and vandalism. Firearm-related property damage and garbage related to shooting is experienced infrequently. Natural and cultural resources are not damaged by firearm discharge or illegal activities. Firearm discharge and other recreational uses are managed concurrently to improve recreational opportunities and reduce user conflict.

Archaeology

Goal

Locate, protect, preserve, enhance, and interpret cultural resources in accordance with existing legal authorities.

Vision

Cultural resources and "At-Risk," significant archaeological resources are managed in a pro-active manner for their various use categories (as defined in BLM Manual 8100). Information about the archaeology of the planning area is current. Residents of, and visitors to, the area have an opportunity to learn about the local prehistory and history of the region. Interpretation, education, inventories, monitoring, and law enforcement enhances protection and preservation of "At-Risk", significant archaeological resources.

Management Direction

The management direction contained in this section includes new direction from the Upper Deschutes planning process, as well as existing direction from regulations, manuals and handbooks, and unrevised portions of the Brothers/La Pine RMP.

Ecosystem Health and Diversity

Vegetation

Ecosystem Maintenance and Restoration

Objective V – 1 applies to all plant communities. Objectives V – 1a through V – 1g apply only to the plant community specified.

All Plant Communities

Objective V - 1: Maintain and restore healthy, diverse and productive native plant communities appropriate to local site conditions. Manage vegetation structure, density, species composition, patch size, pattern, and distribution to reduce the occurrence of uncharacteristically large and severe disturbances. Maintain or mimic natural disturbance regimes so that plant communities are resilient following periodic outbreaks of insects, disease and wildland fire. Identify opportunities to actively re-pattern vegetation on the landscape to conditions more consistent with landform, climate, biological, and physical components of the ecosystem, and considering social expectations and changes to the landscape driven by human influences.

Rationale:
The Federal Land Policy and Management Act of October 21, 1976 ("FLPMA", 43 USC 1701) declares that the public land be managed in a manner that would: a) protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric,

water, and archaeological values; b) preserve and protect certain public lands in their natural condition; c) provide food and habitat for fish and wildlife and domestic animals; and d) provide for outdoor recreation and human occupancy and use.

Many plant communities throughout the interior west are in a condition, structure and composition that deviate from their "natural" state that existed prior to white European settlement. Human management activities and other influences have contributed to the current imbalance in ecosystems. Restoring conditions that approximate historic conditions would help prevent large-scale occurrences of insect, disease, and wildland fire and the resulting undesirable ecological, social, and economic effects of these large-scale disturbances. Restoration of landscape succession/disturbance regimes is the foundation of the strategy to manage long-term risk to terrestrial, aquatic, and riparian ecosystems. This risk management strategy will conserve scarce habitats in the short-term while expanding these habitats through restoration in the long-term.

Allocations/Allowable Uses:

1. Vegetative restoration treatments may be accomplished by a variety of methods including, but not limited to, mechanical, prescribed fire, and grazing. Specific project prescriptions will be appropriate to site conditions, plant community types, and resource objectives, and will be detailed in project-level plans and National Environmental Policy Act (NEPA) analyses.
2. Apply Best Management Practices (see Appendix F) where appropriate during vegetative treatments.

Guidelines:

Priorities

1. Where ecosystems are healthy and functioning, apply management to ensure the maintenance of good conditions and, where the condition of ecosystems is not as good, keep conditions from deteriorating further until they can be restored, either passively or actively.
2. Potential project areas will be evaluated for expected rehabilitation success given a reasonable level of treatment effort and investment. Areas that are so damaged or altered so as to have transitioned beyond the threshold of restoration success may be deferred in favor of areas that have greater opportunity for success.
3. Rehabilitation will be considered whenever there is damage caused by natural or human-caused events such as erosion, fire, trespass, mining, road construction, and other ground disturbing activities. Weed management will also be integral to most rehabilitation efforts.
4. Emphasize managing special status species habitats.
5. Consult with Redmond Airport officials in T15S R13E sections 1, 13, 24, 25, and 26 to ensure that restoration projects do not conflict with the safe operation or development of the airport.

Structure

6. Seed or plant grasses, forbs, shrubs and trees where appropriate to achieve a variety of objectives such as: stabilizing soils, restoring native communities, converting to targeted plant communities, improving wildlife habitat, and influencing potential fire behavior in the wildland urban interface.
7. Use native species for a majority of restoration/rehabilitation treatments. Examples of when use of non-natives may be appropriate include:
    a. When advantageous for quick soil stabilization
    b. When aggressive competition with invasive weeds is needed
    c. When non-natives are significantly more cost-effective and result in a much greater area treated
    d. When natives are not capable of achieving objectives
    e. When non-natives can contribute to overall restoration success

8. Increase the potential for re-seeding success by utilizing stock adapted to or appropriate for local conditions. Use native seeds or seedlings obtained from local genetic stock whenever practicable.
9. Utilize wildland/urban interface fire zone treatments to maintain or contribute early seral (low shrub, perennial grass, forbs) structure and composition to targeted landscape vegetative communities.
10. Promote native herbaceous cover with restoration treatments to reduce the amount of bare, exposed soil for erosion control and displacement of weeds.
11. Restore the distribution and vigor of bitterbrush stands through vegetative treatments designed to reduce competing plants, create a variety of bitterbrush age classes, and create conditions conducive to bitterbrush natural regeneration.
12. Use a variety of measures to protect planted and naturally regenerated seedlings from the effects of trampling, browsing, and girdling by livestock and wildlife. Such measures may include: suspension of grazing, fencing, tubing, netting, and animal repellents.
13. Maintain/create snags and down logs at levels that consider historic conditions, wildlife habitat needs, and objectives for fuels treatments in wildland urban interface areas.
14. Restore riparian vegetation wherever it occurs within larger-scale upland vegetative treatments. Important hardwood riparian vegetative types occurring within the planning area requiring special attention include aspen, alder, willow, currant, chokecherry, oceanspray, and mock-orange. Due to the different plant communities and site conditions involved, site-specific prescriptions will be developed for riparian treatments. Additional protection from damage by domestic livestock, deer and elk should be considered.
15. Mimic natural processes with vegetation management efforts in the Badlands WSA so as not to impair the area's suitability for wilderness designation.

Fire

16. Guidelines for restoration/maintenance of ecosystems utilizing prescribed fire are discussed in more detail in the Fire/Fuels Guidelines.
17. Guidelines for rehabilitation of burned areas are discussed in more detail in Fire/Fuels Guidelines.

Soil

18. Incorporate measures to protect microbiotic crusts where practicable during vegetative treatments and other authorized activities. Promote conditions favorable for retention and development of biological crusts.
19. Retain non-commercial vegetative and woody residues from mechanical vegetative treatments scattered on-site wherever possible to:
    a. Maintain soil nutrients and long-term site productivity
    b. Maintain soil organic matter
    c. Provide site protection from wind and water erosion
    d. Facilitate native plant re-colonization by providing micro-site amelioration of extremes of heat and cold

Recreation

20. Vegetative and woody residues from mechanical treatments will be placed in a manner that does not block designated trails or create safety hazards.
21. Integrate vegetation management with recreation management whenever possible in areas with the following recreational characteristics:
    a. High density of trail systems.
    b. Trail systems important to regional trail demand.
    c. Need for separation of different trail user groups.
    d. Integration is defined as simultaneous site-specific vegetation and recreation planning or a single interdisciplinary analysis.

22. Integrate vegetation/fuels treatments and trail design within Special Recreation Management subunits including Millican Plateau, North Millican and Cline Buttes. Old-growth juniper, degraded ecosystem conditions, weeds, soil erosion, traveler and recreationist's safety, and increasing trail demand in these areas are factors that contribute to the high priority for integrated natural resource and recreation plans.
23. In North Millican concurrent vegetation and trail design planning will be required to ensure that habitat variables other than road densities such as vegetative structure and condition, protecting soils and vegetation from erosion and disturbance, and enhancing the recreation experience are considered.
24. For areas outside of North Millican, if final trail designs for high trail density or multi-user group areas cannot be done in conjunction with vegetation treatments, a conceptual trail layout will be done that provides input into vegetation management strategies.
25. Vegetation management will provide for the following design features/mitigation measures in areas with existing or planned trail systems:
    a. Pile and burn, chip, or lop and spread slash (rather than pile without burning) along trail corridors, except where barriers or erosion control measures are specifically needed. Other methods may be used to accomplish goal of not having visual effect of piled woody debris.
    b. Provide a clear area from trail edge to slash piles, logs, and other scattered woody debris sufficient to allow for the safety of trail users.
    c. Orient cuts on stumps and logs left along the trail such that cut ends do not present a sharp hazard to riders and so as to be minimally intrusive visually.
    d. Retain higher densities of trees in areas that have mixed uses on separate trails in order to screen different types of trail systems from each other.
    e. Retain patches, buffer strips, or higher tree/shrub densities along trail sections in order to limit cross-country travel and screen views of roads, houses, fences, other developments, and other trail users.
    f. Retain trees and/or promote the growth and spread of tall shrubs (such as basin big sagebrush and bitterbrush) to maintain the curvilinear nature of the trail and minimize the cutting of curves and straightening of trails by users.

Shrub Steppe Communities

<u>Objective V – 1a:</u> Maintain/restore large contiguous stands of healthy, productive and diverse native shrub/steppe plant communities throughout their historic range[1] where appropriate considering current conditions and potential for success.

<u>Rationale:</u>
Restoration and expansion of key plant communities will approximate historic stand structure and geographic range using conditions existing at pre-European settlement times as a reference condition. On most historic shrub-steppe sites, western juniper will be reduced to widely spaced old trees or small patches on ridge tops or other focused locations where trees would contribute to biodiversity at the landscape level. Social and economic factors will be considered in formulating project design, location, and priorities.

<u>Guidelines:</u>

1. Minimize disturbance to shrub-steppe communities by limiting motorized travel to designated roads and trails.

[1]The term "historic range" as used in the context of this RMP refers to the distribution of the following major vegetative types mapped within the planning area: shrub-steppe, old-growth juniper, ponderosa pine, and riparian (see Map S-8: Vegetation Types). These are the vegetative types within the planning area that have declined the most in terms of condition/structure and in geographic extent from the historic to current time period. Their decline has created a current deficit representation as compared to their distribution during pre-European settlement times.

2. Restoring historic fire regimes wherever practicable outside the wildland-urban interface will be emphasized to improve/maintain the condition and expand the extent of shrub-steppe communities to historic ranges.
3. Composition, density, and distribution of young western juniper will be reduced to historic levels. Juniper older than 150 years or displaying old-growth characteristics may be removed in some circumstances if specific restoration needs for wildlife habitat or other natural values exceed the need to maintain the large or old tree component.
4. A primary criterion for prescribing treatment is when juniper occurs at a density and/or distribution that are determined to be outside its historic range of variability.
5. Where ecologically appropriate, restore or maintain stands of large contiguous sagebrush communities in patches of 400 acres and larger. Design of landscape patterns will include connectivity of large shrub-steppe patches.
6. Vegetative habitat needs of sagebrush-steppe obligate species will be emphasized in treatment design.
7. Vegetation treatments to maintain or restore shrub-steppe communities will be based on a landscape level restoration of broad vegetative types. Priorities for treatment will focus on areas that will show the biggest ecological gain for a given level of treatment intensity or investment. Cost-benefit ratios will help determine project priority and scale. Priorities will include restoration of sage grouse and other special status species habitat. Areas that have transitioned beyond the threshold of restoration success with reasonable treatment effort and expense will normally receive lower priority.

Old-Growth Juniper Woodlands

<u>Objectives V – 1b:</u> Maintain, promote, and restore the health and integrity of old-growth juniper woodlands/savanna throughout its historic range where practicable. Decisions authorizing social/economic land uses and activities within mapped old-growth woodlands (see Map S-8, available on CD) **will be evaluated against land use criteria in Guidelines below. Where possible, provide reasonable mitigation for impacts to old growth juniper woodlands ecosystems when authorizing land uses or activities.**

Rationale:
Old-growth western juniper woodlands in the pumice sands of Central Oregon are unique in their age, size and extent. Of the eight million acres of western juniper in the intermountain west, only an estimated three percent is considered to be old-growth. Ideal conditions of soil, climate and topography converge in Central Oregon to allow juniper to attain its maximum potential for size and age of individual trees and density and range for contiguous old-growth stands. The oldest (1,600 years) western juniper tree found to date is located within the planning area. Continued human population growth and associated increases in development and public land use in Central Oregon is causing fragmentation and degradation of this important habitat type. Large healthy contiguous stands of old woodlands provide scenic quality, education/interpretation opportunities, and habitat for late-seral dependent species.

<u>Allocations/Allowable Uses:</u>
1. Allow cutting/harvest of green trees up to 18 inches in diameter at breast height (DBH) east of State Route 27.
2. Allow harvest of juniper west of State Route 27 generally only in conjunction with restoration treatments, fuels reduction, or clearing for rights-of-way (ROWs) or other approved facilities or developments.
3. Generally limit cutting and harvest during restoration or fuels management treatments to trees less than 150 years old, based on physical characteristics. Individual trees showing characteristics of old-growth, regardless of size, will generally not be cut.

4. Generally do not allow cutting of old growth tree snags and large down logs except where they pose a risk to structures, facilities, or human health and safety.

Guidelines:

Maintenance/Restoration

1. Emphasize maintenance/restoration of historic condition/range of old-growth woodlands/savanna while considering social and economic factors such as:
2. Authorization and design of land uses and activities such as new or expanded rights-of-way, roads, special-use permits, and any ground-disturbing activities will consider the following factors:
   a. Quality and importance of affected old-growth woodland values.
   b. Relative importance of the proposed use or activity.
   c. A full range of site location or route options, including non-BLM administered land.
   d. Considering the above factors, incorporate reasonable mitigation measures and special requirements into land use authorizations to protect or enhance old-growth woodland values.
3. Treatments will be designed to both maintain the health and longevity of the old trees, snags and down logs and to increase the amount and diversity of understory shrubs, grasses, and forbs.
4. Prescriptions will allow for, or mimic, natural disturbances wherever practicable.
5. Prescriptions will maintain an uneven-age structure (consistent with natural old-growth woodland succession and structural development).
6. Field surveys and historical accounts will help estimate pre-settlement structure/composition of plant communities. This information will be used to develop restoration prescriptions and treatment priorities that would move plant communities toward historic range and conditions, where practicable. Old woodland structural and composition components will include large old trees, multiple age classes, dead standing trees, dead down trees, shrub, grass, and forb densities and proportions similar to historic levels and distribution.

Treatment Priorities

6. Selected old-growth stands with high ecological values will receive high priority for treatment. These areas would achieve relatively rapid response for a given level of rehabilitation effort/expense. Specific areas and boundaries of old-growth woodland priority treatment areas are subject to change based on updated inventory information.
7. Sites with substantial erosion or weed infestations will receive consideration for treatment. These sites will be evaluated for relative ecological values and potential for response given reasonable rehabilitation efforts/expense.
8. Other priority areas will be sites that have high densities of young juniper establishing in the interspace between the older trees.
9. In addition, treatment priorities will include selected areas where evidence indicates old-growth woodland/savanna existed during pre-European settlement times and where there is potential to re-establish old-growth characteristics in the future. These areas may include old homesteads cleared for farming, crested wheatgrass seedings, firewood harvest areas, or other juniper site conversion project areas.

Lodgepole and Ponderosa Pine Forests

Objective V – 1c: Maintain and promote healthy and diverse lodgepole and ponderosa pine forest ecosystems.[2] Manage stand structure, density, species composition, patch

[2]The term "forest ecosystem" in the context of this RMP encompasses all physical and biological components of the landscape. The tree component in the forests located within the planning area is dominated by lodgepole pine or ponderosa pine. Management of the small amounts of shrub-dominated openings and riparian and wetland vegetative types will also be considered within management guidelines for lodgepole and ponderosa pine forest types.

size, pattern, and distribution to provide an environment in which fire intensity can be managed for human safety and fire effects are compatible with other management objectives. Maintain or mimic natural disturbance regimes so that stands are resilient following periodic outbreaks of insect infestation, disease, or wildland fire. Manage ponderosa pine health and dominance status throughout its historic range. Provide for a balance of biological, social and economic needs in an urban/wildland setting.

