested that existing roads be upgraded and routinely maintained to prevent erosion. Other letters requested that no new roads be built or paved.

RESPONSE: Road maintenance will continue throughout the monument including the removal of safety hazards, flood damage repairs, surface maintenance, ditch cleaning, and reducing erosion potential. Limited road construction is expected to occur within the monument. Access for in-holders, requirements under valid existing rights, or the relocation of an existing road in order to reduce impacts on the “objects of biological interest” are examples of when new road construction might occur. Road construction would be designed to minimize resource damage and to meet the BMPs described in Appendix D of the Medford RMP.

ACC-7

COMMENT: An array of comments mentioning the Schoheim Road was received ranging from endorsing its closure to questioning the legality of the proclamation. Some respondents wanted to keep it open for horses and bikes, or for administrative and emergency vehicles, or for general access to residences. Other letters suggested retaining and re-engineering the road to meet current road standards or decommissioning and replacing it with a new road encircling the Soda Mountain Wilderness Study Area.

RESPONSE: The Schoheim Road (41-2E-10.1) was closed to motorized and mechanized travel by the presidential proclamation (Appendix A). Horses are allowed on Schoheim Road. Bicycles would not be allowed because Schoheim Road was closed by the proclamation, and is proposed for decommissioning. The western and middle portions (Map 22) have been closed and would be decommissioned. The eastern portion would be closed for use by unauthorized vehicles except east of the gate at the Jenny Creek crossing in T.41S., R.4E., Sec. 9 to the Copco Road (40-4E-3.1), where it provides access to private property. The development of a road encircling the Soda Mountain Wilderness Study Area is outside the scope of this plan.

ACC-8

COMMENT: Comments about limited access caused by road closures included these concerns:

- access to timberland management;
- livestock and range improvement;

- access for fire and emergency search and rescue teams and equipment;
- recreation (hunting and camping);
- access for young, old, and handicapped persons needing motorized vehicle access;
- access for local property owners.

RESPONSE: Access concerns are addressed in detail in the **Transportation and Access** section of Chapter 2 of this plan. The primary objective of transportation management within the monument is to maintain a road network that is blended to restore the ecosystem and protect monument resources while serving human access needs. This proposed plan accomplishes this through the targeted reduction of road densities, while maintaining an appropriate level of access for law enforcement, various recreational activities, livestock lessees, private property owners, resource management, wildfire suppression, and other administrative uses.

ACC-9

COMMENT: Numerous responses were received identifying concerns about closing specific roads including Skookum Creek, Jenny Creek, Scotch Creek, and Randcore Pass.

RESPONSE: Every individual request for keeping specific roads open or closed was reviewed and evaluated by the BLM, and a determination was made on their status for this plan. Treatments for specific roads are listed below and in Chapter 2.

Skookum Creek Road

Skookum Creek Road (40-3E-28 and 40-3E-27.2) past the junction with Road 40-3E-27.1 would be improved and left open to the public to where Section 36 (T.40S.,R.3E.) and Section 1 (T.41S.,R.3E) meet. Skookum Creek road past where Section 36 (T.40S.,R.3E.) and Section 1 (T.41S.,R.3E) meet would be closed to unauthorized use.

Jenny Creek

The road that crosses Jenny Creek is the Schoheim Road and it was closed by the presidential proclamation (Appendix A).

Scotch Creek Road

The Scotch Creek Road (41-2E-1.1) has already been decommissioned.

Randcore Pass Road

In order to meet the intent of the proclamation, Randcore Pass Road (40-4E-19.2) south of the junction with road 40-4E-31.0 would be closed for use by unauthorized vehicles.

ACC-10

COMMENT: Numerous responses were received regarding the American with Disabilities Act (ADA), which mandates that all people have access and the responses identified particular roads and byways that should remain open.

RESPONSE: The BLM will comply with the ADA in the monument. The ADA does not prohibit the BLM from restricting travel routes or closing areas to vehicles in order to protect monument resources. Persons requiring wheelchairs for mobility may use a motorized or mechanized wheelchair to access any area in the monument.

ACC-11

COMMENT: Comments noted that vehicular traffic on improved roads causes less environmental damage; comments ranged from keeping visitors to already improved roads to improving roads to accommodate increases in visitors. Roads mentioned for improvement include the access to Pilot Rock parking area from Highway 66, the northern portion of Skookum Creek Road, and the short link just north of Soda Mountain.

RESPONSE: Road improvements are one of the tools used in this plan to reduce environmental damage and improve access. Specifically, the following roads would be improved:

Pilot Rock Road

The BLM would improve and maintain the existing Pilot Rock parking facility at the rock quarry along Pilot Rock Road (40-2E-33 and 41-2E-3). The Pilot Rock Road (41-2E-3) would be closed at this point and decommissioned beyond the quarry. A footpath along the existing road would allow access to Pilot Rock beyond the road closure (see **Recreation and Visitor Services** section of Chapter 2).

Skookum Creek Road

Skookum Creek Road (40-3E-28 and 40-3E-27.2) past the junction with Road 40-3E-27.1

would be improved and left open to the public to where Section 36 (T.40S.,R.3E.) and Section 1 (T.41S.,R.3E) meet. Skookum Creek road past where Section 36 (T.40S.,R.3E.) and Section 1 (T.41S.,R.3E) meet would be closed to unauthorized use.

Soda Mountain Lookout Road

The Soda Mountain Lookout Road (40-3E-21.1) would be improved for extended-season use from its junction with Road 39-3E-32.3 south to its junction with Road 40-3E-21.2. Road 40-3E-21.2 would also be improved for extended-season use. A gate would be installed on Road 40-3E-21.2 where it takes off to the lookout.

ACC-12

COMMENT: Prior to closing or decommissioning roads within the monument, the BLM needs to identify valid existing Revised Statutes (R.S.) 2477 rights-of-way. R.S. 2477 rights-of-way are property rights and must remain unimpaired.

RESPONSE: R.S. 2477 was repealed by the Federal Land Policy and Management Act (FLPMA) dated October 21, 1976 (90 Stat. 2793); however, FLPMA did not terminate valid rights-of-way established under R.S. 2477 prior to its repeal. On September 30, 1996, Section 108 of Public Law 104-208 (110 Stat. 3009) was enacted, which provides that no final rule or regulation of any agency of the federal government pertaining to the recognition, management, or validity of a right-of-way pursuant to R.S. 2477 shall take effect unless expressly authorized by an Act of Congress.

Subsequently, on January 22, 1997, former Department of the Interior Secretary, Bruce Babbitt, issued the Interim Department Policy on R.S. 2477 grant of right-of-way for public highways, until such time as final regulations can be promulgated. Because it is the BLM's position not to attempt to impair any claimed R.S. 2477 right-of-way, the interim policy (which is still in effect today) states that the BLM is “. . . to defer any processing of R.S. 2477 assertions except in cases where there is a demonstrated, compelling, and immediate need to make such determinations.” If such a claim exists, only the State of Oregon and/or a local government entity can file a written

request for a determination with the applicable BLM State Director having jurisdiction over the lands. The request must include maps and complete documentation that clearly corroborates where the highway was constructed, when it was constructed (the construction must have occurred prior to the repeal of R.S. 2477 -- October 21, 1976), and that the right-of-way meets the definition of a highway and was used for and by the general public. The written request, documentation and maps are reviewed by BLM staff to ensure compliance with the Department's interim policy and the request package is then forwarded to the Secretary of the Interior for final approval or disapproval. There are currently no filings for R.S. 2477 rights-of-way within the monument.

Until such time as regulations for R.S. 2477 are promulgated, BLM's current regulations allow the BLM to grant rights-of-way to any qualified individual, business entity, or governmental entity under the authority of FLPMA for access needs across public lands. The BLM's objectives for managing existing authorized rights and/or issuing new rights-of-way grants, is to insure that BLM-administered lands are available for needed rights-of-way that are consistent with local comprehensive plans and Oregon statewide planning goals and rules.

ACC-13

COMMENT: Numerous responses received indicated that the BLM did not conduct an adequate analysis of the transportation system within the monument.

RESPONSE: In response to these comments, the BLM has included a substantial new roads analysis in this proposed plan. The new analysis used the BLM's GIS database to examine road density; proximity of roads to riparian reserves and fishbearing streams; proximity of roads to special reserves; and effects of roads on hydrologic function, exotic species/noxious weeds, fire ignition and suppression, and livestock operations. The transportation analysis is described in detail in the **Transportation and Access** section of Chapter 2 of this plan.

ACC-14

COMMENT: Comments questioned the assertion in the draft plan that road closures are precluded by existing rights-of-way on 170 miles of roads.

RESPONSE: This is correct; the existence of rights-of-way on roads or road segments does not necessarily preclude closing a particular road. Valid existing rights include a variety of BLM authorizations such as right-of-way grants, leases, permits, and reciprocal agreements. Private landowners within the greater CSNM boundary (inholders) will retain access to their property. Existing state and federal law requires the BLM to provide reasonable access to non-federally owned land that is surrounded by public lands (Alaska National Interest Lands Conservation Act (ANILCA) of 1980). However, the closure of roads and/or road segments that are under existing right-of-way grants could be considered after conducting the appropriate level of site-specific analysis necessary to comply with NEPA, including the involvement of rights-of-way holders in the discussion of potential changes. Implementation procedures for these sorts of actions are described in the **Transportation and Access** section of Chapter 2. Right-of-way agreements are public record and are available for review and/or copying at the Medford District BLM Office, 3040 Biddle Road, Medford, Oregon.

ARCHEOLOGY AND CULTURAL RESOURCES

ARCH-1

COMMENT: A comment suggested that collection of petrified wood and arrowheads with hand tools for personal use should be allowed in specified areas.

RESPONSE: Removal of artifacts including petrified wood and arrowheads is prohibited by the Antiquities Act (1906) and the Archeological Resources Protection Act (1979), as well as by the presidential proclamation.

BIOLOGICAL RESOURCES

BIO-1

COMMENT: Comments questioned why lands on the west side of Interstate 5 (Colestine Valley) were

included in the monument. They noted that this area is more degraded by human activity and they voiced concerns that cattle operators in this area will be responsible for keeping cattle off federal land.

RESPONSE: Federal lands west of Interstate 5 in the Colestine Valley area were designated by the presidential proclamation as part of the Cascade-Siskiyou National Monument (Map 1). Cattle operators are required to keep their cattle off of federal lands unless authorized by permit or lease whether or not the federal land is designated a national monument.

BIO-2

COMMENT: A letter from environmental groups stated that sensitive and endangered plant species occur in high densities in the Colestine Valley area (west of Interstate 5) and that it should be designated a botanical interest area.

RESPONSE:

The BLM portion of the Colestine Valley (Map 2) was designated as the Mariposa Botanical Area prior to monument designation. Lands outside the Mariposa Botanical Area receive the full protection of monument status.

BIO-3

COMMENT: Comments asked for protection of spotted owl habitat, especially in the Old-Growth Emphasis Area, and wanted management to reverse fragmented land ownership and usage, as well as for enhanced patchiness for northern spotted owls.

RESPONSE: Habitat of the northern spotted owl will be protected in the OGEA. No treatment will take place in Habitat Type 1, nor in the majority of Habitat Type 2 (see Chapter 2 for habitat type descriptions). Treatments proposed in Habitat Types 2, 3, and 5 are likely to improve overall habitat conditions for northern spotted owls. One of the objectives of proposed management is the reduction of fragmentation in northern spotted owl habitat.

BIO-4

COMMENT: Letters from hunters mentioned deer and elk winter range and Oregon Department of Fish and Wildlife's consideration of Agate Flat as the most important deer winter range in southwestern

Oregon. These letters stated that managing the upper-elevation areas of the monument for late-successional forest conditions would limit forage availability for deer summer range on public lands. They suggested activities such as controlled burning, logging, and grazing as means of stimulating and rejuvenating vegetative growth.

RESPONSE: Proposed management in the monument is unlikely to significantly reduce summer range for deer and elk. Deer that winter on Agate Flat spread across the landscape in spring, summer, and fall. Likewise, elk herds disperse across a large area and utilize habitat well beyond the boundaries of the monument. Management of conifer stands for old growth characteristics may reduce summer forage in such stands. Any such reduction in forage will be offset by vegetative growth encouraged through thinning and fuel reduction treatments in other habitat types.

BIO-5

COMMENT: An array of comments was submitted regarding the threat of invasive, non-native species and noxious weeds. Comments ranged from recommending hand pulling and other less aggressive methods of control, such as restricting animal feed and motorized access, to comments stating that all manner of tools and actions for the control of noxious and exotic weeds, including herbicides, is necessary.

RESPONSE: A comprehensive strategy for treating noxious weeds across the monument is described in Appendix G. Noxious weed treatments could include manual weeding, biological control, herbicides, prescribed fire, or prescribed grazing. Focal areas identified for immediate treatments are identified in the weed strategy. Noxious weeds would be treated aggressively, contingent on funding. Current funding has allowed a mixture of hand-pulling and herbicide treatments on approximately 1,000 to 2,000 acres each year for the past several years.

BIO-6

COMMENT: The Interstate 5 corridor through the monument is a source of weed migration and sediment that is degrading Cottonwood Creek. Active restoration and stabilization needs to be pursued. The BLM should explore cooperative

agreements and projects with ODOT to achieve restoration needs and reduce weed migration.

RESPONSE: Management of Interstate 5 is outside the scope of this proposed plan. The BLM does, however, provide input to ODOT when requested and during scoping for proposed projects related to this highway. The BLM is not opposed to exploring cooperative agreements that would help to protect and restore ecosystems within the monument.

BIO-7

COMMENT: Comments were received suggesting that amateur butterfly collection should be allowed in the monument.

RESPONSE: The proclamation specifically prohibits the removal of monument features. The removal of features includes, but is not limited to, the collection of any monument resources such as rocks, petrified wood, fossils, archaeological and cultural items, plants and parts of plants, fish and animals not regulated by ODFW, insects or other invertebrate animals, bones, waste, or other products from animals. This includes butterflies. Butterflies are one of the “objects of biological interest” identified by the presidential proclamation. Exceptions would include collections authorized by permit in conjunction with authorized research or management activities.

BIO-8

COMMENT: Habitat fragmentation is one of the leading contributors to endangerment of species and is particularly prevalent in the monument and surrounding private lands. Primary causes of fragmentation include:

- excessive road network;
- previous logging within and adjacent to the monument;
- barriers to fish migration; and
- hybridization and fragmentation of fish populations in the Jenny Creek area.

RESPONSE: Habitat fragmentation is one of the primary management concerns identified in the **Old-Growth Emphasis Area** section of Chapter 2. The planning team identified an area near Lincoln Creek and Pinehurst (Map 8)

that is not currently providing suitable habitat connectivity for late-successional species due to past disturbances, such as logging or fire. Reduced habitat connectivity was one of the criteria used to determine priority areas for treatment. Many of the proposed management treatments are designed to reduce habitat fragmentation. Proposed vegetation treatments within the monument are designed to restore forest structure, reduce stand density, decrease fire hazard, and promote desired species. Most of the adjacent private lands have been previously harvested and are in various stages of recovery (re-growth). The proposed treatments, along with passive restoration (allowing previously harvested stands to grow back), will reduce habitat fragmentation within the monument over time. Additionally, approximately 53 miles of road (Map 22) would be decommissioned under the proposed plan, reducing habitat fragmentation by eliminating physical barriers both in the aquatic environments and the upland habitats.

BIO-9

COMMENT: The BLM should consult with the Oregon Department of Transportation and the Oregon Department of Fish and Wildlife on strategies to mitigate barriers to dispersal posed by public highways, including Highway 66 and Interstate 5.

RESPONSE: Management of state and federal highways is outside the scope of this proposed plan. The BLM does, however, provide input to these agencies when requested and during scoping for proposed projects related to these highways.

BIO-10

COMMENT: The BLM should monitor focal species using radio telemetry (e.g., deer, spotted owl, goshawk, and redband trout) or other detection devices to obtain data on the extent, frequency, direction, and type of movements made across particular linkages and barriers.

RESPONSE: The BLM monitors species according to Bureau standards as described in Appendix L of the Medford RMP and Appendix E of the Northwest Forest Plan, as amended. The BLM also evaluates the results of its own monitoring and studies and monitoring conducted by other agencies and individuals and incorporates research

results and monitoring data into the monument's adaptive management strategy (Appendix C), as appropriate.

DIVERSITY EMPHASIS AREA

DEA-1

COMMENT: Comments were received recommending that more information needs to be gathered regarding the Diversity Emphasis Area (DEA) before extensive management is undertaken.

RESPONSE: The proposed plan identifies the use of pilot studies to examine the utility of treatments used to facilitate natural processes or to address particular issues within the grasslands, shrublands, and woodlands of the monument. The limited acreage of these pilot studies is considered to have little impact on current natural resources of the CSNM while improving our understanding of ecological processes within the DEA. Studies of historic conditions will provide BLM managers a context for understanding current conditions and identifying management objectives for plant communities within the DEA.

DEA-2

COMMENT: Fire suppression has resulted in increased cover by shrubs within formerly open woodlands. Comments were received that identified concerns about opening oak woodlands in the DEA due to potential effects on the plants under the canopy.

RESPONSE: As mentioned in DEA-1, the proposed plan identifies the use of pilot studies to examine the utility of treatments used to facilitate natural processes or to address particular issues within the grasslands, shrublands, and woodlands of the monument. The reduction of shrubs in the interspaces of oak woodlands through prescribed fire and manual means may allow the preservation of the large oak structure. The limited acreage of these pilot studies is considered to have little impact on current natural resources of the CSNM while improving our understanding of ecological processes within the DEA. However, as pilot studies are completed, new information gathered could result in new objectives or management direction in accordance with the monument's adaptive management strategy (Appendix C).

DEA-3

COMMENT: Conifer stands in the southern portion of the monument might be better managed as a part of the DEA, rather than intensively managed, thinned or removed, to maximize old-growth status. Comments recommended a north/south division between the DEA and the OGEA rather than the division of these areas by vegetation type.

RESPONSE: Conifer stands, whether located in the DEA or the OGEA, tend to suffer many of the same structural and forest health problems. Conifer stands in the DEA will be analyzed and managed in a manner consistent with historical conditions and in context with the surrounding landscape.

DEA-4

COMMENT: The BLM should further inventory and describe oak woodland types before taking management actions.

RESPONSE: No large-scale management action is planned for the DEA outside of the WUI until the pilot studies are completed and evaluated. Furthermore, plant community surveys are being completed under the mandated "study of livestock impacts on the objects of biological interest" of the CSNM. Additional composition and age-class surveys of shrublands will provide information about plant communities possibly transitional to oak woodlands. Repeat photography and other studies will provide an historic context for understanding plant community dynamics within the diverse communities of the DEA.

DEA-5

COMMENT: The BLM should develop a comprehensive plan for dealing with Sudden Oak Death (SOD) and its spread at the level of the entire Medford District. An obvious potential source of introduction for this pathogen is cattle or other livestock brought in from the Central Valley or Coastal regions of California, where SOD is widespread. For this reason it is essential to prohibit livestock that come from these regions from being turned out in the monument.

RESPONSE: SOD is widespread across California and Oregon and the problem is of greater scope than just the Medford District. The BLM is part of an interagency team that includes representatives

from Animal and Plant Health Inspection Service, USDA Forest Service, State Department of Agriculture and state forestry organizations (Oregon Department of Forestry in Oregon). The interagency team recognized the possibility that some infected plants may escape detection and spread the pathogen, *Phytophthora ramorum*, into the landscape or forest environment. To address this possibility, an interagency team drafted the *Early Detection and Rapid Response Protocol for Forest and Landscape Environments* (outside the current regulated area) *with Plants Infected with Phytophthora ramorum*. The protocol describes the notification procedures required if *Phytophthora ramorum* is found in a forest or landscape environment. It also outlines protocols for eradication and suppression projects.

The State Department of Agriculture inspects cattle and other livestock that are transported across state lines. Currently, however, there is no inspection for the presence of *Phytophthora ramorum* on cattle or livestock.

DEA-6

COMMENT: Clarify what is meant by the term “shrub-invaded woodland.” Because of the many intergrading oak woodland types this “shrub invasion” could mean anything from wedgeleaf ceanothus in a savannah-form woodland to birchleaf mountain mahogany in a shrubland community.

RESPONSE: In general, the term “shrub-invaded woodland” is used to describe places where the interspaces of a savannah-form woodland have become occupied by shrubs.

DEA-7

COMMENT: There are many plant communities in the monument that are not well understood. In these communities, research needs to be developed that will lead to an understanding of community dynamics and ecological functioning. The BLM should not be planning modifications in these types until much better understanding is developed. Further, these communities are currently supporting very significant endangered and rare plant species such as *Fritillaria gentneri* and *Calochortus greenii*. Maintenance and enhancement of habitat for these species should be given top priority.

RESPONSE: The proposed plan recognizes that the myriad of plant communities in the DEA is not well understood. Ongoing studies are needed to improve knowledge of historic conditions, the ways in which these ecosystems have changed in the last 150 years, and how plant communities and individual species react to fire and management activities.

This plan proposes to enhance the knowledge and understanding of the DEA through a series of pilot studies. The focus of pilot studies would be on altered habitats including areas converted to weeds or sown on-native grasses, areas of high livestock utilization, and decadent shrublands. As research and pilot studies are completed, new information could give the monument staff a basis for re-examining the DEA’s management strategy.

Pilot studies would be limited to 10 acres in size with the exception of studies that involve broadcast burning. Studies that involve the use of broadcast burning would be limited to 100 acres in size. Broadcast burning would be limited to 200 acres annually, with no more than 100 acres occurring in a drainage area. Other types of prescribed burning would be limited to 10 acres in size. To mitigate potential impacts, pilot studies would be spread out spatially and temporally. Pilot studies would be placed to avoid sensitive plant communities associated with perennial streams, seeps, springs, and wetlands. Prior to implementation of multiple studies, additional analysis would determine the potential for site-specific and cumulative effects. The **Diversity Emphasis Area** section of Chapter 2 describes potential pilot studies that could occur in the DEA (Tables 2-3, 2-4, 2-5).