Rationale:
See Rationale for Objective V-1. Ponderosa pine is important from an ecological perspective because of its relative scarcity in the planning area and its inherent resiliency to disease and fire. Large isolated pine trees are particularly valuable as nesting, perching, and roosting habitat for raptors.

Allocations/Allowable Uses:
Manage lodgepole and ponderosa pine stands using thinning, harvesting, prescribed fire, and other techniques.

Guidelines:
1. Promote long-term sustainability by managing for a representative mix of stands of early, mid, and late seral ponderosa pine.
2. Create stands with stocking levels and fuel loads that are more resilient after insect and disease outbreaks and stand-replacement wildland fires, and that meet wildlife habitat management objectives.
3. Place priority on treating sites that are at high risk of uncharacteristically severe disturbance events and have a relatively high potential for response to treatments to alleviate those risks.
4. Restore deficient habitats to approximate historic landscape patterns and proportions on a relatively large scale.
5. Use habitat patch size and larger-scale treatments to achieve stand structure, condition, composition, density, down log/snag levels, fuel loading, fuel arrangement, and litter and duff depth that match the desired fire regime.
6. Apply a series of periodic, non-commercial thinning, commercial thinning, and prescribed fire treatments to achieve and maintain the desired species composition and stand structure.
7. Aggressively thin lodgepole pine and juniper where they are encroaching into and competing with ponderosa pine stands. Leave most old-growth juniper and some old lodgepole pine trees found in these mixed stands for diversity. On ponderosa/lodgepole pine mixed sites, thin lodgepole pine more intensively with wider spacing, more acres treated, and/or more frequent treatment entries. Generally leave trees in the density range of 48-134 trees per acre, as appropriate to treatment/restoration objectives.
8. Target isolated groups and individual ponderosa pine trees, particularly in the La Pine and Cline Buttes areas, for protection and enhancement to maintain biodiversity and aesthetic values associated with these trees. Thin around each tree to reduce competition from lodgepole pine and western juniper, to a radius of generally 50 feet, unless a larger radius is necessary to reduce competition and accomplish the objective.
9. Leave the healthiest available ponderosa pine trees as seed trees and in shelter wood and fire salvage treatments. Favor retention of large trees.
10. Favor ponderosa over other tree species in prescriptions involving planting or natural regeneration on sites that can support ponderosa pine.

Objective V – 1d: Maintain, promote, and restore the health and integrity of old forest structure and conditions in key habitat areas and in conjunction with WUI management objectives. Reduce potential for physical and biological threats to late seral and old growth forests, including uncharacteristic or severe natural disturbances.

Promote the restoration of old ponderosa pine forests throughout most of its historic range. Develop and maintain stand structures that are relatively complex with variable tree, snag and down log densities, and healthy and diverse understory composition.

Rationale:
Due to past logging practices, human developments, livestock grazing, and wildland fire exclusion, old ponderosa pine forest structure within the planning area has been degraded, both in extent and condition, from historical to current periods. Similarly, in the lodgepole pine, the mountain pine beetle epidemic and subsequent aggressive salvage logging has greatly reduced the proportion of mature lodgepole pine habitat. These influences have created an imbalance in ecosystem composition and structure.

Restoring conditions that approximate historic conditions will help prevent large-scale occurrences of insect, disease, and wildland fire, and the resulting undesirable ecological, social, and economic effects of these large-scale disturbances. Mature forest structure supports a variety of wildlife and understory plant species that depend on old forest conditions for all or portions of their life cycle. Old forest also contributes to foreground scenic quality and provides opportunities for education and research.

Allocations/Allowable Uses:
Maintain and promote mature and old structure lodgepole and ponderosa pine stands using thinning, harvesting, prescribed fire, and other techniques.

Guidelines:
1. Maintain and restore old and mature ponderosa pine forest structure and expand its range toward historic levels, including areas affected by past logging and species transition, to re-establish ponderosa pine dominance and mature structure over time. In selected juniper or lodgepole dominated sites, individual remnant old and/or large ponderosa pine trees will be targeted for maintenance.
2. Approximately ninety percent (12,800 acres) of the currently remaining mature lodgepole pine stands in the La Pine area will be maintained in mature/old structure in key habitat areas during the life of this plan.
3. Field surveys and historical accounts will help estimate pre-settlement range, structure, and composition of old and mature ponderosa pine forest stands. Old and mature forest structure components include size, age, and density of trees, down logs, canopy structure, and understory composition.

Riparian and Aquatic

Objective V – 1e: Maintain, conserve (protect), and restore aquatic and riparian dependent resources, including riparian vegetation and habitat diversity, to achieve healthy and productive riparian areas and wetlands. Maintain or improve current good to excellent stream bank stability and riparian vegetative condition. Manage for riparian habitats that support populations of well-distributed native and desired nonnative plant, vertebrate, and invertebrate populations similar to historic conditions.

Rationale:
The intent of this objective is to ensure that adequate amounts of functioning riparian and wetland vegetation are sustained or increased in the long term. Adequate amounts of healthy riparian and wetland vegetation are critical to fully functioning aquatic, riparian, and wetland systems, which are necessary for riparian and wetland-dependent species. Past alterations to vegetation on BLM administered lands have resulted in riparian habitat conditions that are less than optimal for aquatic and riparian–dependent species (USDA-FS and USDI-BLM, 1996 and 1997). Riparian ecosystem function, as determined by the amount and type of vegetation cover, has decreased since historic times. Therefore,

restoration of riparian habitat of sufficient quality, patch size, and distribution is necessary to support healthy populations of native fish and riparian-dependent species.

Riparian Conservation Areas (see guidelines, below, for further explanation of RCAs) are intended to: maintain and restore riparian structures and functions; benefit fish and riparian-dependent resources; enhance conservation of organisms that depend on the transition zone between upslope and the stream; and improve connectivity of travel and dispersal corridors for terrestrial animals and plants, and aquatic organisms. The application of RCAs, including first and second tier analysis, is described in detail on pp. 54-55 of the Interior Columbia Basin Final EIS/Proposed Decision (USDA-FS and USDI-BLM, 2000b).

FLPMA directs and requires BLM to comply with State water quality standards and manage public land in a manner that will preserve and protect certain land in its natural condition. In addition to FLPMA, numerous laws, regulations, policies, executive orders, memorandums of understandings (MOUs) and agreements direct BLM to manage its riparian/wetland areas for biological diversity, and the productivity, and sustainability for the benefit of the Nation and its economy. The Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington (USDI-BLM, 1997) meet the requirements and intent of 43 Code of Federal Regulations, Subpart 4180 (Rangeland Health).

Allocations/Allowable Uses:

1. Within designated Riparian Conservation Areas, consider the degree to which that activity will:
    a. Maintain and restore riparian structures and functions;
    b. Benefit fish and riparian-dependent resources;
    c. Enhance conservation of organisms that depend on the transition zone between upslope and stream, and
    d. Improve the connectivity of travel and dispersal corridors for terrestrial animals and plants and aquatic organisms.
2. Activities within Riparian Conservation Areas may be adjusted or excluded from the area if the activity does not support maintenance or measurable progress toward achieving Properly Functioning Condition (PFC, see glossary) streams within the watershed, or attainment of water quality standards.

Guidelines:

1. Riparian Conservation Areas:
    a. Designate RCAs using interim criteria consisting of the stream channel and the area on each side of the stream extending from the edges of the active channel to the extent of the flood prone width (Rosgen, 1996). This interim designation of RCAs is called "first tier" analysis. Where proposed activities may adversely affect riparian processes and functions, the BLM will develop more site-specific RCAs using second tier criteria (e.g., identify the dominant physical and biological features that influence the riparian network, and address important biophysical functions and processes).
    b. Management options will focus on uses and activities that allow for the protection, maintenance, and restoration of RCAs and upland watersheds and measurable progress toward the attainment of water quality standards and PFC, within the stream and/or RCAs. Interim RCA widths will be applied for planning purposes where activities will not adversely affect riparian processes and functions.
    c. Possible activities that may require second tier delineation of RCAs include, but are not limited to, juniper retention (where more trees are proposed to be left within the RCA than historic conditions indicate), livestock grazing, roads, trails, new rights-of-way (ROWs), and rockhounding. Activities that promote

watershed function such as the removal of excessive juniper will generally not require second tier.

d. Areas not in PFC will be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. Managed uses and activities in RCAs may not affect progress toward attainment of state water quality standards, PFC, and Riparian Management Objectives (RMOs, see glossary). Uses and activities in these riparian/wetland areas will be adjusted or excluded from the RCA if current management does not allow for the maintenance or measurable progress toward the attainment of PFC. Exclusion will be in the form of buffered exclusion areas or the use of temporary and/or permanent fencing. Management options for uses and activities will allow for measurable progress toward the attainment of water quality, PFC, and RMOs within RCAs at a positive annual rate.

2. Livestock grazing will be modified where the standard for riparian-wetland function is not being achieved, or where measurable progress is not made toward achieving the standard.
3. Riparian habitat needs will be considered in developing livestock grazing systems and pasture designs and will be evaluated according to the Fundamentals of Rangeland Health.
4. Focus management on entire watersheds using an ecosystem approach and involving all interested landowners and affected parties.
5. Achieve riparian/wetland area improvement and maintenance objectives through the management of existing and future uses.
6. Prescribe riparian/wetland management based on site-specific physical, biological, and chemical condition and potential.
7. Use interdisciplinary teams to inventory, monitor, and evaluate management of riparian/wetland areas and to revise management where objectives are not being met.
8. Restoration
   a. Emphasize diversity in plant species and structure, such as shrubs and large trees, which occurred in the area historically.
   b. Restore the extent and diversity of wet and moist meadow and riparian plant communities using techniques such as burning, cutting encroaching conifers, planting native hardwoods, grazing management, fencing, and managing uplands for improved hydrologic function.
   c. Promote late successional riparian vegetation in amounts and distribution similar to historic conditions.
   d. Promote complex in stream structure formed from woody debris, aquatic plants, roots, undercut banks, or boulders that serve as cover for all life cycle stages.

Objective V – 1f: Secure existing habitats that support the strongest populations of wide-ranging aquatic species. Securing can mean either reducing threats within the subwatershed or reducing threats in adjacent subwatersheds that could prevent achievement of subwatershed objectives.

Rationale:

Subwatersheds identified on DEIS Map S-14 (available on CD) represent areas that support the strongest fish populations and highest native diversity and integrity (Aquatic Strongholds). These subwatersheds serve as the foundation of a conservation strategy and a starting point for a restoration strategy. Securing these subwatersheds from internal or adjacent threats to watershed function and structure will enhance the short-term persistence of aquatic species and diversity. This action is necessary to ensure a source of aquatic species to colonize available habitats following natural recovery or restoration.

Guidelines:

1. Validate and, as necessary, refine the subwatershed locations using existing finer scale information.

2. Design aquatic/riparian restoration actions to influence temporal (through time) and spatial (placement on the ground) diversity of productive aquatic habitat and key aspects of structure and function, such as channel morphology and hydrologic and sediment regimes; riparian vegetation condition and complexity; aquatic habitat complexity; and channel structure (wood and bank stability).
3. Focus aquatic/riparian restoration where minimal investment can improve or secure the largest amount of productive habitat and diverse riparian-dependent species communities.
4. Integrate prioritization and restoration of aquatic strongholds with other subbasin efforts including but not limited to the settlement agreement for the re-licensing of the Pelton-Round Butte hydroelectric dam; subbasin assessments drafted for the Northwest Power & Conservation Council; in stream flow studies currently being conducted in the Middle Deschutes and recently completed in the Lower Crooked River, in stream flow restoration efforts; Water Quality Restoration Plans; and non-profit organizational efforts to conserve lands within the salmon restoration area.

Noxious Weeds

Objective V – 2: Maintain noxious weed-free plant communities or restore plant communities with noxious weed infestations through the use of broad-scale integrated weed management strategies. During planning for vegetation management and other ground disturbing activities, consider opportunities to manage undesirable non-native or invasive species.

Rationale:
The rapid expansion of noxious and other invasive species in portions of the planning area is one of the greatest threats to the integrity of native plant communities. Noxious weeds reduce the value of native plant communities in several ways.

Guidelines:
1. All land management activities and projects will assess the risk of introducing or spreading weeds. Integrated weed management strategies will be incorporated into the planning, design, implementation, monitoring, and follow-up actions of all ground-disturbing projects and activity plans.
2. Integrated weed management strategies will incorporate some or all of these objectives: detection, inventory, prevention, containment, control, and eradication of noxious weeds. Strategies may also target other undesirable plant communities as appropriate and practicable.
3. A balanced ecosystem approach for management of undesirable vegetation may include one or more of the following techniques: cultural, manual, mechanical, prescribed fire, competitive seeding, biological, and chemical.
4. When possible, grazing management practices will be designed to help control noxious weeds and other undesirable plants (such as cheatgrass, medusahead and thistles).
5. Opportunities will be sought to form partnerships with other public agencies and adjacent landowners to develop regionally effective and cost-efficient weed management strategies.
6. All treatments will be in accordance with policy and guidelines in the following current or subsequent programmatic vegetation management plans: (1) "Vegetation treatment on BLM administered lands in thirteen western States" (USDI-BLM, 1991) and (2) "Prineville District Integrated Weed Management Environmental Assessment (USDI-BLM 1994)."
7. Where possible, weed management within the planning area will be prioritized as follows:
    a. Prevent new infestations by limiting weed seed dispersal, minimizing soil disturbance, and properly managing desirable vegetation.
    b. Detect and eradicate new invaders.
    c. Target roadways, watercourses, campgrounds, utility corridors and other high disturbance areas for a prevention and containment program.

d. Emphasize control of large-scale infestations (limiting the spread of noxious weeds and reducing the infestation level).
e. Focus initial efforts on small, manageable units with a component of desirable native plants (or desirable non-native plants), and then focus on the remaining infestation. Start from the outside and work toward the center of the infestation.

8. In high risk areas, prevention measures will include provisions in all land management activities, projects and agreements to inspect or certify that vehicles, equipment, livestock, supplies, and materials entering, using, or transporting across public lands are free of noxious weed seed or other reproductive parts of noxious weeds. Precautions will include ensuring use of weed-free hay/feed for livestock and weed-free seed in seeding projects.
9. Consider limiting season of use for ground disturbing activities to prevent the spread of weeds during and immediately after the flowering and seed production period.
10. Consider potential for spread of cheatgrass and other undesirable plants that could occur with disturbance by land uses or vegetation treatments, particularly within the lower elevation pumice sand community types.

Special Status Plants

Objective V - 3: Manage special status plant species such that BLM actions do not contribute to the need to federally list as threatened or endangered.

Rationale:
Under the Endangered Species Act (ESA) of 1973 the BLM has legal responsibilities and policy requirements to protect and provide habitat for species listed or proposed to be listed as threatened or endangered.

Guidelines:
1. Management will include a combination of protection, restoration and enhancement depending on individual species, population condition and dynamics, and larger scale treatment opportunities.
2. Where practicable, vegetative treatments will incorporate active habitat improvement for the conservation of special status plant species. Experience and research findings will help dictate appropriate vegetative treatments to improve habitat for the specific special status species within the planning area.
3. Prior to implementing any projects with the potential to affect special status plant species, surveys will be conducted and documented, including any site-specific management mitigations.

Traditional Cultural Plants

Objective V - 4: Through consultation and coordination with local tribal governments, identify plants of traditional cultural significance to contemporary Indian communities and the important places those plants occur. In collaboration with Tribal Officials, develop strategies to manage those cultural plant use areas in a proactive manner.

Rationale:
FLPMA obligates the BLM to coordinate all aspects of planning with Indian tribes to ensure consistency between BLM and tribal land use plans. NEPA requires the BLM to consult with Indian tribes to identify potential conflicts and develop alternatives that would resolve those conflicts. The NHPA requires the BLM to consult with Indian tribes that attach cultural significance to traditional properties that may be eligible to the National Register of Historic Places. Executive Order 13175 was issued, in part, to "establish regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications".

Guidelines:
1. Continue to consult with Tribal Officials to identify specific areas that may possess traditional cultural plants.