DEA-8

COMMENT: The Mariposa Botanical Area needs to be significantly expanded. Recent surveys indicate that the entire area of Hutton Creek east of Interstate 5 and the Colestine Valley west of Interstate 5 supports high densities of BLM-sensitive and federally listed endangered plant species. Part of this area is classified as a “recreation concentration zone” in the DRMP/DEIS, which is entirely inappropriate given the concentration of rare and sensitive plants in the area.

RESPONSE: Additional protective designation as a botanical area is not necessary since this

area is included within the CSNM reservation. The sensitive and listed plants within this area are some of the objects of biological interest for which the monument was established to protect. The “recreation concentration zones” have been eliminated from the proposed plan.

FACILITIES

FAC-1

COMMENT: Facilities should only be constructed where needed to protect monument resources from damage.

RESPONSE: New facilities (e.g., trail construction, parking, toilets, trailheads, etc.) would only be constructed when needed to mitigate resource damage. The proposed plan would allow for the improvement and alteration of existing facilities as part of the monument’s visitor services and interpretation program. Toilets could be provided, as necessary, at designated trailheads and parking sites.

FAC-2

COMMENT: A visitor center should be constructed along Interstate 5.

RESPONSE: The Medford BLM would remain a point of contact for visitor information. Facilities could be developed within the surrounding communities for use as visitor contact stations. Exact location of these facilities would be based on availability of infrastructure, environmental site constraints, economic viability, and funding. Currently, the BLM has signed a Memorandum of Understanding with the Friends of the Cascade-Siskiyou National Monument to manage a small, self-service visitor information center located at 11470 Highway 66 (Appendix K).

FAC-3

COMMENT: Comments suggested that existing communication sites should be removed from the monument as current technology makes them obsolete, and that no new communication sites should be built.

RESPONSE: The existing communication sites are a “collection” of separate authorized users utilizing a variety of equipment and technology to serve the public. No single technological advancement

is likely to cause a mass exodus from the sites due to the variety of services offered and the public served. This proposed plan does not allow new communication sites to be developed.

FAC-4

COMMENT: What is the justification for allowing any new facilities to be built on existing communication sites?

RESPONSE: The proclamation recognized the uniqueness of the area and importance of the objects of biological interest in its designation of the CSNM. It also recognized valid existing rights with the following statement: “The establishment of this monument is subject to valid existing rights.” Existing communication site users are protected under their valid existing rights (VERs) to continue use of their facilities. No new facilities would be built at the existing communication sites. Modifications to existing individual facilities (i.e., buildings) could be made if the proposed use does not increase the size (footprint) of the current authorized development and there are no interference problems for the other authorized users. For example, the addition or replacement of a new transmitting or receiving device (e.g., antennae) on an existing tower structure would be considered if the proposed device was consistent with the other existing electronic devices in terms of size, visual characteristics, and frequency compatibility. The BLM plans to complete a communication site survey for the Soda Mountain site in 2005. A comprehensive communication site management plan addressing site efficiency, visual resources, and impacts of new technology is planned for 2006 (dependent on funding). The BLM could permit modifications, such as a new device, following the completion of a site-specific management plan.

FIRE AND THE WILDLAND-URBAN INTERFACE

FIRE-1

COMMENT: An array of comments was received on fire which included managing fire as a natural and integral part of the landscape, reducing fire hazard and fuels loads on monument lands, and fear of losses due to catastrophic wildfires. While some letters stated that thinning should not be used

as a method of fire control, others noted that much of the monument is rated as either moderate or very high fire hazard and thinning is necessary to lessen this hazard. Other letters pointed out the important role of patchiness in fire protection.

RESPONSE: Although fire is a natural and integral part of the landscape the mixed land ownership in the vicinity of the monument necessitates a policy of active wildfire suppression. The fire suppression direction (which complies with federal policy) for the monument is described in detail in the **General Management** section of Chapter 2.

Effective fire suppression efforts over the past 100 years have significantly influenced mixed conifer and pine forests in the OGEA by removing fire as a natural ecosystem process. In addition to altering the historic structure of forest stands, fire exclusion has created conditions that support higher fire intensities than would have been common historically. The primary forest restoration activities proposed for the monument involve removing smaller trees from dense forests and then using prescribed fire to imitate the role that low-severity fire once played in these ecosystems. These activities, designed to restore forest health, also reduce fire hazard, thereby achieving multiple management objectives simultaneously. Thinning forest stands can be an effective tool for restoring forest structure, reducing stand density, decreasing fire hazard, promoting desired species, and can also serve as a precursor to the reintroduction of fire through prescribed burns. Tree removal can be used to meet the overlapping goals of reducing fire hazard and restoring a more natural forest structure to currently overcrowded forests. A certain degree of patchiness across the landscape is inevitable due to adjacent private lands.

FIRE-2

COMMENT: The ridge-top fuel break proposed for Keene Creek ridge is inappropriate because of dry soil conditions and the potential to lead to “blow down” and edge effects. There is no discussion of the ecological impacts of the proposed ridgeline fuel break between the north and south management zones. This proposed fuel break could potentially disrupt connectivity within the monument and may harm the objects that the monument was established to protect.

RESPONSE: The previously proposed ridge-top fuel break is no longer a part of the proposed plan.

FIRE-3

COMMENT: Some comments stated that the fire threat was being exploited as an excuse for thinning, but others stated that many parts of the monument have too many current and historical impacts to be left without some active management to reduce fuel loads. These letters supported more active management in reducing fire risk. They suggested at least removing the fuel load (e.g., fallen branches, slash piles and thick brush) from forest understories by mechanical and/or manual means.

RESPONSE: The proposed management plan will initiate projects that remove understory fuels by several means, particularly in the WUI. These methods are described in the **Old-Growth Emphasis Area and the Diversity Emphasis Area** sections of Chapter 2. The draft management plan analyzed a full range of alternatives for both restoring forest health and reducing fire hazard across the landscape. The proposed management plan presents a combination of “hands-off” management in areas of late-successional and old-growth forest while taking a more active approach in previously managed stands. With the exception of some treatments in the wildland-urban interface, thinning would only be used to restore forest health. Projects designed to restore forest health would likely result in reduced fuel hazard as well.

FIRE-4

COMMENT: Some respondents suggested that “one-size-fits-all” fire hazard reduction is not appropriate. Areas that have been managed for timber production were reportedly more fire-prone than areas left untouched and should be treated differently.

RESPONSE: Under the proposed plan, untreated forest areas will be managed differently than previously treated areas. A variety of methods are available for reducing fire hazard and restoring plant communities to a more natural condition including thinning, weed treatments and prescribed burning. These methods are described in the **Old-Growth Emphasis Area and the Diversity Emphasis Area** sections of Chapter 2. Pilot studies would be used in the DEA to evaluate the effectiveness of treatments. Site-specific evaluation

and analysis would precede implementation of these treatments.

FIRE-5

COMMENT: Some responses stated that theories on fire suppression drawn from other areas are not applicable to this unique environment. Comments questioned the BLM's assessment of high fire hazard risk, particularly in areas of patchiness, rocklands or grasslands.

RESPONSE: Utilizing information from studies conducted elsewhere to form hypotheses and decisions is standard practice in both research and land management. The forest communities located in the monument are not unique to the monument. The dry forest types and mixed conifer forests located in the monument are found elsewhere in the western United States and studies have shown the consequences of fire exclusion in these forest types. The management plan was primarily based on knowledge of the effects of fire exclusion and present-day fire behavior in and near the monument.

The fire hazard assessment for the monument was done over the entire landscape at a coarse scale. There are areas of rock outcrops that were combined with the adjacent fuel types to map fire hazard. If these areas were large enough to greatly impact fire behavior they were mapped as such. Fires that spread by spotting can easily cross even large rocky areas. Grassland were mapped as grasslands and where given a hazard rating based on fire behavior in grasses that are cured. Assumptions made regarding fire-hazard would be field verified prior to project implementation,

FIRE-6

COMMENT: Some respondents support using prescribed fire for fuel reduction. Letters specified that prescribed fire be done under "carefully-managed, cool-burning conditions." Others expressed concern that catastrophic fires could result from prescribed or controlled fires. Some opposed prescribed burning in Old-Growth Emphasis Areas. Others thought that prescribed burning could jeopardize rare plants.

RESPONSE: Implementation of prescribed burning would only occur after project-level analysis in a future planning action. The impacts to rare plants and all other resources, as well as the risk of escape, would be described and evaluated in the project-specific NEPA document.

FIRE-7

COMMENT: Comments suggested the creation of specific procedures and protocols for initial attack of wildfires.

RESPONSE: The BLM coordinates with the Oregon Department for fire prevention, protection, and suppression services. Procedures for initial attack of wildfires are covered in the western Oregon suppression contract. Areas within the monument that require special fire suppression techniques are listed in Appendix O.

FIRE-8

COMMENT: The BLM should create 220-foot wide, shaded fuel breaks along main roads in the monument for roadside ignition prevention, safety for firefighters and increased visibility for safer traffic conditions. This roadside treatment should also be applied on closed roads so they can become fuel breaks.

RESPONSE: The BLM will continue to evaluate creating fuel breaks along roads on a case-by-case basis in consultation with the Oregon Department of Forestry. Any projects to implement fuel breaks along roads would be evaluated in a project-specific NEPA document.

FIRE-9

COMMENT: Concern was expressed that the draft doesn't adequately address the role of private lands and rural interface. Approximately two-thirds of fires that have occurred in the area in the last 31 years have been on private lands. Responses encouraged public education and outreach about fuel-reduction efforts on private lands and some respondents expressed desire that the BLM reduce fuel loads on neighboring public lands. High visibility pilot projects in the interface designed to instill confidence and trust in the use of prescribed fire were recommended.

RESPONSE: The OGEA is adjacent to several thousand acres of private land in the Greensprings community. In 2000, under provisions of the National Fire Plan, the Oregon Department of Forestry identified the Greensprings as a “community at risk” of a wildland fire spreading from public to private lands. Likewise, resources in the monument are also at risk from fires that originate on private land. Fire history data over the past 37 years (Appendix E) indicates that the likelihood of a fire originating on private land is higher than on public land (3.32 fires/1,000 acres versus 2.7 fires/1,000 acres). Lightning is the primary cause of fire ignitions on public land (64 percent) while human-caused starts are the primary source of fire ignition on private lands (59 percent).

Proposed treatments in the wildland-urban interface are described in the **Old-Growth Emphasis Area** section of Chapter 2. In order to help private property owners protect their homes from wildfire, prior written authorization could be given to homeowners to create a defensible space around their homes.

Public outreach is occurring in the wildland-urban interface in the monument by Oregon Department of Forestry. The areas identified for potential treatment on public lands under this plan in the WUI would compliment projects that have been completed or are proposed on private lands.

FIRE-10

COMMENT: Other suggestions to reduce fire danger from human activity included:

- limit vehicular road access during fire season
- limit access to backcountry and campfires during fire season

RESPONSE: The BLM evaluates the severity of the fire season and can choose to implement any of the above methods during fire season to reduce the risk of fire-starts from human activities.

FIRE-11

COMMENT: The fuel hazard model used in the draft does not adequately take into consideration risk.

RESPONSE: Fire hazard and risk has been re-evaluated in this proposed plan. Appendix E

explains some of the different variables and tools used throughout the planning process to help determine the role that fire has played in shaping the monument’s ecosystem, the effects of fire exclusion and other human influences on the ecosystem, the fire hazard and fire risk within the monument.

GENERAL

GEN-1

COMMENT: “All existing allocations, future management planning, or activities in the CSNM must be directed toward protecting, restoring, and enhancing the biological diversity of this unique area.”

RESPONSE: The presidential proclamation reserved the CSNM in recognition of its remarkable ecology and to protect a diverse range of biological, geological and historic objects. The proclamation provides the principal management direction for the CSNM and clearly dictates that the BLM manage the monument “for the purpose of protecting the objects identified.” The proclamation made certain other provisions for monument. The proclamation’s acknowledgement of valid existing rights essentially preserves a variety of BLM authorizations such as right-of-way grants, leases, permits, reciprocal agreements, and withdrawals. Private land owners within the monument are assured access to their property. Livestock grazing was allowed to continue with appropriate terms and conditions under existing laws and regulations while the BLM studies the impacts of livestock grazing.

In addition, there are a variety of other legal requirements and directives governing the planning process which were considered by the BLM in developing proposed management plan. In addition to the presidential proclamation, provisions of the Federal Land Policy and Management Act (FLPMA) of 1976, as amended, and the National Environmental Policy Act (NEPA) provide the primary direction for the preparation of this resource management plan. For more information refer to Chapter 1, “Purpose and Need”, “Summary of Planning Considerations and Criteria” and “Planning Considerations”.

GEN-2

COMMENT: Respondents requested that management be careful and conservative,

recognizing the complexity of ecosystems. They asked that management be incremental, using adaptive management with well-designed monitoring.

RESPONSE: This same concern, “that management activities are careful and conservative, recognizing the complexity of ecosystems” and “that management be incremental” was used as a guiding principal to build many of the features of this proposed plan. In the DEA and portions of the OGEA, the plan proposes to enhance the knowledge and understanding through a series of pilot studies. As research and pilot studies are completed, new information would give the monument staff a basis for re-examining the management strategies. New objectives or management direction would be developed in accordance with the monument’s adaptive management strategy (see Appendix C). The monitoring and adaptive management strategy is a key component to ensure that ecological objectives are being met.

GEN-3

COMMENT: Comments requested that the best science and research precede management. Advisory boards, peer review or science review panels were suggested.

RESPONSE: Advisory boards, peer reviews, and science panes have been used and will continue to be used to examine monitoring and research results in the CSNM. In 2001, the BLM used a peer review process to procure feedback on the design of the original *Draft Study of Livestock Impacts on the Objects of Biological Interest*. In 2004, an Oregon State University scientific review panel and a working group made up of members of the Klamath and Southwest Oregon Provincial Advisory Committee were asked to review and made recommendations on a later version of the Livestock Study. The BLM will continue to consult with advisory boards, peer reviewers, and scientific panels, as needed.

GEN-4

COMMENT: Issues of long-term funding were raised and some questioned whether the BLM could access the level of funding necessary for the level of ecosystem restoration and protection needed.

RESPONSE: After the management plan is finalized the BLM will develop an “Implementation Strategy” to determine the funding needs implementing the plan and work towards meeting the objectives.

GEN-5

COMMENT: The BLM should protect the biodiversity within the monument. One method suggested was to allow deer, elk and other native grazers to promote the biodiversity. Others thought limited human intervention and disturbance was a better approach. Comments ranged similarly in managing for restoration and stability, from aggressive restoration of natural disturbances to a more conservative approach to maintaining rare and unique natural ecological processes.

RESPONSE: In the draft management plan the BLM examined alternatives that ranged from a “hands off” approach to aggressive intervention. The proposed plan recognized the need to proceed with caution. The use of pilot projects in the DEA and the overall monitoring and adaptive management strategy reflect this concern. Management activities would be avoided where adverse ecological impacts could outweigh potential gains. For example, prior to the implementation of any project the BLM would consider the following: the proximity to populations of noxious weeds; the susceptibility of site soils to weed invasions, the potential for adverse impacts to the surrounding landscape; the proximity of stands to sensitive wildlife sites such as northern spotted owls or other raptor nests; the presence of rare or sensitive plants that may be affected by proposed treatments; the timing of treatments in relationship to other management activities; the potential effect of treatment on existing areas of strong habitat connectivity; and the natural vegetation potential for a particular site.

GEN-6

COMMENT: The BLM National Monuments were established to “protect historic landmarks, historic and prehistoric structures, or other objects of historic or scientific interest,” in contrast to the National Park Service mandate, to “provide for the enjoyment of future generations.” A number of letters asked that the monument be preserved as a legacy for future generations and some mentioned

that future generations should have access to such natural beauty. Respondents stated that the monument was not created as a tourist attraction.

RESPONSE: The monument is a part of the BLM's National Landscape Conservation System (NLCS), established to protect some of the nation's most remarkable and rugged landscapes. A key NLCS objective is to provide opportunities for the individual to explore and discover these special areas. Proposed monument management seeks to accommodate existing and future uses in a manner that balances recreation with the protection of monument resources and natural ecosystem processes. Implementation of management activities outlined in the proposed plan has been designed to balance recreational opportunities with the protection of monument resources by monitoring areas for unacceptable changes, consider alternatives to site development (road closures, permits, etc.), educate users about the potential negative impacts of different activities and use law enforcement to ensure that laws and regulations pertaining to the protection of monument resources are followed.

GEN-7

COMMENT: The CSNM is a high elevation land bridge of regional and national significance. The importance of the monument as a "biological crossroads" has been widely recognized by federal agencies. The BLM needs to fully recognize landscape connectivity as key to maintaining the monument's integrity as a biological crossroads. The BLM's management plan must provide for sufficient protection, maintenance, and restoration of landscape connectivity to assure the monument's crossroad function.

RESPONSE: Additional information related to the importance of landscape connectivity has been incorporated in the following sections of Chapter 2: **Old Growth Emphasis Area, Diversity Emphasis Area, Riparian Areas and Aquatic Resources, Livestock Grazing, and Transportation and Access**. This information was used to help develop the final management plan in order to protect, maintain and restore landscape connectivity in the monument.

GEN-8

COMMENT: The draft plan was completed by the spring of 2001, and does not reflect information gathered during the 2001 and 2002 field seasons.

RESPONSE: The BLM has updated the final management plan to include information gathered during the 2001-2003 field seasons.

GEN-9

COMMENT: An array of comments were submitted on the economic effects of the monument ranging from "the monument will be good for the economy" to "the monument will limit jobs related to timber production and hurt the county's ranching community." Some respondents thought local economic benefit should not be considered in managing the monument.

RESPONSE: The economic impacts of this plan on local economies are expected to be minimal, but positive. Impacts to local economies result primarily from direct BLM spending and from spending by visitors. Direct spending by BLM on management activities such as forest management could have some beneficial effects on local communities. Local economies could also be affected by many factors that are not directly the result of BLM actions, but may be influenced by how the monument is managed. Some of these factors may have socio-economic impacts that are even larger than those associated with this plan. Private enterprises, local government, and others make decisions regarding infrastructure, business development, and service expansions. These decisions may result in significant economic impacts. Further discussion of economics can be found in Chapter 3, "Impacts on Local Economies".

GEN-10

COMMENT: There were some concerns about the cost to the government and the taxpayers of scientific studies, and monitoring.

RESPONSE: The monitoring process will collect information in the most cost effective manner as possible. Unnecessary detail and unacceptable costs will be avoided by focusing on key monitoring questions and proper sampling methods. The level

and intensity of monitoring will vary, depending on the sensitivity of the resource, process or trend and the scope of the proposed management activity. In regards to livestock management, the presidential proclamation directed the BLM to “study the impacts of livestock on the objects of biological interest in the monument with specific attention to sustaining the natural ecosystem dynamics.” The BLM has since developed *The Draft Study of Livestock Impacts on the Objects of Biological Interest* (Livestock Impact Study).

GEN-11

COMMENT: Local residents requested priority access to contracting opportunities for local landowners. They also requested that pilot projects related to management activities be established that involve adjacent landowners.

RESPONSE: The use of stewardship contracts which could involve local residents was identified as one of the mechanisms for accomplishing restoration projects in the OGEA. In the DEA and portions of the OGEA, the plan proposes a series of pilot studies. Stewardship contracts could be considered in implementing the pilot studies.

GEN-12

COMMENT: Comments questioned the science utilized for the draft plan. Examples include statements that the BLM:

- placed too much emphasis on unproven experimental management prescriptions
- should recognize and use the “core-buffer” management principle
- should have high burden of proof before undertaking intensive management
- should have high burden of proof before limiting intensive management
- needs to place a stronger emphasis on scientific uncertainties
- needs to continue water and air quality studies
- should use radio telemetry to monitor focal species.

RESPONSE: The BLM is also concerned about “undertaking intensive management” without an adequate knowledge and understanding of the plant community dynamics, especially in the

DEA. As a result, BLM would undertake pilot studies prior to the design and implementation of intensive treatments. To mitigate potential impacts, pilot studies would be spread out spatially and temporally. Pilot studies would be placed to avoid sensitive plant communities associated with perennial streams, seeps, springs, and wetlands. Prior to implementation of multiple studies, additional analysis would determine the potential for site-specific and cumulative effects. See Appendix C for the “Implementation, Monitoring, and Adaptive Management Framework”. The credibility of an adaptive management process rests in part on the routine application of an outside check on the use of technical and scientific information, including monitoring. Independent reviews and partnerships with outside groups (e.g. Oregon State University and U.S. Fish and Wildlife Service) can provide verification that plans, evaluation and changes in management strategies are consistent with current scientific concepts. In addition, collaboration with the local communities, monument interest groups, and users of the monument ensure credibility and the success of managing the unique elements of the CSNM.

GEN-13

COMMENT: An analysis to assess the cumulative impacts from logging, road building, irrigation ditches, grazing, and other barriers to fish and wildlife dispersal should be conducted. A detailed roads analysis considering the impacts of roads on the monument’s connectivity and objects of interest should be completed.

RESPONSE: The BLM has included a substantial new roads analysis in the proposed plan. The new analysis used the BLM’s GIS database to examine road density; proximity of roads to riparian reserves and fishbearing streams, proximity of roads to special reserves; effects of roads on hydrologic function, exotic species/noxious weeds, fire ignition and suppression, and livestock operations. The transportation analysis is described in detail in the **Transportation and Access** section of Chapter 2 of this plan. An evaluation of cumulative effects can be found in Chapter 3. A detailed analysis of the direct, indirect and cumulative affects of roads on monument resources is located in Chapter 3.