2. To the maximum extent allowable by law and the principles of a multiple use policy, protect cultural plants during BLM authorized, funded, or approved activities at specific locations identified by the Tribes.
3. Inform Tribal Natural Resources Departments about areas observed by BLM field staff that may possess quantities of cultural plants that could be harvested in a sustainable manner.
4. BLM will coordinate Tribal/BLM visits to locations where cultural plants have been observed by BLM field staff.
5. Coordinate with the Tribes as requested to visit areas identified as important for traditional plant use to tribal communities.
6. On an annual schedule and where feasible, pursue opportunities for the Tribes and BLM to exchange information in the form of maps, global positioning system (GPS) readings, and approximate numbers of plants discovered in specific locations.
7. Pursue opportunities with Tribal Officials and staff to develop and collaborate on efforts to improve access to, and enhance the condition and quantity of, cultural plants at specific locations.
8. Assure that sensitive information about the locations of cultural plants is kept confidential to the maximum extent allowable by law.

Ecosystem Assessment

Objective V - 5: Obtain and efficiently display information to help in analyses at all levels ranging from broad-scale assessments to site-specific projects.

Rationale:
Gathering of resource condition information is critical in order to assess restoration needs, prescriptions, cost-benefit, priorities, and treatment success.

Guidelines:
1. Integrate assessments at all scales with complementary or associated efforts by other entities such as watershed councils and non-profit organizations.
2. Project proposals will consider an assessment of resource conditions, and ecosystem health risks and opportunities at appropriate scales. Current and historic conditions and trends will be considered in all project proposals and treatment prescriptions.
3. Geographically prioritize condition assessments according to the objectives of the Resource Management Plan and treatment priorities.
4. Assessments will be conducted using the most current and relevant guidance such as that in the "Standards for Rangeland Health and Guidelines for Grazing Management" (USDI-BLM, 1997), President Bush's "Healthy Forest Initiative" (2002), the Healthy Forest Restoration Act (2003), the National Fire Plan (2000), Governor Kitzhaber's "An 11-Point Strategy for Restoring Eastern Oregon Forests, Watersheds and Communities" (USDI-BLM, 2001), "Ecosystem Review at the Subbasin Scale" (USDA-FS et al., 1999), and "Ecosystem Analysis at the Watershed Scale" (USDA-FS et al., 1995).
5. Existing vegetative mapping and database programs such as the Forest Operations Inventory (FOI), Soil and Vegetation Inventory Method (SVIM), and Ecological Site Inventory (ESI), and others will be updated and utilized to their maximum potential until they are replaced with more accurate mapping and inventory efforts.
6. Standards and procedures for collecting, storing, and displaying information should be compatible with those of the Forest Service and other agencies whenever practicable to facilitate cross-jurisdictional watershed and other landscape-level analysis.
7. Stored information may include field surveys and inventories, photo points, aerial photography, remote sensing, scientific research, and empirical data from other landowner/agency experience. For preservation and retrieval efficiency, Geographic Information Systems and other computerized database programs are the preferred methods for storing and displaying information.

Stewardship Units/Contracts

Objective V- 6: Promote involvement of local stakeholders, and small businesses to accomplish resource management objectives.

Guidelines:

1. Consider the use of "stewardship units" wherever practicable to directly involve local citizen groups, individual volunteers, adjacent homeowners, nearby residents, and small contractors to help accomplish natural resource protection and enhancement work. A stewardship unit is a small parcel of public land where workers/volunteers have obtained BLM approval to do low-impact treatments such as small diameter tree thinning, pruning, brush cutting, hand piling, lop and scatter, and other treatments to help accomplish ecosystem restoration and fuels reduction objectives within or adjacent to communities. Workers will also be able to obtain permits to remove firewood, posts, poles and other products resulting from treatments.
2. Identify project areas and units, which are operationally suitable, for small contractors and non-industrial workers. Provide adequate instruction and guidance to workers/ volunteers on operational procedures, techniques, and safety to achieve desired objectives. Issue written authorization with appropriate requirements and map or some other designation of areas.
3. Consider the more formal Stewardship Contracts to efficiently achieve a wide variety of resource management projects over a multiple year time frame.

Hydrology

Watershed/Hydrologic Function

Objective H – 1: Where the capability exists, restore, maintain and improve upland and hydrologic function through the reduction of overland flow, increased infiltration, and improved floodplain function similar to historic levels.

Rationale:

The Fundamentals of Rangeland Health captured in 43 CFR 4180 require that watersheds are in, or are making significant progress toward, properly functioning physical condition so that soil and plant conditions support infiltration, soil moisture storage and the release of water that are in balance with climate and landform so that water quantity and the timing and duration of flow is improved. Management actions will re-pattern vegetation patches and succession/disturbance regimes in order to sustain hydrologic processes characteristic of the geoclimatic setting. Restoration of landscape succession/ disturbance regimes will maintain and promote (a) healthy, productive, and diverse plant and animal communities as appropriate to soil type, climate, and landform; and (b) ecological processes of nutrient cycling, energy flow, and the hydrologic cycle.

Scientific assessments completed at the Columbia basin scale, have indicated where some critical areas for restoration focus are located. These areas were noted and identified as broad-scale high priority restoration subbasins (see objective H-2). Verified high priority areas in the planning area are based on broad-scale priority subbasins identified at the regional scale and are designated after verifying their actual restoration needs based on local site conditions. These areas will receive priority consideration for future treatments to restore hydrologic function.

Allocations/Allowable Uses:

1. Designate areas for high restoration priority where site conditions support science findings of broad-scale high restoration areas identified by the Interior Columbia Basin Management Project Scientific Assessment (USDA-FS and USDI-BLM, 1996 and 1997).

Guidelines:

1. Determine watershed condition and restoration potential using a variety of evaluation techniques including but not limited to Rangeland Health Standards, Proper Functioning Condition assessments, "Ecosystem Review at the Subbasin Scale" (USDA-FS et al., 1999), "Ecosystem Analysis at the Watershed Scale" (USDA-FS et al., 1995), site surveys, or other existing information. Based on assessments, establish guidance to:
   a. prevent impairment of watershed hydrologic function
   b. improve hydrologic function
   c. restore hydrologic function
2. Reduce compaction and artificial conduits for overland flow of water by rehabilitating all non-designated roads and trails. Road designation will occur in project-specific documents. Any road that is not designated as a local road or motorized travel route will be closed to motorized use. Some designated roads may have seasonal closures. Prioritize non-system roads and trails for closure in areas of sensitive soils or located within RCAs. Maintain all BLM designated system roads to reduce concentration of water on roads as outlined in BLM Manual 9113 (also see Appendix F), and BLM Manual 9114 for trails.
3. Work cooperatively with state agencies, including Oregon Water Resources Department (OWRD), Oregon Department of Fish & Wildlife (ODFW), Oregon Parks and Recreation, and Oregon Department of Environmental Quality (ODEQ) to protect and maintain water resources (both quantity and quality) of BLM administered rivers, streams, and springs and their associated resources as consumptive use increases in the Deschutes basin. Where negotiations and cooperative efforts fail to protect water resources, utilize federal authorities to fulfill mandates as outlined by Congress and in the BLM's manual and policy directives.
4. Emphasize moving vegetation composition and densities to structural and physical historic ranges to promote infiltration and minimize overland flow.

Objective H - 2: Within the Broad Scale High Restoration Priority Subbasins (Upper Crooked Subbasin shown on Map S-14, available on CD) determine actual restoration needs prior to any large scale site disturbing activities that could affect hydrologic function.

Rationale:

The Interior Columbia Basin Scientific Assessment (USDA-FS and USDI-BLM, 1996 and 1997) identified the Upper Crooked River Subbasin as a broad-scale high restoration priority. This signifies this sub- basin has a need to restore hydrologic processes to ensure favorable water quality conditions for aquatic, riparian, and municipal uses. Within the Crooked River subbasin, this objective will provide management emphasis to compare subbasin priorities with watershed conditions to determine specific approaches to restoration needs (such aquatics, water quality, vegetation management, disturbance regimes) that will promote effective and efficient restoration efforts.

Guidelines:

1. Validate and, as necessary, refine the subwatershed locations using existing finer scale information.
2. Focus restoration activities on entire watershed using an ecosystem approach and involving all interested landowners and affected parties.
3. Prescribe restoration activities based on site-specific physical, biological, and chemical condition and site potential.

Objective H – 3: Maintain productivity and minimize accelerated erosion. Soil and plant conditions support infiltration, soil moisture storage and the release of water that are in balance with climate and landform and maintain or improve water quality, water quantity and the timing and duration of flow.

Rationale:
FLPMA directs the BLM to manage the public lands for long-term needs of future generations for renewable and non-renewable resources, including watershed. This includes management of the various resources without permanent impairment of the productivity of the land and the quality of the environment.

Guidelines:
1. Take corrective actions, where practicable, to resolve erosive conditions. Surface disturbance at all project sites are to be held to a minimum.
2. Disturbed soil will be rehabilitated to blend into the surrounding soil surface and reseeded as needed with a mixture of grasses, forbs, and browse as applicable to replace ground cover and reduce soil loss from wind and water erosion.

Water Quality

Objective H - 4: Ensure that water quality (surface and ground) influenced by BLM activities a) achieves or is making significant progress toward achieving established BLM objectives for watershed functions, and b) complies with or is making progress toward achieving State of Oregon water quality standards for beneficial uses as established per stream by the Oregon Department of Environmental Quality (ODEQ). Where water quality does not meet the water quality standards, BLM will not allow water quality to degrade to the point at which it impacts beneficial use. This will be achieved through improved riparian vegetation, stream shade, and stream channel function. For streams with water quality limited segments (impaired waters) as defined by section 303(d) of the CWA, management activities will be implemented with the intent to restore water quality to levels that meet State water quality standards, and to meet or exceed Oregon's Forest Practices Act..

Rationale:
The "Federal Water Pollution Control Act" (commonly known as the "Clean Water Act" [CWA]) of 1977, as amended, requires the restoration and maintenance of the chemical, physical, and biological integrity of the Nation's waters. Mandates of the Act establish the EPA as administrator and the states (e.g., Oregon) as implementers of the Act. The BLM is responsible to manage the requirements of the Act on land they administer, but primacy in implementing the Act is retained by Oregon. BLM is required to maintain water quality where it presently meets EPA-approved Oregon State water quality standards and improve water quality on public land where it does not meet standards. State developed total maximum daily loads (TMDLs) and State approved water quality management plans are required for waterbodies in subbasins and watersheds containing water quality limited segments (Appendix E) (as defined by section 303(d) of the CWA) where water quality is not meeting standards. In addition to the Act, numerous laws, regulations, policies, and executive orders direct BLM to manage for water quality for the benefit of the Nation and its economy.

Water quality is important not only for human use but also for proper ecosystem function. Management practices such as grazing, mining, recreation, timber harvesting, and other forms of vegetation management for restoring and maintaining water quality will be designed for healthy sustainable and functional rangeland ecosystems as described in The Standards for Rangeland Health (USDI-BLM, 1997). These standards meet the requirements and intent of 43 Code of Federal Regulations, Subpart 4180 (Fundamentals of Rangeland Health), and are hereby incorporated by reference to this section, and are not repeated here.

Allocations/Allowable Uses:
In watersheds where stream segments are identified as water quality limited by the State of Oregon, current BLM management, public uses, and activities will be adjusted as needed if they adversely affect the restoration of water to State water quality standards.

New uses and activities will be allowed only if they have no adverse effects on restoring water to State water quality standards.

Guidelines:

1. Eliminate all non-designated roads and maintain designated roads to reduce gullying and rilling in RCAs of intermittent and perennial streams (see also Riparian and Aquatics).
2. Streams and water bodies not meeting State water quality standards and/or PFC will be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel.
3. Adjust, restrict or limit uses and activities within the RCA and contributing upland watershed areas that adversely affect water quality and/or lead to stream channel or riparian/wetland resource degradation if water quality and PFC cannot be attained or maintained with existing management.
4. Evaluate grazing allotments according to the Fundamentals of Rangeland Health. Modify livestock grazing where the standard for watershed function is not being achieved, or where measurable progress is not made toward achieving the standard, in accordance with Rangeland Health Assessments.
5. Comply with the Federal CWA and the State DEQ's program by employing the joint USFS and BLM protocol for addressing CWA section 303(d) listed waters. One goal of the strategy is to address all waters on BLM-administered lands generally within the timeline established by the State of Oregon DEQ. Take actions relative to 303(d) listed water bodies in accordance with the protocol as outlined in Appendix E (Protocol for 303(d) listed Streams).
6. Assure surface water and groundwater quality, as influenced by agency actions, complies with state water quality standards.

Air Quality

Objective AQ - 1: Meet the National Ambient Air Quality Standards (NAAQS) as described in the Clean Air Act.

Rationale:

The CAA requires federal agencies to comply with all federal, state, and local air pollution requirements. The CAA also requires each state to develop a state implementation plan to ensure that the national ambient air quality standards are attained and maintained for the criteria pollutants. The ODEQ is responsible for producing the state implementation plan, but delegates the smoke management portion to the Oregon Department of Forestry. As part of the state implementation plan, the Oregon Department of Forestry developed instructions and requirements for wildland and prescribed fire emissions in the smoke management plan. Federal agencies are required to ensure that their actions conform to state implementation plans.

Guidelines:

The Smoke Management Guide for Prescribed and Wildland Fire (Hardy et al., 2001) provides smoke management and emission reduction techniques for federal land managers to use when completing project specific NEPA. These guidelines are summarized, below.

1. Consider air quality in project specific NEPA when:
   a. Air quality is raised as a significant issue in scoping,
   b. The project includes burning,
   c. The project includes significant road construction, road use or other soil disturbing procedures where fugitive dust may be a concern,

d. The project includes significant machinery operation in close proximity to publicly accessible areas,
e. The project may have any impact on air quality, sensitive vistas, or visibility in a Class I area,
f. The area is in close proximity to a non-attainment area, or
g. The project will make a significant amount of firewood available to the public.

2. Disclose the following information when considering air quality impacts in a NEPA document:
   a. Description of the air quality environment of the project area.
   b. Description of alternative fuel treatments considered and reasons why they were not selected over prescribed fire.
   c. Quantification of the fuels to be burned (areas, tons, types).
   d. Description of the types of burning planned (broadcast, piles, understory, etc).
   e. Description of measures taken to reduce emissions and emission impacts.
   f. Estimation of the amount and timing of emissions to be released.
   g. Description of the regulatory and permit requirements for burning.
   h. Modeled estimates of where smoke could go under certain common and worst case meteorological scenarios and focusing on new or increased impacts on down wind communities, visibility impacts on Class I areas, etc.
   i. If an air quality analysis is deemed unnecessary, state that potential air quality impacts were considered but were determined to be inconsequential, and a justification for this statement must be included.
3. Reduce emissions by reducing the area burned through project design, including:
   a. Burn concentrations of fuels rather than burning 100 percent of the area.
   b. Isolate fuels that have the potential to smolder for long periods of time (large logs, snags, deep pockets of duff) with fire line, lighting patterns that avoid these areas, use of snow or natural barriers, scattering fuels, or spraying targeted fuels with foam or other fire retardant material prior to burning.
   c. Mosaic burn to exclude more moist areas or mimic natural ignition patterns.
4. Reduce the fuel load to reduce overall emissions or eliminate the need for burning by:
   a. Mechanical removal of fuels including yarding of whole trees, logging slash, or brush removed for offsite utilization.
   b. Mechanical processing such as chipping, mowing or other masticating of biomass, redistributing to increase soil contact and speed decomposition processes
   c. Firewood sales where the public has easy access.
   d. Biomass used for energy conversion at cogeneration facilities.
   e. Biomass utilization for pulp, methanol, wood pellets, garden bedding, or specialty forest products.
   f. Ungulate grazing and browsing live or brushy fuels to reduce fuel loading prior to burning, or to increase the burn frequency.
5. Reduce the fuel consumed in prescribed fire by:
   a. Burning when large wood fuels are moist and unlikely to consume.
   b. Burning when there are moist litter and duff conditions in forest ecosystems.
   c. Burning when a precipitation event is forecast in the near future.
   d. Burning before large fuels cure, within 3-4 drying months of a harvest activity in forest types.
   e. Burning before new fuels appear.
   f. Burning before litter falls or greens-up. Less fuel will be available for consumption, so fewer emissions.
6. Increase combustion efficiency by:
   a. Burning more in the efficient flaming phase than in the smoldering phase.
   b. Burning clean, dry piles.
   c. Using pattern design in backing fire, to slow the fire and provide more complete combustion than head fire.

d. Burning under dry conditions to increase combustion efficiency in target fuel size classes.
e. Rapidly moping-up to reduce smoldering phase of combustion.
f. Using aerial ignition/mass ignition to speed combustion.
g. Using air curtain incinerators, large metal containers or pits in which combustion is aided by powerful fans to force additional oxygen into combustion process.

7. Redistribute emissions by:
   a. Burning when dispersion is good with an unstable atmosphere.
   b. Sharing the air shed with other agencies and smoke producers to reduce the likelihood of smoke impacts, by coordinating with the Oregon Department of Forestry (ODF) in compliance with the Smoke Management Plan for Oregon.
   c. Avoiding sensitive areas, burning when winds are favorable to carry smoke away from highways, populated areas, and scenic vistas.
   d. Burning larger units in smaller subunits over several days to limit short-term emissions.
   e. Burning more frequently, managing fuel accumulation and producing fewer emissions with each burn.

Wildlife

All objectives in the wildlife section apply to the entire planning area. Specific allocations, allowable uses and guidelines for wildlife for each geographic area are described after Objective W-4d. See the Recreation section for corresponding recreation allocations and guidance for specific geographic areas.

Planning Area Wide Direction

<u>Objective W – 1:</u> Conserve federally listed species and the ecosystems on which they depend. Ensure that actions requiring authorization or approval by the BLM are consistent with the conservation needs of special status species and do not contribute to the need to designate additional special status species.

<u>Rationale:</u>
The BLM has been directed to contribute to the protection and recovery of species federally listed or proposed for listing (or subspecies or populations) across their ranges by maintaining and restoring habitat quality, quantity and effectiveness (Endangered Species Act of 1973, 16 USC 1531 et seq., as amended; and BLM Manual 6840, Special Status Species Management). Meeting these responsibilities requires maintenance of suitable habitat and restoration of degraded habitats necessary for the recovery of these species.

The Standards for Rangeland Health (USDI-BLM, 1997) provide a clear statement of agency policy and direction to promote healthy sustainable rangeland ecosystems, restore and improve public rangelands and to provide sustainable resources to support the livestock industry.

The Bureau is directed under Executive Order No. 13186 to protect, restore, enhance and manage habitat of migratory birds and prevent the loss or degradation of remaining habitats on BLM. Also, this executive order directs the BLM to "ensure that environmental analysis of federal actions required by the NEPA or other established environmental review processes evaluate the effects of actions and agency plans on migratory birds, with emphasis on species of concern."

<u>Allocations/Allowable Uses:</u>
1. Locate new roads and trails away from important habitats[3] (e.g., at least ¼ mile from bald eagle habitats).

2. During seasonally sensitive periods (e.g., breeding, nesting, winter roosting), or in sensitive sites (e.g., raptor roosts, great blue heron rookeries) avoid or mitigate for impacts from activities occurring in or near habitats of species listed or proposed to be listed as threatened or endangered. See Table 1 for a list of species that may require seasonal restrictions, seasonal restriction dates and distance buffers.
   a. Disturbance activities include, but are not limited to, people walking or running; riding a bike, horse or motorized vehicle; creating loud noises (chain sawing, blasting); on-site or at a distance of ¼ to 1 mile, depending on species.
   b. Mitigation may include but not be limited to seasonal use restrictions and/or distance buffers around sensitive sites.
   c. For nest sites, seasonal closures may be ended early if, through monitoring, the nest is determined to be unoccupied. However, the closure period must include dates that will allow late nesting birds. Prior to disturbing activities, conduct surveys to determine presence/absence of special status species; allow the action to proceed if field exam indicates the nest is inactive.
3. Bald eagles: Include current and potential habitat4 into an overall Bald Eagle Habitat conservation strategy where current populations occur near Prineville Reservoir and Grizzly Mountain.
4. Sage grouse:
   a. Design and implement management activities to be consistent with adopted sage grouse conservation strategies and current, accepted science.
   b. Vegetation altering activities may occur in sage grouse habitat where it does not result in the long-term loss of habitats or contribute to the need to list.
   c. Disturbance activities may occur in sage grouse habitat if they do not disrupt breeding and over-wintering activities or compromise habitat suitability.

Guidelines:

General

1. Enhance health of roost and nest trees by reducing competing vegetation.
2. Enhance conditions for future large perch/nest trees.
3. As new habitat areas or potential habitat areas become known, consider including them into the Bald Eagle Habitat Conservation Strategy and managing them with an emphasis on bald eagles.
4. Action will be taken, when practical, to determine the distribution, abundance, reason for current status, and management needs of special status species occurring on BLM administered lands, and will evaluate needed management for the conservation of these species. The District will also document observations of, and minimize impacts to Bureau assessment and Bureau tracking species.
5. Assess habitat potential within all caves and identify which caves (if any) contain potentially suitable habitat for bats (especially, Townsend's big-eared bat).
6. Consider providing suitable habitat for the restoration of bat populations (including Townsend's big-eared bats) in a portion of the Redmond Caves lava tube system.
7. In coordination with other federal and state natural resource management agencies develop a long-term conservation strategy for managing sage grouse habitats. Until that time, use the guidelines from the Greater Sage Grouse and Sagebrush-Steppe Ecosystems Management Guidelines (USDI-BLM et al., 2000).

Habitat Modification and Disturbance

8. Vegetative habitats may be maintained or improved using a variety of techniques, such as mowing shrubs, altering or removing trees and shrubs, prescribed burning,

[3]"Important habitat" is a general term that includes seasonal habitats, such as winter ranges and breeding sites; habitat structure, such as snags and down logs; and unique features, such as cliffs and caves.
[4]"Potential habitats" are areas that either historically were or naturally have the potential to develop into bald eagle habitat. These areas will typically consist of ponderosa pine stands or individual trees, cliffs or rock outcrops that could be restored or grow to provide nesting, perching or roosting habitats.

Table 1: General Guidelines* for Seasonal Restriction and Distance Buffers

Species	Habitat	Spatial Buffer	Restriction Dates
Bald eagle	Nest	¼ mile non-line of sight ½ mi line of sight 1.0 mile blasting	January 1 – August 31
	Winter Roosts	½ mile	December 1 – April 1
Golden eagle	Nest	¼ to ½ mile	February 1 – August 31
Northern goshawk	Nest	¼ mile	March 1 – August 31
Cooper's hawk	Nest	¼ mile	March 1 – August 31
Sharp-shinned hawk	Nest	¼ mile	March 1 – August 31
Ferruginous hawk	Nest	½ mi direct line of sight ¼ mi with visual buffer	March 1 – August 1
Red-tailed hawk	Nest	¼ mile	March 1 – August 31
Swainson's hawk	Nest	¼ - ½ mile	April 1 – August 31
Peregrine falcon	Nest	1.0 mile	January 1 – August 15
Prairie falcon	Nest	¼ - ½ mile	March 15 – August 15
Osprey	Nest	¼ mile	March 1 – August 31
Burrowing owl	Nest	¼ mile	March 1 – August 31
Flammulated owl	Nest	¼ mile	April 1 – September 30
Great gray owl	Nest	¼ mile	March 1 – July 31
Sage grouse	Lekking	0.6 mile	March 1st – May 15 ** February 15– May 1
	Nesting, Brooding and Rearing	Not applicable (N/A)	April 1 – July 31 *March 15– July 31
	Winter Habitat	N/A	November 15 – March 15 **November 1– March 31
Great blue heron	Nest	660 ft – ¼ mile	15 March – 15 July
Mule deer	Winter Range	N/A	01 December – 30 April **01 November – 01 May
Rocky Mountain elk	Winter Range	N/A	01 December – 30 April **01 December – 01 May
	Calving	N/A	May 15 – Jun 30
Pronghorn	Winter Range	N/A	01 December – 30 April **01 November – 01 April
Townsend's big-eared bat	Hibernaculum	N/A	November 1 – April 15
	Nursery	N/A	April 15 – October 31

*These general guidelines are typical restrictions that could be applied. Specific dates and distances may vary depending on the type of action proposed and the local breeding chronology of species or the local weather patterns.
** Millican Dates

managed wildland fire, planting, livestock grazing, and commercial and non-commercial tree cutting.

9. Balance the need for restorative actions to address long-term threats to special status species with the short-term need to protect special status species and their habitats.
10. Management activities in the habitat of federally listed, candidate threatened, or endangered and sensitive species will maintain or improve habitat conditions and/or not prevent or retard attainment of future desirable habitat conditions.
11. Develop a species response matrix that includes documented (from literature searches) responses of the species to management activities or natural phenomena. This information will be used to determine management activities for which mitigation measures should be recommended or are needed.
12. Identify needs to protect special status species and their habitats when authorizing activities by conducting an appropriate assessment of the wildlife resources depending upon the level of anticipated impacts. Include consideration of:
    a. The Wildlife Observations Database and conduct field surveys during appropriate seasons to identify existing habitat conditions and species occurrences and habitat associations.
    b. Impacts and develop mitigation measures to be applied to project implementation requirements.
    c. Opportunities for habitat enhancement as part of project design.
    d. Contract stipulations to allow work to be stopped if special status species are discovered to be present in or adjacent to a project area.
    e. Adjustment of clearance and mitigation activities to accommodate additions or deletions in official listings of special status species.
13. Evaluate effects of Bureau actions on federally listed, proposed, candidate, state listed, Bureau sensitive or assessment species in accordance with management direction. Impacts to these species will be evaluated through the NEPA process (Instruction Memorandum No. OR-91-57).
14. Seek opportunities to conserve and improve habitats for special status species and native animals in BLM authorized activities.
15. Design and implement relevant management activities to be consistent with BLM adopted recovery plans, conservation strategies, and other appropriate reports.
16. In situations where data are insufficient to make an assessment of proposed actions, surveys of potential habitats will be made before a decision is made to take any action that could affect special status species.
17. Maintain existing shrub-steppe habitats in the existing sage grouse range in order to sustain sage grouse populations and protect options for the future (Information Bulletin No. OR-200-334).
18. Where possible, design or redesign travel routes to contribute to the conservation of special status species, and relocate roads and trails away from important habitats.
19. Conduct periodic surveys of potential raptor habitats and monitor active and historic sites to determine occupancy and management consistency.

<u>Objective W - 2:</u> Protect and restore special habitat features that contribute to the productivity of species. These special habitat features include, but are not limited to caves, cliffs, playas, riparian areas and wetlands, foraging areas, and snags and down wood. Maintain and/or recruit adequate numbers, species and sizes of snags and levels of downed wood to contribute meaningfully to the needs of wildlife, invertebrates, fungi, bryophytes, saprophytes, lichens, other organisms, long-term soil productivity, nutrient cycling, carbon cycles and other ecosystem processes (See also Vegetation).

Rationale:
Under the Federal Land Policy and Management Act of 1976, public lands are to be managed in a manner that protects ecological values, maintains their natural condition

and provides food and habitat for wildlife. Special habitat features are often limited across the landscape, and thus are more important to those species that depend upon those features for some portion of their lifecycle than more abundant features of the landscape.

Snags and downed logs are important components of forest and woodland ecosystems. They provide essential habitat for wildlife and other organisms, long-term soil productivity and several ecosystem processes. They store carbon and nutrients and provide site improvement following extreme disturbance. Large diameter snags are especially valuable to a wide array of species because they offer greater surface area, more opportunity for cavities, and greater longevity. Hann et al. (1997) found that snag and coarse woody debris levels have declined in roaded and harvested areas. Providing for the appropriate species, numbers and sizes of snags maintains the value of the stand for wildlife.

The special habitat features described here were identified as critical to the long-term conservation of a variety of species in Source Habitats for Terrestrial Vertebrates of Focus in the Interior Columbia Basin (USDA & USDI, 2000a) and in Assessment of Ecosystem Components (USDA & USDI, 1997, p. 64, modified). The Federal Cave Resources Protection Act (FCRPA) of 1988 directs the agency to: Prohibit any person who, without prior authorization from the Secretary knowingly destroys, disturbs, defaces, mars, alters, removes or harms any significant cave or alters the free movement of any animal or plant life into or out of any significant cave located on Federal lands.

The Interim Cave Management Policy (Instruction Memorandum No. OR-95-021) provides for the following:

- Where known or potential adverse impacts from human use to threatened, endangered, and/or sensitive plants or animals, cultural resources, biological deposits (i.e. middens, skeletal remains, etc.), or geologic/paleontologic/mineral features are present, then the responsible authorized officer shall act to protect these resources. Such actions could include information/education, closures (seasonally or yearlong), written authorization for activities, or other appropriate measures.
- On public lands administered by the BLM, no new surface disturbing activities will be authorized within a 350 foot radius of a cave opening or any known cave passages which may adversely impact any significant or potentially significant cave resource value.

Allocations/Allowable Uses

1. Special habitats and features may be maintained or improved using a variety of techniques, such as mowing shrubs, prescribed burning, livestock grazing, commercial and non-commercial tree cutting, spatial buffers and seasonal closures.
2. Mineral material mining may be allowed on cliffs or talus slopes not occupied by special status species provided that special habitat features are provided in appropriate amounts and arrangements across the landscape to support general species needs.
3. Also see specific management direction for caves in the section on Special Management Areas.

Guidelines:

1. Consider presence and abundance of wildlife values when evaluating proposed mining reclamation/rehabilitation plans.
2. Whenever practical, avoid special habitat features when authorizing activities.
3. Provide reasonable mitigation, by reducing, avoiding, restoring or compensating for important special habitats that are altered by management actions such as mineral material mining, road construction, et cetera.
4. Consider the natural variability in number and size of snags and downed logs

across landscapes, through time, and in context of biomass levels under which soils and species evolved.

5. Except where public safety is a concern, forest and woodland management activities will retain an adequate number of snags and large coarse woody debris in treatment areas at levels sufficient to support species of cavity-nesting birds at 100 percent of potential population levels. Except for safety concerns and fire hazards management actions will:
    a. Retain all soft snags
    b. Retain scattered hard snags and large live trees, both to provide the current needs of hard snag dependent species and to serve as a source of future hard and soft snags.
    c. Retain approximately 8 large live trees per acre in regeneration harvest units to provide a legacy, bridging past and future forests. These trees are not to be counted toward future snag recruitment as described above.
    d. Where snag densities are below the established, desired range, initiate management activities to increase snag levels (USDA-BLM and USDI-BLM, 2000a, p. 48).
    e. Retain and consider increasing snag numbers and coarse woody debris levels in areas that have been burned.
    f. Trees retained for current and future snags and as "legacy trees" will be chosen from the largest trees available.
6. The potential population levels for snags described above will be determined using one the following three methods:
    a. Use the amounts described in Wildlife-Habitat Relationships in Oregon and Washington (Johnson and O'Neil, 2001, Chapter 24, p. 596, Tables 1, 2 and 3), or;
    b. Use the interim standard densities described in the Interior Columbia Basin Supplemental Draft EIS (USDA & USDI, 2000c, Vol. 2, Appendix 12, pp. 12-13, Tables 1, 2 and 3) for snags and downed wood to be used in designing field projects, or;
    c. Determine site specific natural variability of snag and down log amounts for the planning area using the snag analysis and coarse woody debris process described in the Interior Columbia Basin Supplemental Draft EIS (USDA & USDI, 2000c, Vol. 2, Appendix 12, pp. 12-13, Tables 1, 2 and 3), or use or develop a similar process appropriate for local conditions. If using or developing a new process, it must have a scientific basis, using information from the literature and/or studies on historical conditions to determine snag sizes and average numbers.
7. Dead and down woody material will be retained in amounts that are within the range of natural variability for the plant community, to the extent compatible with reforestation objectives, fire hazard reduction standards, and public safety/trail use.
8. Coarse woody debris will be left in place across treatment areas rather than piled and burned (unless precluded for safety reasons, see Fire/Fuels Management section).
9. Salvage dead and down material only where an adequate amount of such material will be retained to provide sufficient habitat to maintain populations of dependent wildlife.
10. When approving habitat modification activities, determine the importance of special habitat features to special status species, and maintain the integrity of the site.
11. Where possible, avoid or minimize changes to special habitat features.

Disturbance actions

12. Minimize activities that could adversely influence wildlife use of special habitat features by using one or more techniques appropriate to the species' needs and status. These techniques may include:
    a. Seasonal restrictions
    b. Distance buffers

c. Signs
d. Closures
e. Relocating disturbance (i.e. moving trails, etc.)

13. Identify, and, where appropriate, maintain, restore or enhance wetland habitats such as playas, springs, and other riparian habitats.