GEN-14

COMMENT: The plan should remain flexible and dynamic, open to change when necessary for conservation, to respond to emerging social values and to achieve adaptive action. Extensively peer-reviewed science should be used as the basis for careful conservation efforts. Ten-year intervals for plan review were recommended.

RESPONSE: The proposed plan has been designed to remain flexible and dynamic and the use of peer-reviewed science is part of the design of the monitoring and adaptive process as described in Appendix C.

GEN-15

COMMENT: In order to comply with NEPA provisions, provide specific forest change detection analysis and other impacts to adequately assess cumulative impacts on connectivity functions.

RESPONSE: In accordance with the requirements of 40 CFR 1508.7, 1508.8 and 1508.27, the impacts of implementing the proposed plan are evaluated in Chapter 3 (Environmental Consequences). The effects of the proposed plan on connectivity functions are addressed in the **Effects on Terrestrial Wildlife Species, Effects on Riparian Areas and Aquatic Species and Cumulative Impacts** sections in Chapter 3.

GEN-16

COMMENT: The inclusion of the Oregon Gulch Research Natural Area (RNA) and Scotch Creek RNA management plans as appendices may not be consistent with the requirements of NEPA. The RNA plans are presented as written as “common to all alternatives”, not subject to public discussion or input, and without a reasonable range of alternatives.

RESPONSE: The management plans for the Scotch Creek RNA and the Oregon Gulch RNA are independent of the CSNM Resource Management Plan. The RNA management plans were included as appendices in the draft plan and were made available for public comment at that time. Changes to the RNA Plans were made based on comments reviewed. They were developed based on the criteria of the Oregon Natural Heritage Program. The RNAs were designated prior to the creation of the CSNM. The proposed CSNM plan incorporates

these designations and adopts the management plans associated with them. The RNA plans do not necessarily require NEPA analysis and decision; however, implementation of these plans would require the appropriate level of site-specific environmental analysis that analyzes a full range of management alternatives as required by NEPA. The RNA plans are included as appendices (Appendix L and Appendix M) to this proposed monument plan.

GRAZING**GRA-1**

COMMENT: Livestock grazing and its impacts should be considered in this EIS. Grazing impacts are impossible to detach from a thorough analysis of environmental impacts or an ecosystem assessment. Concerns regarding grazing environmental impacts include:

- riparian damage and deleterious impacts on native fish
- harm to seeps, springs and creeks
- alteration of meadows, and negative hydrologic and water quality effects
- spread of noxious weeds
- trampling of rare plants
- reduction of winter forage for by deer and elk.

RESPONSE: The draft plan deferred most discussion, analysis, or decisions regarding livestock grazing in the CSNM until a livestock impact study (*Study of Livestock Impacts on the Objects of Biological Interest in the Monument*) could be completed. The livestock impact study is currently in progress. However, as noted in the public comments received by many individuals, organizations, and other governmental agencies, a comprehensive management plan is dependent upon the integration and analysis of livestock grazing management practices in coordination with other proposed management activities. The proposed plan has been modified to include a discussion of livestock grazing in the monument and the current and future management of livestock grazing under existing laws and regulations, including the direction found in the presidential proclamation.

In Chapter 3, impacts of direct, indirect, and cumulative effects of the proposed management activities for livestock grazing are analyzed in the short-term and long-term. The effects analysis for livestock grazing on various resources includes effects to the OGEA, DEA, riparian areas/

wetlands and aquatic species, water resources, soils, terrestrial wildlife species, special status species, and recreational use. In the short-term, the presidential proclamation mandated that “Existing authorized permits or leases may continue with the appropriate terms and conditions under existing laws and regulations.” In the long-term, the presidential proclamation directed the BLM to “study the impacts of livestock on the objects of biological interest in the monument with specific attention to sustaining the natural ecosystem dynamics.” The **Livestock Grazing** section in Chapter 2 of this plan describes the process for determining if livestock grazing is compatible with “protecting the objects of biological interest” and evaluating the allotments for lease renewal to ensure that livestock grazing is consistent with current laws and regulations.

GRA-2

COMMENT: Livestock grazing is beneficial because it serves as:

- an effective management tool
- promotes mid-successional vegetation for deer browse
- benefits the local agricultural economy.

RESPONSE: Impacts of livestock grazing are discussed throughout the Environmental Consequences in Chapter 3. The effects analysis for livestock grazing assessed both positive and negative effects.

GRA-3

COMMENT: Some respondents expressed concern about the economic plight of ranchers and the financial impact to them from the potential loss of BLM grazing permits. Farmers and ranchers serve a valuable role of maintaining and restoring large areas of landscape for wildlife habitat.

RESPONSE: Following the evaluation and determination of rangeland health and compatibility “with protecting the objects of biological interest”, lease renewals would be subject to the appropriate level of environmental analysis as prescribed under NEPA. The NEPA analysis would develop a full range of management alternatives for livestock grazing consistent with all applicable legal authorities, including the

presidential proclamation. Alternatives would include current grazing management, a no-grazing alternative, and other alternatives. Evaluation of the consequences of implementing each alternative would include consideration of economic and logistical feasibility.

GRA-4

COMMENT: A letter from an adjacent landowner expressed concern that he may have to erect a fence to keep cattle off the monument. Although he is not running cattle on his own property, he does not welcome the prospect of being responsible for keeping open-range cattle off the monument.

RESPONSE: Individual landowners that do not have cattle are not responsible for keeping livestock off the monument. Private landowners who own livestock are responsible for their own livestock and are required to keep their cattle off federal lands unless authorized by permit or lease, whether or not the federal land is designated a national monument.

GRA-5

COMMENT: Livestock grazing should be monitored. Some responses stated that grazing should be allowed in exceptional circumstances or for research purposes.

RESPONSE: The BLM is currently engaged in conducting studies, monitoring projects, and a literature review to determine “the impacts of livestock on the objects of biological interest in the monument with specific attention to sustaining the natural ecosystem dynamics” as directed by the presidential proclamation. The Livestock Study and associated data collection is ongoing.

GRA-6

COMMENT: Support was expressed for the mandated livestock grazing impact study, although some voiced concern about its cost and another letter said that buyouts are more economical than studies of grazing impacts. Many responses suggested that the BLM pursue a voluntary buyout program to retire grazing allotments.

RESPONSE: The pursuit of a voluntary buyout program to retire grazing allotments is outside the scope of this plan. Grazing lessees pay the BLM a grazing fee for the privilege of grazing their

livestock on public land. These fees are based on the amount of livestock grazed, and the length of time the livestock is grazed on public lands (animal unit months, or AUMs). The BLM does not attach monetary value to these grazing leases. Thus, there is nothing for the BLM to “buy” from the grazing lessees.

GRA-7

COMMENT: National Environmental Policy Act “intends that all anticipated significant actions and effects of a proposal are taken into account. A separate grazing study is inappropriate and inconsistent with NEPA.”

RESPONSE: The Livestock Study is not a separate NEPA document. The Livestock Study consists of a series of studies, monitoring projects, and literature review that will be used to make an overall assessment of rangeland health. The assessment will be used to determine whether or not current livestock grazing practices within the monument allotments are meeting the standards and following the guidelines described in the Oregon Standards for Rangeland Health and whether or not current livestock practices are compatible “with protecting the objects of biological interest.” Following the evaluation and determination of rangeland health and compatibility “with protecting the objects of biological interest”, lease renewals would be subject to the appropriate level of environmental analysis as prescribed under NEPA.

GRA-8

COMMENT: The lack of consideration of the plan’s affect on the custom, culture and economy of local communities is a violation of NEPA. Ranching profitability will be affected with changes to the livestock grazing program and this has not been considered in this EIS.

RESPONSE: Livestock grazing continues as an authorized use within the monument. The proclamation mandated that “Existing authorized permits or leases may continue with the appropriate terms and conditions under existing laws and regulations.” Following the evaluation and determination of rangeland health and compatibility “with protecting the objects of biological interest”, lease renewals would be subject to the appropriate level of environmental

analysis as prescribed under NEPA. The NEPA analysis would develop a full range of management alternatives for livestock grazing consistent with all applicable legal authorities, including the presidential proclamation. Evaluation of the consequences of implementing each alternative would include consideration of economic and logistical feasibility.

LANDS

LAND-1

COMMENT: An array of comments was received regarding the size of the monument. Some stated that the size of the monument should remain the same and, if anything, expanded. Some asked that boundaries be redrawn to include the contiguous public lands in California. Others asked that a buffer zone be created around the monument where management would ensure protection of monument values. A few comments asked that boundaries be redrawn and/or minimized, particularly to exclude inholders.

RESPONSE: The Cascade-Siskiyou National Monument was established on June 9, 2000 when President William J. Clinton issued a presidential proclamation under the provisions of the Antiquities Act of 1906 (Appendix A and B, respectively). The presidential proclamation reserved all “lands and interests in lands owned or controlled by the United States” within the greater monument boundary (Map 1). Expansion of the monument outside the greater monument boundary is outside the scope of this plan.

The CSNM designation applies only to federally managed land. The external boundary depicted on Map 1 is for planning purposes only. Privately owned property within this outer boundary is not encumbered by, or in any way part of, the CSNM designation.

LAND-2

COMMENT: Many letters suggested establishment of a voluntary buy-out program to acquire private lands within the greater monument boundary in order to facilitate management across a more contiguous landscape. Others expressed concern that the BLM would not have the capacity to manage these lands and land acquisitions should not be part of the management plan.

Justifications for purchasing private property from willing sellers included:

- the need for wildlife habitat connectivity
- possibility of enhancing water quality
- it would provide a buffer
- to increase uniform ownership.

Justification for opposition to acquiring more land included:

- the government should not manage anymore land
- the government should not “take” private land
- loss of private lands from tax base
- private landowners are better stewards.

RESPONSE: Land tenure adjustments are described in the General Management section of Chapter 2. The BLM could acquire additional lands within the greater monument boundary through purchase and exchange with willing participants. The BLM would utilize land acquisition to help meet the management goals and objectives described in this plan. Lands may be acquired on a case-by-case basis through purchase, donation, conservation agreements/easements, or by exchange, consistent with existing land-use planning, regulation, and law. Lands may be acquired by exchange only where the public land involved in the exchange is located outside the CSNM.

LAND-3

COMMENT: Why does the BLM have to complete the final resource management plan prior to acquiring private lands intermingled within monument lands from willing sellers.

RESPONSE: Land could be acquired to help meet the management goals and objectives described in this plan. The BLM deferred consideration of land acquisition until the resource management plan is approved in order to have clear guidance on prioritizing available properties. Any land acquisition will comply with the criteria summarized in the **General Management** section of Chapter 2.

LAND-4

COMMENT: Internal acquisition of private property and issues of rights-of-way need to be addressed in the plan.

RESPONSE: Within the monument, private property can be sold and bought on the open market with no restrictions. Access for legal ingress and egress to private land is recognized by the BLM and protected under Alaska National Interest Lands Conservation Act (ANILCA) and state law. This issue is addressed in the **General Management** section of Chapter 2 in the proposed plan.

LAND-5

COMMENT: Full-disclosure of rights-of-way agreements needs to be done to comply with 40 CRF 150.22, 1502.15 and 1502.16.