<u>Objective W - 3:</u> Determine the distributions, abundance, reasons for current status, habitat, and management needs of Species of Focus (which include special status species and species of local interest) occurring on BLM administered lands, and evaluate the significance of these lands and BLM actions for the conservation of these species.

<u>Rationale:</u>
Inventory and conservation of habitats for Bureau designated special status species, and other state or federally protected species, is directed by FLPMA, NEPA, and Bureau policy in BLM Manual 6840 and BLM Fish and Wildlife 2000. This manual also directs the agency to provide habitat for species listed or proposed to be listed as threatened or endangered. Meeting these responsibilities requires maintenance of high quality habitat and restoration of degraded habitats necessary for species recovery.

<u>Guidelines:</u>
1. Map the habitat of all Species of Focus (see Table 2). Periodically update the maps as new information becomes available and as habitats change relative to land management actions and natural events.
2. Map the locations of active and historic important wildlife habitats (i.e. raptor nests, deer, elk and pronghorn winter range, sage grouse leks, etc.). Periodically monitor these habitats and survey potential habitats for additional activity. Map the land use activities that may cause negative impacts to these habitats.
3. Record observations of and minimize impacts to BLM assessment and tracking species.
4. Prior to initiating ground disturbing projects within potential habitat of Species of Focus, review habitat and management relationships for these species to assess key wildlife issues concerning these species and identify conservation measures and management opportunities to address these issues.
5. Conduct literature searches and identify potential disturbance or habitat altering actions that may have a negative impact on important wildlife resources and develop mitigating measures to lessen the negative affects.
6. Conduct and record systematic inventories of populations and distributions of Species of Focus.
7. Conduct monitoring and evaluation studies on Species of Focus on a regular periodic basis.
8. Evaluate potential effects of management actions (i.e., grazing, recreation and timber management plans, right-of-way applications, etc) on fish and wildlife habitat on a case-by-case basis as part of project-level planning. Consider the significance of the proposed projects and the sensitivity of fish and wildlife habitats in the affected areas. Stipulations will be attached as appropriate to assure compatibility of projects with management objectives for fish and wildlife habitat.

<u>Objective W - 4:</u> Maintain or improve habitats to support healthy, productive and diverse populations and communities of native plants and animals (including species of local importance) appropriate to soil, climate and landform. Where consistent with habitat capabilities, meet ODFW management objective numbers for deer, elk, and pronghorn.

<u>Rationale:</u>
As directed under the Federal Land Policy and Management Act of 1976 public lands will be managed in a manner that protects ecological values, maintains their natural

Table 2: Species of Focus

	Common Name	*Scientific Name*	Source Habitat
Federally Listed Species (Threatened)			
Birds	Northern bald eagle	*Haliaeetus leucocephalus*	Old growth ponderosa pine, riparian
Federal Candidate Species			
Amphibians & reptiles	Columbia spotted frog	*Rana luteiventris*	Riparian
	Oregon spotted frog	*Rana pretiosa*	Riparian
Bureau Sensitive Species			
Birds	American peregrine falcon	*Falco peregrinus anatum*	Riparian
	Black-backed woodpecker	*Picoides arcticus*	Ponderosa pine/lodgepole pine forest
	Burrowing owl	*Athene cunicularia*	Shrub-steppe
	Ferruginous hawk	*Buteo regalis*	Shrub-steppe
	Flammulated owl	*Otus Flammeolus*	Ponderosa pine/lodgepole pine forest
	Lewis's woodpecker	*Melanerpes lewis*	Ponderosa pine/lodgepole pine forest
	Northern goshawk	*Accipiter gentilis*	Ponderosa pine/lodgepole pine forest
	Northern pygmy owl	*Glaucidium gnoma*	Ponderosa pine/lodgepole pine forest
	Northern three-toed woodpecker	*Picoides tridactylus*	Ponderosa pine/lodgepole pine forest
	Pygmy nuthatch (BM)	*Sitta pygmaea*	Ponderosa pine/lodgepole pine forest
	Sage grouse	*Centrocercus urophasianus*	Shrub-steppe
	Upland sandpiper	*Bartramia longicauda*	Riparian, grassland
	White-headed woodpecker	*Picoides albolarvatus*	Ponderosa pine/lodgepole pine forest
Mammals	Fisher	*Martes pennanti*	Riparian
	Townsend's big-eared bat	*Corynorhinus townsendii*	Generally associated with all; close association with riparian
Bureau Assessment Species			
Birds	Black-throated sparrow	*Amphispiza bilineata*	Shrub-steppe
	Northern water thrush	*Seiurus noveboracensis*	Riparian
	Tricolored blackbird	*Agelaius tricolor*	Riparian
Mammals	Pygmy rabbit	*Backylagus idahoensis*	Shrub-steppe
	Brazilian free-tailed bat	*Tadarida brasiliensis*	Generally associated with all
	Spotted bat	*Euderma maculatum*	Generally associated with shrub-steppe, forest, woodland, riparian
Bureau Tracking Species			
Amphibians & reptiles	Cascade frog	*Rana cascadae*	Riparian
	Northern sagebrush lizard	*Sceloporus grasiosus graciosus*	Shrub-steppe
	Western toad	*Bufo Boreas*	Generally associated with all

Birds	Bank swallow	*Riparia riparia*	Riparian, shrub-steppe
	Great gray owl	*Strix nebulosa*	Ponderosa pine/lodgepole pine forest
	Greater sandhill crane	*Grus Canadensis tabida*	Riparian
	Loggerhead shrike	*Lanius ludocicianus*	Shrub-steppe, juniper woodland
	Long-billed curlew	*Numenius americanus*	Shrub-steppe, Riparian
	Mountain quail	*Oreortyx pictus*	Ponderosa pine, juniper woodland
	Olive-sided flycatcher	*Contopus borealis*	Ponderosa pine/lodgepole pine forest
	Pileated woodpecker	*Cryocopus pileatus*	Ponderosa pine/lodgepole pine forest
	Pine grosbeak	*Pinicola enucleator*	Ponderosa pine/lodgepole pine forest
	Pygmy nuthatch (EC, HP)	*Sitta pygmaea*	Ponderosa pine/lodgepole pine forest
	Sage sparrow	*Amphispiza billi*	Shrub-steppe
	Williamson's sapsucker	*Sphyrapicus throideus*	Ponderosa pine/lodgepole pine forest
	Willow flycatcher	*Empidomax trailiii brewsteri*	Riparian/woodland
Mammals	American marten	*Martes Americana*	Ponderosa pine/lodgepole pine forest
	Bighorn sheep	*Ovis canadensis*	Shrub-steppe and woodlands near steep, rugged terrain
	Long-eared myotis	*Myotis evotis*	Forest, shrub-steppe, woodland, riparian
	Long-legged myotis	*Myotis volans*	Forest, shrub-steppe, woodland, riparian
	Pallid bat	*Antozous pallidus*	Shrub-steppe, riparian, ponderosa pine, juniper woodland
	Preble's shrew	*Sorex Preblei*	Shrub-steppe, riparian
	Silver-haired bat	*Euderma maculatum*	Ponderosa pine/lodgepole pine forest
	Spotted bat	*Lasionycteris noctivagans*	Shrub-steppe, woodland
	Western gray squirrel	*Sciurus griseus*	Ponderosa Pine Forest
	Western small-footed myotis	*Myotis ciliolabrum*	Shrub-steppe, ponderosa pine, juniper, riparian
	White-tailed jackrabbit	*Lepus townsendii*	Shrub-steppe, ponderosa pine, juniper
	Yuma myotis	*Myotis yumanensis*	Generally associated with all; closely associated with riparian
Species of Local Interest			
Birds	Golden eagle	*Aquila chrysaetos*	Shrub-steppe
Mammals	Mule deer	*Odocoileus hemionus*	Generally associated with all
	Pronghorn	*Antilocapra Americana*	Shrub-steppe
	Rocky Mountain elk	*Cervus elaphus nelsoni*	Generally associated with all

condition and provides food and habitat for wildlife. As directed in BLM Manual 6840 - Special Status Species Management, the BLM will take actions that progress towards the conditions indicating attainment of the Fundamentals of Rangeland Health (described in 43 CFR 4180.1) and associated Standards (43 CFR 4180.2).

As noted by Johnson and O'Neil (2001), the conservation of wildlife and of biological diversity at large has taken various approaches in the U.S. Sometimes the focus is on the provisions of life requisites for a single species, sometimes for a suite of species (i.e.: guild or biological community such as cavity-dependent or wetland and riparian dependent species), and sometimes the focus is on ecosystems (i.e.: integrated systems of land, water, and biota in contiguous areas such as watersheds, landscapes, or regions).

In this plan, management considerations are directed at some individual species such as sage grouse, deer, elk, and pronghorn by designating wildlife management emphasis levels described here; at groups of species represented by the emphasis on management of source habitats such as shrub-steppe, juniper woodlands, or riparian in the vegetation section; and on ecosystem function represented by the emphasis on restoration of the historic structure and extent of vegetation conditions and hydrologic function in high priority watersheds.

For individual and groups of species, habitat factors that most influence wildlife use in an area include habitat patch size, quality, connection to habitats that provide for all life requisites, and disturbance – most often from human activities and most prominently from open motorized travel routes. Objectives and guidelines focus on providing effective wildlife habitat at various emphasis levels based on those factors. Habitat effectiveness[5] is one model that provides guidance for evaluating the influences of disturbances caused by open motorized travel routes. Use of the model in this planning process was described in detail on pages 357-358 of the Draft Upper Deschutes RMP/EIS (USDI-BLM, 2003).

Allocations/Allowable Uses:

1. Avoid or minimize actions that may cause disturbance to important or seasonally important wildlife habitats.
2. Designate areas for primary, secondary, or general wildlife management emphases in winter range, breeding and rearing habitats, connectivity areas, and source habitats.

Guidelines:

General

1. Consider partnering with ODFW, OMD, USFWS and others in developing a multi-species habitat conservation strategy for the Bend/Redmond, Horse Ridge, Mayfield Pond, Millican Plateau, North Millican and Prineville Reservoir geographic areas. Focal species for this strategy are to include, but not be limited to sage grouse, deer, elk, pronghorn and golden eagles.

Habitat Modification

2. Maintain or improve habitats using a variety of techniques, such as, mowing vegetation, prescribed burning, livestock grazing, commercial timber harvest, non-commercial tree cutting and planting and seeding.
3. In order to restore native plants, areas disturbed during project construction will be seeded with a mix of native grasses, forbs, and shrubs to meet site-specific needs or habitat requirements.

[5]Habitat effectiveness is used as an index to measure the percentage of available habitat that is usable by elk and is used as a guideline for some alternatives. The Habitat Effectiveness Index for Elk on Blue Mountain Winter Ranges developed by Thomas and others (USDA-FS, 1988) was used (with modifications) in developing this RMP, and may be used with other research (e.g., Roloff et al., 2001, and Rowland et al., 2000) to assess impacts caused by motorized travel. Note that because of fragmented ownership and differing road jurisdictions, this guideline may not be achievable in some geographic areas.

4. Non-native species may be used when they will contribute to the recovery of the site, contribute to soil conservation, help manage against weeds, and/or prepare the site for eventual occupation by native plant species and will not impede the growth of native plants.
5. Activities authorized by permit (with interdisciplinary team review) will be restricted in all areas where vegetation manipulation (human or naturally caused) occurs and results in sensitive soil and plant conditions, or the site already has sensitive soils and/or plant conditions. These permitted activities include, but are not limited to, livestock grazing, off-road vehicle travel, recreational events, construction of new roads and trails, and timber harvests.
6. Range developments will be designed to achieve both wildlife and livestock grazing management objectives.
7. Where natural springs exist and are developed, the development will provide a more dependable water source for wildlife as well as livestock. Water troughs will accommodate use by wildlife and livestock, and will be constructed with wildlife escape devices. The spring area and the overflow will be fenced to exclude livestock trampling.
8. Where pipelines are developed to deliver water more than two miles from an existing water source, the water system will be designed to provide water for wildlife between July and October.

Structural Developments

9. Guzzlers (artificial structures that collect rain water and then regulate the flow to a drinking basin) will be installed only where they facilitate distribution of target wildlife species. Maintenance of existing guzzlers will receive priority funding over the development of new guzzlers, except when managing for special status species.
10. To the maximum extent feasible, new guzzlers will be located away from existing designated trails to avoid the potential for seasonal trail closures or rerouting of trails.
11. In suitable habitats, where important nesting structures are absent, consider installing nesting platforms, nest boxes, and other structures to improve habitat conditions for snag dependent species.
12. New fences will be built to standard Bureau wildlife specifications to allow wildlife passage, with the exception of fences built specifically to keep wild ungulates out of an area or fences built to meet specific public safety or other administrative purposes. Existing fences not meeting standard Bureau wildlife specification will be modified to meet the standard when major reconstruction is done or as funding allows.

Disturbance Actions

13. Manage important wildlife habitats to minimize human disturbance by maintaining seasonal closures throughout the sensitive period (See Table 1 for a list of species that may require seasonal restrictions, the restriction dates, and distance buffers).
14. In seasonally important wildlife habitats (winter range, nest sites, roosts, etc.), major construction and maintenance work will be scheduled to avoid or minimize disturbance to wildlife.
15. Timber sales will be designed to provide sufficient cover to maintain the existing deer migration corridor through the La Pine area.

Objective W – 4a – Primary Wildlife Emphasis: Provide habitat that benefits wildlife and retains high wildlife use. Wildlife habitat is a primary management consideration in these areas.

Guidelines:

1. Habitat effectiveness should advance toward 70 percent or greater.
2. Where possible, maintain large un-fragmented patches (1,000 to 2,000 acres).

3. Where possible, manage for low densities of open motorized travel routes (approximately<1.5 mi/mi^2).
4. Rate as a high priority for habitat restoration treatments.
5. Group use restrictions may be applied in some areas or during some seasons.
6. Seasonal closures.

Objective W-4b – Secondary Wildlife Emphasis: Provide habitats that support wildlife and maintain a moderate level of wildlife use. Wildlife habitats may receive a secondary management emphasis in these areas.

Guidelines:
1. Habitat effectiveness should advance toward 50 percent or greater.
2. Maintain moderate size un-fragmented habitat patches (400 to 800 acres).
3. Target low to moderate densities of open motorized travel routes (approximately ≤ 2.5 mi/mi2).

Objective W-4c – General Wildlife Emphasis: Provide habitat that contributes to species occurrence and distribution. Wildlife habitats typically are not the focus of management in these areas.

Guidelines:
1. Consider focused management effort to maintain or improve the condition of important habitat areas (i.e., nest sites of special status species or connectivity corridors of species of local importance)
2. When opportunities arise, employ management actions that will maintain or improve wildlife habitat conditions.

Objective W-4d – Jurisdictional Limitations: Provide habitat conditions that move toward primary or secondary wildlife management emphasis to the extent practicable within jurisdictional limitations.

Rationale:
Northwest, Tumalo, La Pine (Northern Area and Southern Area), Prineville Reservoir (Chimney Rock, Eagle Rock, West Eagle Rock, Taylor Butte and Reservoir North) and Prineville Geographic Areas are examples of geographic areas where guidelines for primary or secondary emphasis may not be achievable because of conditions (such as fragmented land ownership or occurrence of county/state roadways) outside of BLM jurisdiction. In those or other areas with similar conditions the guidance is to manage toward those objectives.

Guidelines:
1. During the development of management facilities (mineral sites, access roads, etc.) or infrastructure (trails) emphasize maintenance of relatively large un-fragmented habitat patches. The term "relatively large un-fragmented habitat patches" means the size of the patch is related to the size of the BLM parcel(s) in the area and the goal is to minimize the amount of human disturbance of wildlife and human influence on the physical condition of the habitat.
2. Non-motorized trail systems will be developed in a manner that leaves some un-fragmented areas across the geographic area.
3. Motorized travel routes will be kept to a minimum. Roads and driveways that access private land and are not needed for general public access may be gated to limit use only to land owners. Consider building roads and driveways to the minimum standard necessary that allows reasonable access and has the least impact on wildlife resources possible.

Direction for Specific Geographic Areas

Badlands WSA

Allocations/Allowable Uses:
1. Primary emphasis will be for deer and elk winter range, pronghorn year-round and connectivity habitats.

Guidelines:
1. Avoid actions that create barriers to pronghorn movements in connectivity corridors. Emphasize shrub-steppe and open savanna habitat restoration.

Bend/Redmond Recreation Area

Allocations/Allowable Uses:
1. General wildlife emphasis for pronghorn year-round habitat and secondary wildlife emphasis for the potential pronghorn connectivity corridor located along Highway 126.
2. Consider managing the potential pronghorn connectivity corridor along Highway 126 to maintain a low to moderate level of motorized travel routes.

Cline Buttes Recreation Area

Allocations:
1. Main Block: General wildlife emphasis.
2. Southwest: Secondary emphasis for deer, elk and raptor habitats.
3. Southeast: General wildlife emphasis.
4. The Dry Canyon area south of State Highway 126 and east of Fryrear Road will be managed for secondary wildlife emphasis.
5. Maston allotment: Primary emphasis for elk, raptors and riparian habitat.

Horse Ridge Recreation Area

Allocations:
1. Primary emphasis for deer and elk winter range, sage grouse habitat and year-round habitat for pronghorn.

Guidelines:
See guidelines for Recreation Objective R – 3 and R – 4 for Horse Ridge area.

La Pine Recreation Area

Allocations:
1. Northern portion: Primary emphasis for elk winter range, deer migration corridor, ponderosa pine and riparian source habitats.
2. Isolated parcels along the Little Deschutes River: Primary emphasis for riparian habitats, deer migration, elk winter range and raptor nesting and foraging habitats.
3. Southern area: Primary emphasis for deer migration corridor, ponderosa pine and riparian source habitats.
4. Rosland OHV Play Area and area south and east of the Play Area: General emphasis.

Mayfield Pond Recreation Area

Allocations/Allowable Uses:
1. Main: Secondary emphasis for year-round pronghorn habitat and connectivity corridors.

2. South Alfalfa: Primary emphasis for deer and pronghorn year-round and connectivity habitats;

Guidelines:
1. North of Alfalfa-Market Road: Avoid actions in pronghorn connectivity corridors that create barriers to pronghorn movements and relocate the existing access road to Mayfield Pond away from the pond to improve habitat condition and decrease disturbance to wildlife.
2. South of Alfalfa-Market Road and west of Dodds Road: Avoid actions in pronghorn connectivity corridors that create barriers to pronghorn movements.

Millican Off-Highway Vehicle (OHV) Area

Millican Plateau OHV Area

Allocations/Allowable Uses:
1. Main: General wildlife emphasis except the Mayfield link (west side of the block north of Alfalfa) which has a secondary wildlife emphasis for pronghorn connectivity. Also See Objective MU-2, Allocations/Allowable Uses, 3. a.
2. Wild and Scenic River Corridor: Primary emphasis for deer and pronghorn winter range, and riparian and raptor nesting and foraging habitats.
3. West Butte: Primary emphasis for elk and sage grouse winter range and breeding habitat.
4. Northern Peninsula: About 800 acres Primary for pronghorn winter range.
5. Crooked River Rim: Primary wildlife emphasis for deer and pronghorn winter range, and raptor nesting and foraging habitats.
6. South: General wildlife emphasis.
7. Mayfield Link (west side of the block north of Alfalfa): Secondary for pronghorn connectivity routes.

Guidelines:
1. Winter closures of this area may be implemented during especially severe winter conditions upon request by ODFW. Such requests will be evaluated on a case-by-case basis.

North Millican OHV Area

Allocations/Allowable Uses:
1. Dry River Canyon: Primary emphasis for deer, elk and sage grouse.
2. Main (East and West): Primary emphasis for deer and elk winter range, sage grouse habitats and pronghorn year-round and connectivity habitats.

Guidelines:
1. Manage for habitat effectiveness (HE) of 50-60 percent for road influences and have concurrent (integrated) vegetation management goals to improve poor quality habitat conditions and maintain existing good quality habitat conditions.
2. Manage for a wide range of un-fragmented habitat patch sizes, with some as large as 1,000 acres, some smaller sizes in less effective habitats and some considerably larger in key habitat areas.
3. Avoid locating motorized trails within two to four miles of any active leks.
4. Through trail design provide some un-fragmented habitat patches of high value wintering habitat for deer and elk.
5. Seasonally close road/trail system to OHV and bicycle use within areas or on portions of the trail system.
6. Concentrate year round open trail areas in/near areas of lower value habitats.

7. Winter closures of this area may be implemented during especially severe winter conditions upon request by ODFW. Such requests will be evaluated on a case-by-case basis.

South Millican OHV Area

Allocations/Allowable Uses:
1. Primary emphasis for deer and elk habitat, sage grouse winter and breeding habitats, and year-round pronghorn habitat.

Guidelines:
1. Increase the size of habitat patches by permanently closing some trails and roads and rehabilitating them to natural vegetation.

Northwest Recreation Area

Allocations/Allowable Uses:
1. Primary emphasis for deer and elk winter range and raptor nesting and foraging habitats.

Prineville Geographic Area

Allocations/Allowable Uses:
1. Section 32 north of Ochoco Reservoir: Primary emphasis for deer winter range and raptor nesting and foraging habitats. The area will be closed to motorized travel. Other activities may be subject to seasonal restrictions or limitations on types of use depending upon their potential effects to deer and raptors (See Table 1).
2. Powell Buttes: Primary emphasis for year-round deer habitat.
3. Grizzly/Scattered Northern parcels: Primary emphasis for deer and elk, with remaining isolated parcels secondary to deer and elk.
4. Combs Flat: Secondary emphasis for deer and pronghorn winter range and year round habitat.
5. Miscellaneous Scattered Parcels: Some primary and some secondary emphasis for deer and year-round pronghorn habitat.

Prineville Reservoir Recreation Area

Allocations/Allowable Uses:
1. Eagle Rock: Primary emphasis for deer and elk winter range and elk connectivity habitat.
2. Lower Crooked River (W&S River): Primary emphasis for deer, riparian and raptor habitats.
3. Chimney Rock: Primary emphasis for deer winter range and raptor habitat.
4. West Eagle Rock: Secondary wildlife emphasis for deer winter range and year-round pronghorn habitat.
5. Main: Primary emphasis for deer and elk winter range, elk connectivity and raptor habitats.
6. Taylor Butte: Primary for deer and raptors.
7. Reservoir North: Primary emphasis for deer winter range, elk connectivity routes and raptor habitat.

Guideline:
1. When considering developing a motorized use area (see Recreation section), first consider locating it in secondary habitat emphasis areas. Consider primary habitat emphasis areas only if secondary are found unsuitable. Avoid the Eagle Rock area as well as the area adjacent to the north portion of the Prineville Reservoir Recreation Area.

Smith Rock Recreation Area

Allocations/Allowable Uses

1. Primary emphasis for deer winter range and raptor nesting and foraging habitats. See Table 1 for distance or seasonal restrictions that could be applied to climbing activities.

Steamboat Rock Recreation Area

Allocations/Allowable Uses:

1. Wild and Scenic River, Wilderness Study Area and River Riparian Habitats in the scattered parcels: Primary emphasis for riparian habitats, deer and elk winter range and raptor nesting and foraging habitats.
2. Main Block: General emphasis.
3. River in Main Block: Primary emphasis for deer and elk winter range, raptors and riparian habitat.

Tumalo Recreation Area

Allocations/Allowable Uses:

1. Primary emphasis for deer and elk winter range.

Guidelines:

1. Consider limiting activities authorized under permit during the winter if necessary to manage for wintering deer and elk.

Fire/Fuels Management

Objective FF – 1: Provide an appropriate management response on all wildland fires, with emphasis on firefighter and public safety. When assigning priorities, decisions will be based on relative values to be protected commensurate with fire management costs.

Rationale:

Protection of human life (firefighter and public safety) is the highest priority during a wildland fire. Property and natural and cultural resources are lower priorities.

The Review & Update of the 1995 Federal Wildland Fire Management Policy (USDI et al., 2001) acknowledges that fire is a critical natural process and must be reintroduced into the ecosystem on a landscape scale. Wildland fire management decisions are based on approved fire management and activity level plans, this RMP, and the best available science. The policy further emphasizes that for natural ignitions (i.e., lightning caused); a manager must have the ability to choose from the full spectrum of fire management actions—from prompt suppression to allowing fire to function in its natural ecological role. The "Interior Columbia Basin Final Environmental Impact Statement" (USDA-FS and USDI-BLM 2000b) states that wildland fire management strategies and suppression activities should minimize damage to long-term ecosystem function, and should emphasize protection, restoration, or maintenance of key habitats.

The Central Oregon Fire Management Plan (USDA, 2003) addresses fire suppression and fuels management on all federal lands for the Deschutes National Forest, the Ochoco National Forest, and the Prineville District BLM. The fire management plan outlines the appropriate management response, including full suppression and modified suppression, throughout the Central Oregon. It also identifies conditions and potential locations for wildland fire use and for prescribed fires, as well as other factors pertaining to fire management in the COFMS (Central Oregon Fire Management Service) area.

Allocations/Allowable Uses:

1. Use natural and human-created barriers (i.e., roads) as available for control lines.
2. Use of heavy equipment in ACECs, WSAs, and RNAs will be avoided. Exceptions may be granted by the field manager to protect public and firefighter safety, other Federal, state and private property, and commodity areas. During times of multiple ignitions and limited suppression resources, place highest priority on suppression resources to protect communities from wildland fire. If used, heavy equipment will be restricted to existing roads and trails. Use of retardant will be allowed within these areas for initial attack.

Guidelines:

1. Provide for an appropriate management response of initial attack and full suppression on all wildland fires.
2. Retardant use during extended attack will be considered as a part of the wildland fire situation analysis, considering the resource values at risk and public and firefighter safety.

Objective FF – 2: Rehabilitate burned areas to mitigate the adverse effects of wildland fire on soil and vegetation in a cost-effective manner and to minimize the possibility of wildland fire recurrence or invasion of weeds.

Rationale:

The Emergency Fire Rehabilitation Handbook (H-1742-1) outlines the process for implementing emergency fire rehabilitation projects following wildland fires and wildland fire use.

Allocations/Allowable Uses:

1. After prescribed burns or wildland fire, livestock grazing will typically be excluded through the second full growing season (see Livestock Grazing section for details).

Guidelines:

1. After a fire disturbance event which results in undesirable soil or plant conditions, review current uses including but not limited to recreation, rights of way and permitted uses to determine whether site has recovered sufficiently to support those uses without further degradation.
2. Emergency fire rehabilitation activities will be implemented after wildland fire. Separate environmental analysis will be completed only for emergency fire rehabilitation projects that are outside the scope of activities described in the burn rehabilitation plan.

Objective FF – 3: Restore and maintain ecosystems consistent with land uses and historic fire regimes through wildland fire use, prescribed fire, and other methods. Reduce areas of high fuel loading that may contribute to extreme fire behavior.

Rationale:

Both the Integrated Scientific Assessment for Ecosystem Management in the Interior Columbia Basin (USDA-FS and USDI-BLM, 1996) and the Review Update of the 1995 Federal Wildland Fire Management Policy and Program Review (USDI et al., 2001) recognize fire's essential role as an ecological process.

Allocations/Allowable Uses:

1. Prescribed fire use will not be allowed within the plan area due to proximity to developed areas unless otherwise determined by site specific analysis.

Guidelines:

1. Subsequent analysis will identify conditions and potential locations for prescribed fires, as well as other factors pertaining to fire management in the RMP area.

2. Fuels treatments in non-WUI areas will be designed to restore acres currently in Fire Regime Condition Classes 2 and 3 where the probability of success is high and other resource objectives can be met. Fuel treatments, mostly in the form of prescribed burning, will be done in condition class 1 areas to maintain desired conditions and prevent these areas from progressing into condition class 2.
3. Vegetative treatments will be designed to break up treated and untreated areas in a mosaic effect to meet fire and vegetation management objectives.
4. After prescribed burns or wildland fire, livestock grazing will typically be excluded through the second full growing season (see details in Livestock Grazing section). Other temporary use restrictions, such as no off-road travel, may be imposed where warranted.
5. Use prescribed fire and mechanical, and biological hazardous fuels reduction treatments on a case-by-case basis to improve forage base and restore natural processes. Where these treatment areas intersect special management areas, the fuels management project design will incorporate the objective of the special management area.
6. Prescribed fires will be conducted under fuel and weather conditions that allow for public and firefighter safety while meeting desired resource management objectives.

Objective FF- 4: In the wildland urban interface, live and dead vegetation will be managed so that a wildland fire would burn with fire behavior where firefighters can be safe and successful in suppression efforts under hot, dry summer weather conditions. Treatments will be designed for human safety while still considering recreation opportunities, wildlife habitat and corridors, visual quality, air and water quality, and public access.

Rationale:

The Healthy Forests Restoration Act of 2003, A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: A 10-Year Comprehensive Strategy (USDA et al., 2001), and the National Fire Plan (USDA et al., 2000) all emphasize the need to reduce hazardous fuels that pose a risk to Communities at Risk from the undesired effects of wildland fire.

With the protection of human life as the highest priority during a wildland fire, fuel conditions should be managed adjacent to Communities at Risk that allow for safe operations during fire suppression.

Allocations/Allowable Uses:

1. Hazardous fuels reduction objectives may be met through a combination of fuels treatments including thinning, mowing, pruning, piling, burning, grazing, or other approaches that reduce the three dimensional fuel profiles and reduce the risk of crown fire or uncontrollable surface fire.
2. Wildland Urban Interface zones are designated as follows:
    a. Forested Zones: up to 1.5 miles adjacent to Communities at Risk.
    b. Rangeland/Woodland Zones: up to ½ mile adjacent to Communities at Risk.

Guidelines

Fuels Management in Forested Wildland Urban Interface Zones

1. For site specific planning, the forested WUI zone is subdivided into three bands with treatments designed to give desired fire behavior given 90th percentile (extreme) summer weather conditions. The actual width of these three bands and treatment prescriptions will vary according to site-specific conditions such as vegetation/fuel type/density/structure, proximity of homes to property boundaries, prevailing winds, topographic and other natural fuel breaks, etc.
2. The first band, nearest to homes and private property, will managed for conditions

that will not support crown fire, and will only allow for surface fires with flame lengths of less than 2 feet under average weather conditions.

3. Treatments in the second band will be designed to prevent crown fire initiation and spread, and keep surface fuel flame lengths below the 3 to 4 foot range under 90th percentile summer weather conditions. Flame lengths below 4 feet are considered to be a safe environment for suppression forces to engage in direct attack of the fire.
4. Treatments in the third band, farthest away from homes, will be designed to reduce the occurrence, size, and severity of crown fires by breaking up fuel continuities and limiting ladder fuels. Most wildland fires will be limited to surface fires less than 4 foot flame lengths under average weather conditions, with opportunities for limited passive crown fire (occasional ignition and torching of individual or small groups of overstory trees). Stand replacement fires will be a rare occurrence. Crown fire approaching this zone will fall from the tree canopy to the forest floor in this area due to lack of horizontal and vertical fuel continuity. Treatment objectives will place a higher emphasis on wildlife habitat and silvicultural needs as long as fuel continuities and ladder fuels are reduced on at least 50 percent of the area.
5. Prescribed fire in the WUI will be used only for burning piles or broadcast burning in smaller areas where smoke and risk could be managed at acceptable levels. Based on expected re-growth rates in these vegetative types, re-treatment is expected to occur approximately every 15 to 20 years for tree thinning and every 5 to 10 years for brush cutting/mowing.