RESPONSE: Current BLM authorizations are recognized and protected under Valid Existing Rights (VERs). There is a listing of these authorizations in the proposed plan (Appendix P). The public can obtain detailed information on any of these authorizations by contacting the Medford District Office of the BLM. These authorizations are a matter of public record. All authorizations have terms and conditions which the holder(s) needs to comply with during the life of the grant.

LAND-6

COMMENT: Management of the monument should be at the landscape level in coordination with other ownerships and federal agencies. Connectivity across the landscape at this “biological crossroads” needs to be considered and fragmentation caused by different ownerships and managements should be reduced.

RESPONSE: The BLM will continue to coordinate with other ownerships and agencies in the management of the CSNM. The BLM and the Oregon Department of Forestry (ODF) jointly fund a community forest protection officer. This position coordinates with the BLM in development of wildfire prevention strategies, ongoing community education, and assisting private land owners with national fire plan grants. In the Strategy for Controlling the Spread of Noxious Weeds and Other Invasive Grasses (Appendix G), educating private land owners within the greater monument boundary on weed issues and treatment strategies is paramount to succeeding in controlling and eradicating weeds in the monument. Partnerships and cost-sharing projects, moreover, are an efficient way to treat larger landscape areas. Working with

adjacent land owners, including companies under BLM-permitted activities (e.g., power companies), to prevent the spread of weeds across ownership boundaries, and addressing noxious weeds in all land management activities is critical to success for the landscape as a whole. Identification booklets, preventive strategies, and recommended treatment methods could be a valuable tool for educating and developing partnerships with the monument public. In addition, collaboration with the local communities, monument interest groups, and users of the monument ensure credibility and the success of managing the unique elements of the CSNM.

LAND-7

COMMENT: An array of letters was received on issues related to rights-of-way. One letter stated that the allocation of lands to existing rights-of-way corridors and communication sites, as well as hydroelectric developments, is in violation of the proclamation. Some comments asked for removal of existing communication facilities on Soda Mountain and prohibition of future ones.

RESPONSE: All holders of current BLM land use authorizations are protected under VERs to continue to hold those authorizations and to “enjoy” the rights attached to them. VERs were explicitly recognized in the proclamation and holders retain their legal rights as permitted under the terms and conditions stated in the specific authorization. Existing communication site users will continue to operate in the monument unless users choose to relinquish their rights in the future. New communication sites within the monument are not allowed under the proposed plan.

LAND-8

COMMENT: The DEIS states that common mineral materials from existing quarries can continue to be used for administrative purposes in Alternatives A, C, and D. The DEIS does not mention, however, that allowing this use is inconsistent with the Mineral Materials Act of 1947, which specifically excludes the disposal of mineral materials from national monuments. Therefore, the BLM must select Alternative B, which closes the quarries in the monument.

RESPONSE: Disposal typically means the sale or exchange of some commodity (lands/minerals)

to the public. Materials coming from quarries would likely be “common materials” (pit-run rock or processed rock). The BLM uses these types of materials within the monument for administrative use and improvement of facilities (e.g. roads, trails, parking areas, etc.) to reduce environmental effects. Since the BLM is not selling these common materials to the public, use of these materials from the quarries could continue under the proposed plan.

MONITORING

MON-1

COMMENT: What is “effectiveness monitoring?” What type of effectiveness is the BLM monitoring?

RESPONSE: Effectiveness monitoring measures, analyzes and documents the biological effects of management treatments accomplished on the landscape. It is intended to monitor the effects expected by proposed management actions in order to see if objectives were met and to serve as feedback for future management.

Types of effectiveness monitoring vary by discipline and could be combined at project levels. For instance, in forest management projects that are thinned stand indices such as species composition over time, growth rates, density and insect and disease levels would be monitored. These are all indices of forest health and stand development. Prescribed fire monitoring would include effects of burning that use similar measurable indices that link to forest health issues. Effectiveness monitoring could then be done focusing on more than one discipline. Effectiveness monitoring protocols are available for every discipline. Further, pilot studies in the DEA examining possible management strategies might consider the balance of native versus non-native species, the abundance of noxious weeds, and the ability of desired native species to persist. The choice of variables would depend on site specific conditions and management objectives.

MON-2

COMMENT: Will spotted owl monitoring continue?

RESPONSE: Northern spotted owl monitoring will continue as funding is available.

OLD GROWTH EMPHASIS AREA

OGEA-1

COMMENT: Thinning should be used to achieve the goals of restoration and protection of monument resources; commercial incentives for resource extraction should not be part of the management plan. The proclamation constrains commercial logging, mining and development.

RESPONSE: Selective thinning will be included in specific project designs to achieve restoration and protection goals. The proposed management actions are not driven by commercial incentives. The proclamation and this plan would allow the removal of some commercial size trees from the stand “when part of an authorized science-based ecological restoration project aimed at meeting protection and old growth enhancement objectives.” Commercial harvest would not be the objective. Commercial-sized material would generally stay on site to meet coarse woody debris objectives or could be used off-site for stream restoration. Material in excess of these needs may be sold commercially.

OGEA-2

COMMENT: Several comments supported commodity use and commercial extraction; commercial marketing of products produced by thinning was suggested as a way to pay for forest management and reduce the cost to the taxpayer.

RESPONSE: Some of the primary mechanisms for accomplishing restoration projects in the OGEA are service contracts, stewardship contracts, and in some cases, commercial timber sales. These mechanisms are described in the **Old-Growth Emphasis Area** section of Chapter 2. Commercial harvest of trees would not be used to pay for restoration projects.

OGEA-3

COMMENT: Some respondents were against any forest management in the monument. Other letters supported thinning and suggested a range of management strategies including:

- Thinning, only if no commercial product.
- Limited commercial thinning based on scientifically defensible standards.

- Thinning to enhance old-growth and late-successional habitat, but not too aggressively.
- Thinning in areas such as north half of the monument which has been intensively managed in the past.
- Employing a diameter limit smaller than the one in the draft plan (suggested diameter limits included 12, 14, 16 and 17 inches).
- Employing a diameter limit for thinning operations on a case-by-case basis.
- Managing forests using methods that enhances and maintains patchiness.

RESPONSE: Any thinning project would be designed to meet long-term forest health and habitat objectives at the specific site or stand level. The DEIS did not intend to imply that a specific diameter limit would be used across the monument. Establishing specific diameter limits would not meet scientifically-based criteria given the need to develop specific treatments at a stand level in order to meet historic structural and density levels. Rather, thinning projects will promote removing the suppressed understory in a manner that aims to remove small diameter trees that have been established due to the absence of fire in these stands. Most trees removed would be noncommercial size. When larger trees are removed, they would not be of old-growth character. These trees compete with and negatively affect individual (old-growth) trees or stand structure. All treatments would be designed to meet historic conditions and to maintain, promote and enhance old-growth forests.

OGEA-4

COMMENT: Some respondents supported active forest management using commercial and non-commercial means, expressing that it is a legitimate way to control fire, insects and disease.

RESPONSE: The objectives for managing the OGEA and the DEA are described their respective sections in Chapter 2. The primary goal for both emphasis areas is to maintain, protect and restore plant communities to the potential natural vegetation within the natural range of variability. All proposed treatments are designed to move the vegetation toward this goal.

OGEA-5

COMMENT: The alternatives in the draft plan for vegetation management and thinning in the OGEA are too aggressive to provide wildlife species with adequate habitat.

RESPONSE: The proposed plan treats only a small percentage of the area (22 percent) over the next decade (Table 2-2) in the OGEA. No treatments are proposed in primary spotted owl habitat. Limited pilot projects (maximum of 200 acres) may occur in late-successional forest habitat within the WUI. The majority of treatments would take place in young stands that do not currently provide habitat for late-successional species. Treatments that take place in stands that currently provide dispersal habitat for late-successional species would be designed to ensure that existing functions are not lost in an effort to improve long-term habitat conditions.

Management activities in the WUI would be designed to restore ecological integrity and to lower fire hazard through thinning and prescribed fire treatments. Treatments proposed in the reduced connectivity area (Map 8) would be designed to enhance the ecological integrity of young stands and dispersal habitat through thinning and prescribed fire treatments. Treatments in young stands would be designed to promote the development of stands that would closely pattern historic forest development.

OGEA-6

COMMENT: The DRMP/DEIS lumps conifer stringers into the southern part of the monument into OGEA, not into the non-forested habitats of the DEA that surround them. Therefore, the same management approach could be applied to these small islands of conifers surround by DEA as for entire sections of conifers in the northern part of the monument. The large scale at which conifer forest management actions are mapped in the DEIS (typically ¼ mile from good spotted owl habitat) is not appropriate in the DEA, where ¼ mile could easily encompass three or four plant communities.

RESPONSE: Conifer stands, whether located in the DEA or the OGEA, tend to suffer many of the same structural and forest health problems. Conifer stands in the DEA will be analyzed and managed in a manner consistent with historical conditions and in context with the surrounding landscape.

Map 11 identifies stands with a high fire hazard rating (Appendix E) within ¼ mile of late-successional and old-growth habitat (Habitat Types 1 & 2). The existing conditions of these stands are conducive to high-intensity fire. In the event of a wildland fire, these stands may pose a risk to nearby old-growth stands as the fire spreads. Some of the mapped areas are in the DEA. Stands in the DEA have a different set of management objectives than those in the OGEA. These areas would not be treated indiscriminately to reduce fire hazard simply because of their proximity to the OGEA. Any treatments in the DEA would take place in coordination with the objectives and management considerations described in Chapter 2.

RECREATION**REC-1**

COMMENT: Recreation is not specifically identified in the proclamation; it should not be promoted. Some respondents discouraged promotion of the monument and wanted to limit access; others encouraged visitor information and signage.

RESPONSE: Although the presidential proclamation makes clear that ecological protection is the primary purpose of the monument, recreational uses are not precluded by the proclamation and will continue to take place throughout the monument. The monument is part of the BLM's National Landscape Conservation System (NLCS), established to protect some of the nation's most remarkable and rugged landscapes. A key NLCS objective is to provide opportunities for the individual to explore and discover these special areas. Proposed monument management seeks to accommodate existing and future uses in a manner that balances recreation with the protection of monument resources and natural ecosystem processes.

REC-2

COMMENT: Numerous comments were submitted on off-highway vehicles (OHVs). Some comments requested that all OHVs be restricted to maintained road systems so that OHVs won't cause disrepair. Others noted that the proclamation prohibits OHV use. Others asked that OHVs be limited to specially designated roads or used with reasonable limits. One reason given for prohibiting OHVs is the difficulty of managing them as they

sometimes stray from designated roads and in the process could impact sensitive soils, harm plant communities and scare wildlife.

RESPONSE: Cross-country travel by OHVs within the monument is prohibited by the presidential proclamation. OHVs are restricted to roads that are designated as open to the public for motorized access (Maps 19 and 20).

REC-3

COMMENT: Many letters regarding visitor access expressed concerns about traffic created by increased visitation in the monument. Comments supported non-mechanized, non-destructive visitor access off gravel and paved roads throughout the area.