Fuels Management in Rangeland/Woodland Wildland Urban Interface Zones

6. As in forested areas, the actual width and treatment prescriptions of two treatment bands will vary according to site-specific conditions.
7. The first band may be 500 to 600 feet wide. Approximately 50 to 70 percent of the area within this band will be treated to prevent crown fires and keep surface fuel flame lengths in the 1 to 2 foot range.
    a. Brush treatments will be initiated when shrub canopy exceeds 50 percent or is greater than 2 feet in height.
    b. Thinning in this area will favor leaving older juniper (greater than 150 years old) and removal of younger trees.
    c. All naturally occurring juniper snags will be left within this band. An exception to this is snags less than 6 inches diameter at breast-height (dbh) in a fire-killed juniper stand. In this case dead trees will be reduced to a density of 5 to 7 trees per acre.
    d. No hazard trees will be left within reach of property, roads or other facilities.
8. The second band will be 600 feet to 1/2 mile wide. Treatments will be designed to reduce the occurrence, size, and intensity of fires by breaking up fuel continuities and limiting ladder fuels.
    a. Wildland fires will be limited to surface fires with flame lengths of 3 to 4 feet.
    b. Crown fires will not occur under 90th percentile summer weather conditions. There may be an occasional ignition of individual or small groups of juniper trees under extremely windy conditions.
    c. Juniper less than 150 years old will occur in small clumps where needed for hiding cover, and will be discouraged elsewhere.
    d. Most of the old juniper will be left.
    e. Treatment objectives will place a higher emphasis on wildlife habitat and woodland management objectives as long as fuel continuity and ladder fuels are reduced such that crown fires do not occur. Mosaic patterns of old juniper, shrub, and grass types will be emphasized.
    f. Prescribed fire will be used only for burning piles or broadcast burning in smaller areas where smoke and risk could be managed at acceptable levels. Based on expected re-growth rates in these vegetative types, re-treatment is expected to occur approximately every 15 to 20 years. All treatments will consider potential of introduction and spread of exotic annuals and noxious weeds.

Priority Setting in the Wildland-Urban Interface (WUI)

9. The COFMS Fuels Management Priority Framework guides fuels project priorities in the wildland urban interface by considering the potential for damaging fire behavior, economic opportunities, community involvement, values at risk, and the condition of vegetation and fuels. Risk from the undesired effects of wildland fire is not the same for each community within the plan area. Priority treatments will be done adjacent to those communities that have the following characteristics:
    a. The community is physically close to federal lands, with structures or other improvements within 1 mile of BLM administered lands.
    b. The community is actively involved in the hazardous fuels reduction effort, matching federal efforts on private lands, coordinating fuels reduction or suppression capability improvements with the protection agencies like ODF or city/ rural fire districts, and taking steps to improve the survivability of their community.
    c. Adjacent BLM administered lands exhibit heavy fuel loading and high potential for crown fire or fast moving surface fire at the average weather conditions, especially if those fuels are "upwind" given the dominant summer wind directions.
    d. Adjacent BLM administered lands opportunities exist to meet multiple objectives with the fuel treatment activities, including improvement of wildlife habitat, recreation opportunities, visual quality, restoration of ecosystem integrity, or opportunity to provide marketable products or energy from the removal of hazardous fuels.

WUI fuel treatments and potential social conflicts

10. Where WUI intersects other specially designated areas such as WSA, wild and scenic river corridors, ACECs, or RNAs, the fuels objectives will be pursued within the framework of the objective for the special management designation.
11. Reduction of hazardous fuels in the WUI may increase conflicts between recreational users and adjacent landowners, increase incidents of unauthorized use, and could impact visual quality, wildlife habitats, populations of rare plant species, spread of exotic species, or availability of forage or small wood products to the public. To better manage public use of BLM administered land, and to reduce the potential adverse impacts of fuels treatments to adjacent landowners, site specific analysis should include mitigating measures in the project design. Those measures may include:
    a. Information sharing, including posting of signs and working with the adjacent homeowners to enlist their support for appropriate use of BLM administered land.
    b. Physical barriers left or installed as part of the fuels treatment, including boulder placement, log barriers, fences, and vegetative patches or strips left in deliberate patterns to discourage unauthorized use
    c. Design features should be employed to reduce the potential indirect effects of the fuels treatment on designated trails. It may be appropriate to move or close designated trails or roads within the WUI zone to reduce conflicts between users and adjacent landowners.
    d. Where backyard stewardship contracts are forged to treat the hazardous fuels at the WUI, consider including an agreement with adjacent landowner/stewards to refrain from accessing their private lands or other BLM administered land through the treated area.

Special Management Areas

Special Management Areas within the Upper Deschutes Planning Area include Areas of Critical Environmental Concern (ACECs), Research Natural Areas (RNAs), Wilderness Study Areas (WSAs), Wild and Scenic Rivers (WSRs), and caves. Each of these areas has special management direction that reflects the values for which each of these areas or sites are managed. Specific management direction that is provided for Wild and Scenic Rivers and river corridors within the planning area boundary remains in place

is provided in the Upper Deschutes Wild and Scenic River and State Scenic Waterway Comprehensive Management Plan (USDA-FS, 1996) and the Middle Deschutes and Lower Crooked Rivers Management Plan (USDI-BLM and USDA-FS, 1992) prepared since the adoption of the B/LP RMP.

Most of the planning area is designated as a Special Recreation Management Area. For a description of this designation, see the Recreation section, planning area wide direction.

Areas of Critical Environmental Concern (ACEC)

ACECs are areas designated for special management. In the Upper Deschutes area, some ACECs have additional overlying designations. These include two RNAs (which are also ACECs) and the Badlands WSA (a portion of which is also an ACEC). Objectives SMA – 1 and SMA – 2 apply to all ACECs; Objectives SMA – 1a, 1b, 1c, and 1d are additional guidance specific to individual ACECs.

Objective SMA – 1: Retain existing and/or designate ACECs where relevance and importance criteria are met and special management is required to protect the identified values. Management activities and resource uses within ACECs will not impair the values for which the ACEC was designated.

Rationale:
Under the 1976 Federal Land Policy and Management Act (FLPMA), the Secretary of the Interior and the BLM were directed to designate ACECs within the public lands where special management attention is required to protect and prevent irreparable damage to important cultural, historic or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect public health and safety from natural hazards. By BLM policy, every RNA is also designated as an ACEC.

Allocations/Allowable Uses:
1. The following areas are designated as ACECs:
    a. Badlands – 16,684 acres (note: this ACEC includes some but not all of the Badlands WSA).
    b. Peck's Milkvetch – 14,075 acres.
    c. Tumalo Canals – 1,055 acres.
    d. Wagon Roads – 982 acres.
    e. Horse Ridge RNA – 609 acres (note: this area is also an Instant Study Area or ISA).
    f. Powell Butte RNA – 510 acres.
2. Unless specifically addressed in other guidance, uses that will not impair the values for which the ACEC was designated will be allowed.

Guidelines:
1. Establish baseline conditions for ACEC values and monitor for trends in the condition of those values. If declining conditions are observed, identify and take action to mitigate the cause(s).
2. Evaluate proposed uses within ACECs to determine whether those values for which the ACEC was designated would be adversely affected. Evaluations should consider the context, intensity, and duration of modifications to resource conditions that contribute to the ACEC values.
3. If an ACEC value will be adversely affected by a proposed but not prohibited use, seek modifications that will mitigate the adverse effects.

Objective SMA – 1a: Continue designation of the core Badlands area as an ACEC to provide for continued protection if the WSA designation is dropped by Congress.

Rationale:
The continuing designation of the Badlands as a WSA is not within the authority of the BLM. Congress can designate this area as a wilderness or release this area for other uses. If the WSA designation is dropped by Congress, the BLM will continue to apply ACEC designation to provide protection for old growth juniper, geologic formations, pictographs, and primitive recreation opportunities.

Allocations/Allowable Uses:

1. **ACEC Area:** 16,684 acres are designated as an ACEC.
2. **General:** See Badlands WSA. If the Badlands WSA designation is discontinued, the allocations/allowable uses and guidelines for the Badlands WSA will continue to apply to the Badlands ACEC, except a) those specific to the interim policy (USDI-BLM, 1995) for lands under wilderness review would not continue, and b) the closure to mineral leasing would change to a closure to surface occupancy within the ACEC. ACEC protection for old growth juniper, geologic formations, pictographs, and primitive recreation opportunities would continue. The ACEC designation will be removed if the Badlands is designated as a wilderness area.

Objective SMA – 1b: Manage land uses and other activities so as to not impair Peck's milkvetch (*Astragalus peckii*) populations or its habitat.

Rationale:
The ACEC encompasses the central known habitat for Peck's milkvetch (*Astragalus peckii*), a Federal candidate plant. The high levels of public use of the area pose potential threats to this species.

Allocations/Allowable Uses:

1. **ACEC Area:** 14,075 acres are designated as an ACEC.
2. **Fire Management:** Unless life or property is threatened, off-road use of fire suppression vehicles will not be allowed and fire lines will be limited to hand lines only. Prescribed burning will be allowed.
3. **Vegetative Treatments:** Treatments designed to maintain or enhance Peck's milkvetch populations or its habitat will be allowed.
4. **Forest and Range Products:** Generally, harvesting of wood products will not be allowed except in conjunction with restoration treatments or if it does not impair the values of this ACEC.
5. **Minerals:** Rockhounding and the collection of decorative stone will not be allowed. Mineral material mining, development of mining claims, and geophysical exploration will be restricted as necessary based on site-specific analysis to protect the special values of this ACEC. Approved plans of operation will have stipulations to protect special values. Surface occupancy for fluid mineral leasing will not be allowed.
6. **Livestock Grazing:** Livestock grazing will continue to be allowed under a deferred rotation system, but deferment will be until Peck's milkvetch dormancy (usually mid-August) at least every other year.
7. **Recreation:** See Recreation sections for additional area guidance.
8. **Firearm Discharge:** No allocations/allowable uses specific to this ACEC. See Public Health and Safety sections for area guidance.
9. **Rights-of-Way**:
   a. New rights-of-ways (ROWs) will be granted only if no other reasonable route is available. Where new ROW cannot be reasonably accommodated outside of ACECs, consider first along existing utility corridors, county roads, or BLM system roads.
   b. A vacated ROW will be considered for conversion to compatible trails prior to obliteration.

10. **Land Ownership:** Recreation and Public Purposes Act (R&PP) leases will not be issued for lands within the ACEC unless such leases are non-patent leases that will not impair the values of the ACEC.

Objective SMA – 1c: Protect and maintain the integrity of the identified relic, historical Tumalo Canal segment and associated features, and provide for their use as an interpretive resource. Manage land uses, recreation, and other activities to maintain or enhance the archaeological and interpretive values of the Tumalo Canals.

Rationale:
The relic canal system was developed during the first decade of the twentieth century and represents an excellent example of efforts to provide irrigation water to the high desert during the early settlement period of central Oregon. Integrity and significance of the identified canal segment has been assessed by a BLM archaeologist and is considered eligible to the National Register of Historic Places by the State Historic Preservation Office.

Allocations/Allowable Uses:
1. **ACEC Area:** 1,055 acres are designated as an ACEC, containing a portion of the historic Tumalo irrigation canals. The ACEC is managed with an emphasis on interpretation of the historic values.
2. **Fire Management:** Fire lines will not be constructed on or adjacent to the canal features and surface disturbance will be kept to the minimum amount necessary.
3. **Vegetative Treatments:** Treatments that will not impair historical and interpretive values will be allowed.
4. **Forest and Range Products:** Generally, harvesting of wood products and special forest and range products will not be allowed except in conjunction with restoration treatments or if the values of the ACEC will not be impaired.
5. **Minerals:**
    a. Mineral material mining will not be allowed in the south ½ sections 29 and 30 and the north ½ of sections 31 and 32 of T15S, R12E to protect the canal features and interpretive values. Surface occupancy for fluid mineral leasing will not be allowed within the ACEC boundary.
    b. Plans of operation will be required prior to any development of mining claims. Approved plans of operation will have stipulations to protect the interpretive and historical values of this ACEC.
    c. Rockhounding and the collection of decorative stone will not be allowed in the ACEC.
6. **Livestock Grazing:** Not allowed within the core area around the canal features.
7. **Recreation:**
    a. Overnight use, campfires, geocaching and use of paintball guns will not be allowed within the core area around the canal features. The core area will be designated during plan implementation.
    b. Motorized, mechanized, and equestrian uses will be restricted to designated trail systems throughout the ACEC.
8. **Firearm Discharge:** The entire ACEC will be closed to all firearm discharge.
9. **Rights-of-Way:**
    a. New rights-of-ways (ROWs) will be granted only if no other reasonable route is available. Where new ROW cannot be reasonably accommodated outside of the ACEC, consider first along existing utility corridors, county roads, or BLM system roads.
    b. A vacated ROW will be considered for conversion to compatible trails prior to obliteration.
10. **Land Ownership:** Recreation and Public Purposes Act (R&PP) leases will not be issued for lands within the ACEC unless such leases are non-patent leases that will not impair the values of this ACEC.

Guidelines:

1. Pursue opportunities to form partnerships between the BLM and interested parties to develop a pedestrian interpretive trail in the approximately 433-acre area of the ACEC that comprises the relic canal system.
2. Consider fencing and/or signing the area that includes the relic canal system following site-specific analysis.
3. Consider designation of equestrian and mountain bike trails at the minimum density necessary to provide trail links between BLM lands on eastern slope of Cline Buttes and east of Cline Falls Highway with BLM lands west of Barr Road.
4. Emphasize restoration/enhancement projects to improve native plant communities, old-growth juniper woodlands, and habitat for raptors, neo-tropical birds and threatened, endangered or other special status plants and animals. Long-term vegetation maintenance will be designed to emulate natural processes.

Objective SMA – 1d: Protect and maintain the segments of the historic Horner, Huntington and Bend-Prineville roads designated as an ACEC. Manage land uses, recreation, and other activities to maintain or enhance the archaeological and interpretive values of these roads.

Rationale:

The ACEC contains one of the few known, relatively intact segments of Huntington Road; a mid 19th century military route between The Dalles and Fort Klamath (Klamath Falls), Oregon. The BLM and Deschutes County Historical Society entered into a partnership and interpreted the road and its historical features for the benefit of the public in 1993.

The ACEC also contains relatively intact segments of historic Bend-Prineville Road and Horner Road, and various historic features associated with these two roads and with the Huntington Road segment. The roads were developed between the 1860s and 1908 and represent excellent examples of transportation systems during the pioneer and early settlement periods of central Oregon. The road segments in this ACEC are considered eligible for inclusion to the National Register of Historic Places, based on assessments by archaeologists employed by the BLM and in the private sector.

The high levels of public use in the area pose potential threats to the integrity of this feature; therefore the ACEC designation has been determined relevant.

Allocations/Allowable Uses

1. **ACEC Area:** The Wagon Roads ACEC contains approximately six miles of the Historic Horner Road and approximately five miles of the historic Bend -Prineville Road, including a 300 ft. distance on each side of these road segments (see RMP Map 1). The ACEC totals about 982 acres.
2. **Fire Management:** Wildland fire will be fought aggressively if within, or threatening the ACEC. Fire lines will not be constructed within the ACEC and surface disturbance will be kept to the minimum amount necessary. Prescribed fire will not be allowed.
3. **Vegetative Treatments:** Vegetative treatments designed to maintain or enhance the values of this ACEC will be allowed.
4. **Forest and Range Products:** Generally, harvesting of wood products and special forest and range products will not be allowed except in conjunction with restoration treatments or if it is consistent with the values of the ACEC. Firewood cutting will not be allowed.
5. **Livestock Grazing:** Livestock grazing and associated developments will be allowed provided that livestock are not allowed to concentrate in the ACEC and developments do not impair ACEC values.
6. **Military Use:** Tracked military vehicles will not be allowed on the protected road segments. Locations where tracked vehicles may cross the historic roads have

been, or will be in the future, determined in consultation with the Oregon Military Department.

7. **Minerals:**
   a. An area one-half mile on each side of the historic roads will be closed to mineral material mining and surface occupancy for fluid mineral leasing.
   b. Geophysical exploration will be allowed if the values of this ACEC will not be impaired.
   c. Plans of operation will be required prior to development of mining claims. Approved plans of operation will have stipulations to protect the interpretive and archeological values of this ACEC.
   d. Rockhounding and the collection of decorative stone will not be allowed.
8. **Recreation:**
   a. The ACEC will be closed to overnight use, campfires, use of paintball guns, and geocaching.
   b. OHV use will be allowed on designated trails within the 300 foot area on each side of each road (except the southernmost segment which is designated closed, see RMP Maps 1 and 12) to the extent necessary to create safe and maintainable trail crossings. OHV trails that parallel the historic roads will be located beyond 300 feet from each side of the road to the maximum extent feasible. Guidelines for the issuance of Special Recreation Permits (SRPs) are in the Recreation section.
9. **Firearm Discharge:** Will not be allowed within the fence enclosure that surrounds the segment of Huntington Road in Section 1.
10. **Rights-of-Way:**
    a. New rights-of-ways (ROWs) will be granted only if no other reasonable route is available. Where new ROW cannot be reasonably accommodated outside of the ACEC, consider first along existing utility corridors, county roads, or BLM system roads.
    b. A vacated ROW will be considered for conversion to compatible trails prior to obliteration.
11. **Land Ownership:** Recreation and Public Purposes Act (R&PP) leases will not be issued for lands within the ACEC unless such leases are non-patent leases that will not impair the values of this ACEC.