RESPONSE: The area that is now the Cascade-Siskiyou National Monument has long been popular for recreation. Some forms of recreation in the monument were limited or curtailed by the presidential proclamation. While hunting and fishing are still allowed throughout the monument, restrictions have made some historic hunting camps and sites less accessible to motorized vehicles.

The majority of the monument is undeveloped and visitor use is estimated as light to moderate throughout the area; informal observations, however, indicate that visitation to the area has increased since monument designation. The Hyatt Lake Recreation Area receives moderate use during the months of April through October. In 2003, records show that 14,139 people visited the Hyatt Lake Recreational Complex. Visitor use would be monitored and any associated problems would be addressed through the management described in this plan.

REC-4

COMMENT: Cars should not be allowed to park off roads or outside designated parking areas.

RESPONSE: The presidential proclamation restricted motorized and mechanized travel to designated open roads. Drivers of motorized vehicles would be required to park within the road prism, preferably on hardened surfaces. Drivers should avoid parking in wet areas and should not park in areas where vegetation damage could occur easily.

REC-5

COMMENT: Special parking areas should not be developed to accommodate visitation to the monument.

RESPONSE: Additional parking areas would only be developed when needed to mitigate resource damage.

REC-6

COMMENT: "The management should make the greatest possible effort to support non-mechanized recreational activity within the monument, always consistent with protection of the unique environment or this area." Low-impact recreation, which does not destroy the ecology, should be encouraged, but not promoted, especially road-dependent recreation.

RESPONSE: The Presidential Proclamation banned off-road travel by motorized or mechanized vehicles, eliminating the popular use of OHVs to travel cross-country in the area. The monument is a part of the BLM's National Landscape Conservation System (NLCS), established to protect some of the nation's most remarkable and rugged landscapes. A key NLCS objective is to provide opportunities for the individual to explore and discover these special areas. Proposed monument management seeks to accommodate existing and future uses in a manner that balances recreation with the protection of monument resources and natural ecosystem processes.

REC-7

COMMENT: Visitor centers, additional trailheads, parking areas and other facilities promote recreation and threaten the environment. Improvements should be built only where clearly needed to reduce resource damage.

RESPONSE: Additional facilities (new trail construction, parking, toilets, trailheads, etc.) would only be constructed to mitigate resource damage. Alternatives to site development (road closures, permits, etc.) would also be considered. Implementation of management outlined in the proposed plan would strive to meet the following objectives:

- Avoid recreational improvements that detract from the monument's rugged and wild backcountry.

- Encourage visitors to use the monument's developed recreation sites. These include the Hyatt Lake Recreation Area and the Pacific Crest National Scenic Trail (PCT).
- Promote "Leave No Trace" camping and hiking methods.

REC-8

COMMENT: A specific suggestion was made to control erosion and restore vegetation on the Pilot Rock trail by rehabilitating damaged areas and constructing a new trail in an appropriate location.

RESPONSE: Currently, hikers access Pilot Rock on an unstable trail traversing the ridge west of Pilot Rock before continuing up a chute on the north side of the rock. Footing on the trail is poor, and in some places there are large areas barren of vegetation as people seek more stable footing along the sides of the trail. Surface erosion caused by runoff across exposed soils has contributed to the problem. In order to improve hiking opportunities, increase visitor education, and prevent additional resource damage from occurring in the Pilot Rock area, the following actions would be taken:

- The BLM would improve and maintain the existing Pilot Rock parking facility at the rock quarry along Pilot Rock road (40-2E-33).
- The Pilot Rock road would be closed and decommissioned beyond the quarry.
- A trail would allow access to Pilot Rock beyond the road closure.
- Interpretive and educational materials would be developed regarding the need for seasonal climbing restrictions and the safety issues associated with hiking or climbing on Pilot Rock.
- A subsequent site-specific environmental analysis in the form of an Environmental Assessment would determine a more stable access route to Pilot Rock. The analysis would consider whether the existing trail with its associated erosion problems could be stabilized, or whether the existing trail should be closed and a new route established.

REC-9

COMMENT: The BLM should be more aggressive in promoting the monument. Signs, tours and a visitor center are options for accomplishing this. Some respondents thought the interstate would be a proper site for a monument visitor center because it would capture traffic and is already an area impacted by human use and development. Others felt that the visitor center should be built at Hyatt Lake. Some recommended signs and making brochures available along major thoroughfares (and even at the airport). One suggested an interpretive sign at a scenic pullout on the Interstate 5.

RESPONSE: The Medford BLM would remain a point of contact for visitor information. Facilities could be developed within the surrounding communities for use as visitor contact stations. Exact location of these facilities would be based on availability of infrastructure, environmental site constraints, economic viability, and funding. Currently, the BLM has signed a Memorandum of Understanding with the Friends of the Cascade-Siskiyou National Monument to manage a small, self-service visitor information center located at 11470 Highway 66 (Appendix K).

REC-10

COMMENT: Many respondents support the plan's designation of the more developed area north of Highway 66 for more concentrated recreational use and restricting the less developed area south of Highway 66 for scientific research and teaching. Others felt that the separation of the monument into use and nonuse sections runs contrary to the designation of the monument as a whole and that the proposed high level of recreation and increased concentration of activity at Hyatt Lake was not justified or was to "sacrificial" of that area.

RESPONSE: Visitation to the monument is expected to increase. The north management zone (Map 4) is easily accessible and well-suited to visitation. The Hyatt Lake Recreation Area is located within this zone. The south zone (Map 4) of the monument is primarily rugged and undeveloped. The remoteness of these areas limits human disturbance on the monument's objects and natural ecosystem processes. Although these areas offer excellent opportunities for exploration and discovery, increased visitation could diminish

the remote character of the area and have negative impacts on monument resources.

REC-11

COMMENT: In sum, the following were suggested for visitors:

- interpretive materials
- signs (for information and identification of private land)
- guided hikes (as an alternative to interpretive signs)
- new trails (for hiking and horses)
- information about cultural history
- educational programs on area archaeology
- programs to teach benefits of preserving land
- center and signage on Interstate 5 to capture traffic
- toilets (including at trailheads)
- volunteer programs
- handicapped accessible places (roads for vehicles with permits only)
- walk-in overnight shelter for seasonal cross-county ski and equestrian use.

RESPONSE: All of the above were considered in the development of the proposed management for recreation. With the exception of the proposal for a walk-in overnight shelter and the information center and signage on Interstate 5, each of these suggestions could take place under the proposed management. New trails for hiking and horses would only be developed to prevent resource damage.

REC-12

COMMENT: The following were suggested as ways the BLM might guard against overuse:

- discourage motorized camping
- allow backcountry camping only via permits
- consider group camping permits only with strict regulations
- install composting toilets
- limit sites for campfires
- limit horses on trails, especially when muddy
- clarify that there will not be any concessionaires

- monitor recreational use (e.g., traffic counters on particular roads such as Soda Mountain and Baldy Creek).

RESPONSE: The BLM will continue to monitor recreational use within the monument. In the event of unacceptable resource damage, certain recreational uses could be limited or prohibited. Limits can be established through the use of permit systems or group-size limits. Conversely, while limiting or prohibiting use is an effective way of preventing additional resource damage, these methods reduce opportunities for individuals to explore the monument. Law enforcement officers would be employed to ensure that laws and regulations pertaining to the protection of monument resources are followed.

REC-13

COMMENT: Recreation on public lands is spilling over into private land, particularly snowmobile, OHV use and camping, with or without campfires. The BLM should not allow such activity in mixed-ownership areas or should carefully post property boundaries.

RESPONSE: Managing recreation is a challenge due to the high percentage of private ownership across the landscape and the network of public and privately-controlled roads. In many cases, either limiting or providing public access to an area requires BLM to work with the private landowners that control sections of road throughout the monument. Due to the monument areas checkerboard ownership pattern, private lands are sometimes mistaken for monument lands and may result in inadvertent trespass on private lands. Visitor education in the form of informational brochures or flyers, interpretive or informational signs, presentations to groups or individuals, and other types of media or communication will be used.

REC-14

COMMENT: An array of comments was submitted on snowmobiles ranging from closing the entire monument to snowmobiles to allowing use only north of Highway 66 to allowing it throughout the monument. Some felt that traditional use should be allowed to continue; others believed eliminating snowmobile use in the monument was an important precedent to set from the beginning.

Most of those who favored snowmobile use wanted to see it strictly regulated. One respondent wondered whether BLM had thoroughly checked the scientific literature with regard to the effects on winter habitat needs regarding noise and intrusion on all relevant species that the monument was established to protect.

RESPONSE: Snowmobiles would be allowed on designated open roads in the north management zone. Snowmobiles would not be allowed on roads that are closed or decommissioned and cross-country travel by snowmobiles would be prohibited throughout the monument. The existing snowmobile trails (Map 25) in the north management zone enter and leave private land several times. The BLM does not have legal rights to allow the public to use these roads for winter recreation. However, the informal public use across private lands takes place at the discretion of the road owner(s) and could cease at any time, thereby limiting access to these areas.

Snowmobile use within the monument will be monitored. In the event of unacceptable resource damage, snowmobile use could be limited or prohibited. Snowmobile use in the monument is unlikely to significantly impact wildlife species. During the period of use for snowmobiles, deer, elk and many other wildlife species have moved to lower elevations or more southerly latitudes to escape the cold and snow. Species that are known to be present in the vicinity of the snowmobile trails during the period of use (e.g. northern spotted owls, great gray owls, American martens, snowshoe hares) tend to be highly mobile and are not impeded by roads or snowmobiles trails as they move through this habitat, nor highly susceptible to the intermittent noise produced as snowmobiles pass through.

REC-15

COMMENT: An array of comments was submitted on non-motorized mechanized recreation ranging from allowing it only on paved roads to allowing on roads otherwise closed to public access, to allowing it on all dirt roads and trails. Resistance was expressed to having bicycles on hiking trails, while other respondents felt that it was appropriate to restrict bicycles to “double track” and existing roads (including gated roads) to alleviate conflicts

with hikers. Use of closed roads is not supported by some respondents.

RESPONSE: Non-motorized mechanized recreation use is described in the **Recreation and Visitor Services** section of Chapter 2. Cross-country travel by motorized and mechanized vehicles is prohibited throughout the monument.

Bicycles (non-motorized) would be allowed on most designated roads that are open to administrative use but otherwise closed to motorized vehicle access. Bicycles are not allowed on the Pacific Crest National Scenic Trail (PCT). Bicycles would not be allowed on roads closed by the proclamation or those roads identified for decommissioning (Map 24).

Persons requiring wheelchairs for mobility may use a motorized or mechanized wheelchair to access any area in the monument. A wheelchair refers to a device that is designed solely for use by a mobility-impaired person for locomotion and that is suitable for use in an indoor pedestrian area.

REC-16

COMMENT: Generally, there seems to be some confusion over the terms referring to bicycles: “why don’t you just say it if this [non-motorized mechanized] refers to bicycles?” Respondents were unclear if bicycling will be allowed on certain roads, but prohibited from others and how this will be communicated. Also, if new roads were specifically built for bicycling, would these be roads or trails? Creating additional trails for bikers was not supported by some respondents.

RESPONSE: A section on bicycles has been added to the **Recreation and Visitor Services** section in Chapter 2. Bicycles (non-motorized) would be allowed on most designated roads that are open to administrative use but otherwise closed to motorized vehicle access. Bicycles are not allowed on the Pacific Crest National Scenic Trail (PCT). Bicycles would not be allowed on roads closed by the proclamation or those roads identified for decommissioning (Map 24).

REC-17

COMMENT: It is inaccurate to group mountain bikes together with snowmobiles and off road

motorized vehicles. Bicycles do not have comparable destructive effects on trails and vegetation, nor are they as polluting. Bicycles should be allowed on decommissioned roads and other roads maintained for study and wildland fire protection.

RESPONSE: Bicycles (non-motorized) would be allowed on most designated roads that are open to administrative use but otherwise closed to motorized vehicle access. Bicycles are not allowed on the Pacific Crest National Scenic Trail (PCT). Bicycles would not be allowed on roads closed by the proclamation or those roads identified for decommissioning (Map 24).

REC-18

COMMENT: The use of recreational animal stock was supported in certain parts of the monument, but only with limits on the number allowed in a group and distance from water sources during overnights. Respondents supported requiring weed-free feed for both private and commercial stock during the time they are in the monument.

RESPONSE: Recreational animal stock use is described in the **Recreation and Visitor Services** section of Chapter 2. Recreational stock use includes the use of pack or riding animals such as horses, llamas, or goats for non-commercial uses. Cross-country recreational animal stock use would be allowed in the CSNM with the following restrictions:

- The total number of stock on overnight trips would be four animals per group.
- The total number of stock on day trips is restricted to six animals per group.
- Animals would not be allowed to overnight within 200 feet of any water's edge.
- Stock users would be encouraged to feed certified weed-free feed 24 hours prior to entering the monument.

REC-19

COMMENT: Permit horseback use throughout the monument year-round, but do not accommodate it by making it easy for horses to travel either trails or closed roads in the monument.

RESPONSE: Recreational animal stock use is permitted throughout the monument with the restrictions described in REC-19. Horseback use is not promoted. Improvements to trails or trailheads would only occur to prevent resource degradation. Clearing of trails or closed roads to allow horseback use could be authorized on a case-by-case basis when necessary to reduce or prevent impacts to monument resources.

REC-20

COMMENT: The Pacific Crest Trail Association requested that more scenic protection be afforded the trail, expanding the proposed no-cut corridor to 250 feet on either side of the trail. They also suggest that the trail be a primary access point for the monument and that it be added to all informational and interpretive materials relating to the monument. They support establishment of trailhead parking areas at all road crossings and signage consistent with their 1982 management plan.

RESPONSE: The BLM would not conduct thinning projects within 250 feet on either side of this trail. The Pacific Crest National Scenic Trail is highlighted throughout this plan as a key recreational feature in the area. Many of the BLM's informational and interpretive materials related to the monument highlight this trail.

REC-21

COMMENT: The State of Oregon Historic Trails Advisory Council advises providing appropriate recognition and developmental considerations for the Applegate branch of the California National Historic Trail and the Ewing Young Route State Historic Trail.

RESPONSE: The National Historic Trails within the monument are described in the **General Management** section of Chapter 2.

REC-22

COMMENT: Vehicle access to the Parsnip Lakes area should be allowed only on the first four lakes nearest Highway 66. Disability access should be provided to one Parsnip Lake, to Little Hyatt Lake and to dock facilities at Hyatt Lake. A trail around Hyatt Lake was also recommended.

RESPONSE: These kinds of proposals may be compatible with the proposed plan but would require site-specific evaluation at a later date. The Little Hyatt Lake is not located within the monument.

REC-23

COMMENT: The plan should address rock climbing. It is consistent with values appropriate to the monument. The BLM should preserve climbing opportunities and conserve the climbing environment at the monument.

RESPONSE: Climbing opportunities are addressed in the **Recreation and Visitor Services** section of Chapter 2. In order to protect natural geologic features and vegetation such as lichens and mosses, technical rock climbing would not be allowed within the CSNM, except on Pilot Rock. Rock climbing on Pilot Rock would be subject to the following restrictions. The south face of Pilot Rock provides some of the best technical climbing opportunities in southwestern Oregon. There are seven recorded technical routes on Pilot Rock. To date, fixed anchors have been placed very conservatively on the four Pilot Rock routes requiring them. New fixed anchors could be established on a limited basis to the extent that they do not detract from the geologic resource or impair the quality of the current climbing experience. Bolts needed for fixed anchors may only be installed using a non-mechanized hand drill and hammer.

In order to better protect the peregrine falcons at Pilot Rock and to help ensure nest productivity, a seasonal climbing closure would prohibit climbing activities on the south and east sides of Pilot Rock from February 1 to July 30 each year. No permit system for climbing would be established at this time. However, use would be monitored and a climbing management plan may be necessary if the seasonal closure is violated or resource damage occurs. A plan for monitoring the peregrine falcon nest site is detailed in Appendix J.

REC-24

COMMENT: Two other recreational uses of the monument mentioned: birding and hang gliding. Although no specific recommendations were given related to birding, it was requested that hang gliding be restricted to permit holders and to specific sites and hang gliding off Bocard point be prohibited.

RESPONSE: Hang gliding and para-sailing/gliding would be allowed only in designated areas and by permit only. The designated area would be determined by the monument staff through an analysis process after an application is received and the decision is made to permit the activity. These activities would not be allowed on Pilot Rock.

REC-25

COMMENT: Visual resource management should be discussed in the plan.

RESPONSE: Visual resource management is discussed in the **General Management** section of Chapter 2.

REC-26

COMMENT: Restrict all competitive events and “a-thons” to roads north of and including Highway 66 that were paved at the time of monument designation.

RESPONSE: A Special Recreation Permit (SRP) is required for competitive and/or commercial recreational uses on BLM lands. The issuance of a SRP is a discretionary action. Applications for any competitive event or “a-thon” would be reviewed on a case-by-case basis to determine whether the proposed activity is consistent with the protection of monument resources. Special Recreation Permits are described in detail in the **Recreation and Visitor Services** section of Chapter 2.

REC-27

COMMENT: Map 42 of the DRMP/DEIS shows selected areas of the monument designated as “Primary Recreation Use Zones” and Table S-1 refers to these as “recreation concentration zones.” Scattered references in the DEIS indicate that these zones are places where the monument is receiving relatively heavy public recreational use now. Highlighting these areas will direct even more recreational use and will not help protect the resources of those areas.

RESPONSE: The “Primary Recreation Use Zones” have been eliminated from the proposed plan. The proposed plan divides the monument into two management zones (Map 4) to facilitate discussion of management actions that are not

necessarily related to vegetation management (such as recreational activities and visitor facilities). The northern portion of the monument is easily accessible and well-suited to visitation. The south zone of the monument is primarily rugged and undeveloped.

REC-28

COMMENT: The DRMP/DEIS makes no convincing case for banning hiking in the RNAs under Alternatives B, C, and D. The DRMP/DEIS provides no justification for restricting the minor amount of public visitation these out-of-the-way locations will receive.

RESPONSE: The RNA plans have been modified to allow hiking in these areas. Groups larger than 25 would be required to contact monument staff for information on ways to mitigate possible resource damage in sensitive areas.

REC-29

COMMENT: What is an “administrative purpose” as related to group camping? Who might carry out such purposes and in what ways?

RESPONSE: The proposed plan limits group camping to 12 within the south management zone (Map 4). Group camping in excess of 12 in the south zone could be allowed for administrative purposes as long as the activity does not interfere with the protection of monument objects or resources. Administrative purposes may include authorized research, survey crews, fire crews, or other authorized tasks requiring an overnight stay in the monument.

SPECIAL FOREST PRODUCTS

SFP-1

COMMENT: The term “special forest products” is vague in the effects/environmental consequences section.

RESPONSE: Special forest products include such things as the collection of berries, nuts, mushrooms, or fruits; firewood gathering; and collections authorized by permit for research and management activities. The proclamation specifically prohibits the removal of monument features. Management of special forest products is described in the **General Management** section of Chapter 2.

SFP-2

COMMENT: Collection of rocks and gems with hand tools for personal use should be allowed in specified areas.

RESPONSE: The proclamation specifically prohibits the removal of monument features. The removal of features includes, but is not limited to, the collection of any monument resources such as rocks, petrified wood, fossils, archaeological and cultural items, plants and parts of plants, fish and animals not regulated by ODFW, insects or other invertebrate animals, bones, waste, or other products from animals. In the process of developing this plan, the BLM considered identifying pre-designated rock and gem collecting areas for educational purposes as long as the collection did not interfere with protection of monument resources. The BLM was unable to locate a suitable area that would impact monument resources.

SFP-3

COMMENT: Mushroom hunting should be allowed in the monument.

RESPONSE: Mushroom collection for personal non-commercial use, not to exceed one gallon per day, is authorized within the monument.

WATER RESOURCES

WAT-1

COMMENT: The BLM should take timely and appropriate steps to protect the water rights associated with the monument. Such steps could include the following:

1. Participate in any general stream adjudication affecting the CSNM to ensure that water rights claims are filed with the state and protected.
2. Monitor and become apprised of any new or proposed water developments that could threaten water supplies in the monument.
3. Acquire rights under federal reserve water rights doctrine to appropriate instream peak flows from upstream users (e.g. on Keene Creek) that provide instream structures (large woody components) to bring stream channels back into contact with their floodplains so that stream margin wetlands can reestablish.

RESPONSE: The BLM intends to determine the quantity of water needed to fulfill the purposes for which the monument was established. Once the quantity of water is known, the BLM will assert its federal reserved water rights as established by the proclamation.

WAT-2

COMMENT: Protect water quality, including springs, seeps, creeks, and riparian areas. Streams should be restored to their natural hydrologic function.

RESPONSE: The proposed management plan strives to protect water quality, including springs, seeps, streams, and riparian areas within the monument through the implementation of riparian reserves, the Aquatic Conservation Strategy, and best management practices. Proposed restoration projects such as road decommissioning and drainage improvement would aid in efforts to restore natural hydrologic function for stream systems. Protection and enhancement of hydrologic function, aquatic connectivity, and water quality is one of the primary management objectives for riparian areas. The **Riparian Areas and Aquatic Resources** section of Chapter 2 describes in detail the proposed management for riparian areas within the monument.

WILDERNESS STUDY AREAS

WSA-1

COMMENT: The monument should include the 23,000 acres of Soda Mountain backcountry in the southern part. It should be protected and restored to retain its suitability for future Congressional wilderness designation.

RESPONSE: Most of this area falls within the DEA. The main goal of DEA management is to maintain, protect, and restore habitat and ecological processes critical to the richness and abundance of the objects of biological interest for which the monument was proclaimed. The pilot studies will not detract from the character of this backcountry area.

WSA-2

COMMENT: The monument should not include the 23,000 acres of Soda Mountain backcountry in the southern part.

RESPONSE: The federal lands that encompass the CSNM were reserved in the presidential proclamation. Adjusting those boundaries is outside the scope of this plan.

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