Guidelines

1. Protect and preserve the integrity of identified segments of historic Huntington, Horner, and Bend-Prineville roads, its associated rock features, and blazed trees from BLM authorizations and actions.
2. Revise boundaries to reflect modifications to the ACEC.
3. Emphasize partnerships for interpretive development and educational products for the ACEC.
4. As funding permits, pursue opportunities to form partnerships between the BLM and interested parties to develop an interpretive pedestrian trail system along segments of the historic roads.
5. Complete a cultural resource survey and documentation of the historic road segments and their associated features.
6. Continue a site stewardship program with the Archaeological Society of Central Oregon (ASCO) to monitor the condition of the ACEC.
7. Continue the partnership with Deschutes County Historical Society for interpretive development and educational products for the ACEC.
8. Periodically assess the condition of the ACEC.
9. Periodically examine the fence that surrounds Section 1 in which the ACEC is located. Coordinate with grazing permittee to mend segments of the fence as necessary.

Objective SMA – 2: Provide public information concerning ACECs (boundaries, management guidelines, reasons for designation, etc.) to increase public awareness of the location and importance of specific ACEC values.

Guidelines:

1. Identify perimeter and locations of ACECs
2. Improve public understanding of ACEC values through methods including but not limited to websites, maps and brochures, signing, field tours, and news releases.
3. Develop programs to increase adoption and other volunteer stewardship activities

Research Natural Areas (RNA)

Objective SMA – 3: Provide components of the national system of RNAs. The Natural Heritage Act calls for the establishment of a "discrete and limited system" of natural heritage conservation areas, which have "substantially retained their natural character" and which "represent the full range of Oregon's natural heritage resources."

Rationale:

The Horse Ridge RNA provides representation of the western juniper/big sagebrush/ threadleaf sedge community, filling the cell need for this community as identified in the Oregon Natural Heritage Plan (Oregon Department of State Lands, 2003).

The Powell Buttes RNA provides representation of the western juniper/big sagebrush/ bluebunch wheatgrass and juniper/bunchgrass communities, primarily on a south slope, filling the cell needs for these communities as identified in the Oregon Natural Heritage Plan.

Allocations/Allowable Uses:

1. **RNA Areas:** Continue designation of the 609-acre Horse Ridge RNA/Instant Study Area (ISA) and 510-acre Powell Buttes RNA.
2. **Vegetative Treatments:** Vegetative treatments other than restoring or maintaining characteristic disturbances to meet the purposes of the RNA will not generally be allowed. RNA management strategies or site specific projects may determine whether activities are suitable to further the purpose of the RNA. See the Horse Ridge ACEC/RNA Natural Area Management Plan (USDI-BLM, 1996) for management direction for introduced plant species.
3. **Fire Management:** Consistent with the District's Fire Management Plan, prescribed fire will be allowed as well as suppression activities, provided restrictions or stipulations are designed to maintain or enhance natural vegetation communities. Fire management direction provided in the Horse Ridge ACEC/RNA Natural Area Management Plan (USDI-BLM, 1996) will continue to apply.
4. **Special Forest and Range Products**: Generally, harvesting of wood products and special forest and range products will not be allowed. See the Horse Ridge ACEC/RNA Natural Area Management Plan (USDI-BLM, 1996) for additional management direction.
5. **Minerals:**
    a. Plans of operation must be submitted and approved prior to any development of mining claims in the Powell Butte RNA. Approved plans of operation will have stipulations to protect the values of this RNA.
    b. The Horse Ridge RNA area is withdrawn from locatable mineral entry under the 1872 mining laws.
    c. Surface occupancy for fluid mineral leasing will not be allowed. Geophysical exploration will be restricted to protect the natural values for which the RNA was designated.
    d. Rockhounding and the collection of decorative stone will not be allowed.
6. **Livestock Grazing:** Will not be allowed.

7. **Recreation:** Both RNAs will be closed to overnight use, OHV use, mechanized travel, campfires, geocaching and the use of paintball guns.
8. **Firearm Discharge:** Both RNAs will be closed to firearm discharge unless legally hunting.
9. **Rights-of-way:** New rights of way will not be allowed.
10. **Land Ownership:** Recreation and Public Purposes Act (R&PP) leases will not be issued for lands within either RNA unless such leases are non-patent leases that will not impair the condition of natural plant communities.

Guidelines:

1. The Horse Ridge RNA is also an Instant Study Area (ISA) and will be managed in accordance with the "Interim Management Policy for Lands under Wilderness Review" (USDI-BLM, 1995).

Wilderness Study Areas

Objective SMA - 4: Manage Wilderness Study Areas to maintain wilderness suitability consistent with the "Interim Management Policy for Lands under Wilderness Review" (USDI BLM, 1995).

Rationale:

Steelhead Falls and Badlands WSAs are existing WSAs located in the planning area. The BLM is required to maintain the suitability of these WSAs for possible future wilderness designation by Congress (H-8550-1). General management policy for these areas is set forth in the Interim Management Policy for Lands under Wilderness Review (1995). Like most of the BLM administered land in the planning area, these two areas are receiving increasing visitation and use by the public. Both local and out of area visitation is increasing, resulting in user conflicts, safety issues, visitor dissatisfaction, and resource impacts. There are ongoing occurrences of vandalism to cultural resources, and theft of firewood, furniture wood and decorative stone in the Badlands WSA.

Allocations/Allowable Uses:

1. **WSA Area:** Badlands WSA, 29,545 acres[6]; Steelhead Falls WSA, 3,071 acres.
2. **Fire Management:** Prescribed fire and suppression activities will be allowed consistent with the District's Fire Management Plan and with the non-impairment standard of the "Interim Management Policy for Lands under Wilderness Review" ("IMP", USDI BLM, 1995).
3. **Vegetative treatments:** Treatments will be allowed that meet the non-impairment standard of the IMP.
4. **Forest/range products:** Generally, harvesting of wood products and special forest and range products will not be allowed except in conjunction with restoration treatments.
5. **Minerals:**
    a. Mining for mineral materials will not be allowed.
    b. Development of mining claims and geophysical exploration may be allowed with restrictions designed to prevent impairment of wilderness suitability. Approved plans of operation must meet the non-impairment standard of the IMP.
    c. The Badlands WSA designation closes the area to mineral leasing. If the WSA designation is dropped, mineral leasing will be allowed in the Badlands ACEC but the area will be closed to surface occupancy.
    d. Decorative stone collection will not be allowed.
    e. Rockhounding will not be allowed.

[6]The 29,545 acres published here is less than the 32,221 published in the past. There have been no changes in the WSA boundary or reduction in the area within the boundary. The change is the result of utilizing new techniques for determining the acreage within the boundary.

6. **Livestock Grazing:** Livestock grazing will be managed according to the non-impairment standards of the IMP.
7. **Recreation:** Motorized vehicle use will not be allowed. The use of paintball guns is not allowed (also see Recreation section).
8. **Firearm Discharge:** Firearm discharge will not be allowed unless legally hunting. Within ¼ mile of Badlands Rock, there is a seasonal closure to all firearm discharge.
9. **Rights-of-Way:**
    a. New rights-of-ways (ROWs) will be granted only if no other reasonable route is available. Where new ROW cannot be reasonably accommodated outside of the WSA, consider first along existing utility corridors, county roads, or BLM system roads.
    b. Vacated ROWs will be considered for conversion to compatible trails prior to obliteration.
10. **Land Ownership:** Recreation and Public Purposes Act (R&PP) leases will not be issued for lands within the WSA unless such leases are non-patent leases that will not impair the values of this WSA.
11. All Wilderness Study Areas recommended to Congress maintain that designation unless Congress decides otherwise.
12. Additional management direction for the Steelhead Falls WSA is provided in the Middle Deschutes/Lower Crooked River Management Plan (USDI-BLM and USDA-FS, 1992).

Guidelines:

1. Survey and locate boundaries of each WSA on the ground.
2. Use signs, fences and other appropriate techniques to define and mark the boundaries of each WSA.
3. Vegetation management efforts will be designed to mimic natural processes and avoid impairment of the area's suitability for wilderness designation.
4. Geocaching will be managed in the Badlands and Steelhead Falls WSAs so as to not impair each area's suitability for wilderness designation by Congress. Within these WSAs, geocaches will not be allowed in areas that are closed year-round or seasonally for wildlife management reasons.
    a. The BLM may request removal of geocaches located in sensitive locations or impairing wilderness characteristics. The BLM may remove caches as needed to maintain wilderness suitability or protect resources. These may include locations within or adjacent to sensitive wildlife habitat, wildlife water guzzlers, sensitive or special status plant communities, or archeological sites.
    b. Caches in locations where the use creates obvious surface disturbance of the soil or vegetation, including vegetative trampling, that will necessitate reclamation will be relocated or removed. Geocaches must be concealed in a way that does not disturb an area, and will not require damage to vegetation to reveal the cache. Concealment of geocaches by burial in the ground is prohibited.
    c. To prevent degradation to wilderness characteristics, the total number of caches allowed at any one time in the WSAs will be limited to no more than the number known to exist on the date that this provision was crafted (i.e., 17 in the Badlands WSA and 3 in the Steelhead Falls WSA). Given the larger area and more dispersed, open setting, the threshold of geocache sites in the Badlands is greater than the much smaller river canyon setting of Steelhead Falls WSA.
    d. A record of repeated violations of the above provisions, of instances where BLM must relocate or remove caches, or of increasing disturbance to wilderness characteristics and other special wilderness features from geocaching activities will result in either closure of the entire WSA to physical geocaching or in development of an alternative restriction on geocaching activities designed to remedy the problem, and to be determined by the authorized officer.
    e. If either WSA becomes designated as Wilderness, the geocaching provisions described above will be reviewed during the development of the required

Wilderness Management Plan. The geocaching provisions described above for the WSA could be revised, if necessary, at that time.

Caves

The guidance provided under Objective SMA - 5 applies to all nominated/significant caves. Objectives SMA – 5a and SMA – 5b apply only to the caves specified.

Objective SMA - 5: Manage caves nominated for significance or determined significant with an emphasis on education, research, and protection of cave resources while providing for public use opportunities.

Rationale:
A number of caves within the planning area have been nominated as "significant" under the Federal Cave Resources Protection Act of 1988 (FCRPA, 1988). The act directs the agency to a) Secure, protect, and preserve significant caves on Federal lands for the perpetual use, enjoyment, and benefit of all people; and b) foster increased cooperation and exchange of information between governmental authorities and those who use caves located on Federal lands for scientific, education, or recreational purposes. BLM Washington/Oregon Policy directs the BLM to manage significant caves or nominated caves in accordance with the provisions of the FCRPA and interim Cave Management Policy. The following caves within the planning area have been determined "significant" under FCRPA, (year of determination in parentheses):

- Horse Butte Indian Cave (1995)
- Pictograph (Stout) Cave (1995)
- Redmond Cave (1995)

Allocations/Allowable Uses:

1. Recreational or other human activities are allowed in caves consistent with protecting other cave resource values.
2. Where known or potential adverse impacts from human use to threatened, endangered, and/or sensitive plants or animals, cultural resources, biological deposits (i.e., middens, skeletal remains, etc.), or geologic/paleontologic/mineral features are present, then the responsible authorized officer will act to protect these resources.
3. On public lands administered by the BLM, no new surface disturbing activities will be authorized within a 350 foot radius of a cave opening or any known cave passages which may adversely impact any significant or potentially significant cave resource value.
4. Acts that are not allowed in significant/nominated caves:
    a. Willfully defacing, removing, or destroying plants or their parts, soils, rocks, minerals, or other cave resources.
    b. Smoking.
    c. Possessing, discharging, or using any kind of fireworks or other pyrotechnic devices.
    d. Possessing a domestic animal.
    e. Depositing or disposing of human waste.
    f. Digging, excavation, or displacement of natural and/or cultural features.
    g. Entering without written authorization, if required.
5. **Vegetative Treatments:**
    a. Trees will not be harvested in a 150-200 ft radius around cave entrances and feeder drainages with slopes greater than 30 degrees.
    b. Clearing of vegetation, except for noxious weeds, will not be allowed within 250 feet of the entrance to caves with significant populations of bats.
    c. Similar buffers will be maintained around direct drainages into caves, including sinkholes, cave collapse areas known to open into a cave's drainage system, and perennial, intermittent, or ephemeral streams flowing into caves.

6. **Forest and Range Products**: Follow Allocations/Allowable Uses listed above for Vegetative Treatments.
7. **Minerals:** An area ½ mile from the entrance and ½ mile on each side of the centerline along the length of any significant/nominated cave will be closed to mining for mineral materials and surface occupancy for fluid mineral leasing.
8. **Livestock Grazing:** Not applicable.
9. **Recreation:**
    a. Access to all Significant/nominated Caves will be restricted to foot access only.
    b. Group and commercial use:
        i. Group and commercial use of caves will be allowed only under Special Recreation Permit authorizations, and must comply with seasonal restrictions and provisions of the FCRPA.
        ii. In Pictograph Cave, limit group size to no less than six and no more than eight people at one time (group leader(s) included), and no more than one tour per cave per day (group and commercial use combined).
    c. The following acts are not allowed in nominated/significant caves:
        i. Building, maintaining, attending, or using any fire, campfire, or stove.
        ii. Camping or overnight use.
        iii. Mountain bike, horse, or motor vehicle use.
        iv. Use and possession of chalk or hand drying agents for climbing which are not natural appearing.
        v. Geocaching.
        vi. Possession and use of paintball guns.
        vii. Possession and use of alcoholic beverages as defined by state law.
        viii. Use of glass containers.
10. **Firearm Discharge:** Discharging a firearm, air rifle, or gas gun will not be allowed.
11. **Rights-of-way:** New rights-of-way will not be granted within ½ mile of entrance(s) to any significant/nominated cave unless no reasonable alternative routes are available. Where new ROW cannot be reasonably accommodated outside of the ½-mile buffer, consider first along existing utility corridors, county roads, or BLM system roads.

Guidelines:

1. Determine significance for nominated caves according to the following FCRPA criteria (43 CFR Part 37.11(c)):
    a. Biota: The cave provides seasonal or yearlong habitat for organisms or animals or contains species or subspecies of flora or fauna native to caves, or are sensitive to disruption, or are found on State or Federal sensitive, threatened, or endangered species lists.
    b. Cultural: The cave contains historic properties or archeological resources or other features that are included in or eligible for inclusion in the National Register of Historic Places because of its research importance for history or prehistory, its historical associations, or other historical or traditional significance.
    c. Geologic/Mineralogic/Paleontologic: The cave possesses one or more of the following features: (1) Geologic or mineral features that are fragile, or that exhibit interesting formation processes, or that are otherwise useful for study; (2) Deposits of sediments or features useful for evaluating past events; (3) Paleontological resources with potential to contribute useful educational and scientific information.
    d. Hydrologic: The cave is part of a hydrologic system or contains water that is important to humans, biota, or development of cave resources.
    e. Recreational: The cave provides or could provide recreational opportunities or scenic values.
    f. Educational or Scientific: The cave offers opportunities for educational or scientific use; or, the cave is virtually in a pristine state, lacking evidence or

contemporary human disturbance or impact; or, the length, volume, total depth, pit depth, height, or similar measurements are notable.

2. Survey nominated and potentially significant caves under BLM jurisdiction to determine significance. Periodically update list of significant caves based on results.
3. As funding permits, develop a management plan for each significant cave, including an inventory and mapping of cave resources, research and monitoring programs, and if necessary, a clean-up or rehabilitation program.
4. For caves with designated parking areas, consider providing a visitor register to collect information on the visitors name, purpose, number in party, comments and use patterns. Caves with high resource concerns and those with active volunteer/ stewardship programs will be considered as priorities for visitor registers.
5. For caves with designated parking areas, provide signs with cave information, cave etiquette and leave no trace information.
6. Where appropriate, locate sign to minimize advertisement of the cave location, and to provide information to those who already know the cave's location.
7. Maintain current native plant populations or rehabilitate denuded areas at cave entrances by encouraging foot traffic in designated areas only (mark entry trails).
8. Provide multi-agency consistency with seasonal closure periods. Hibernacula closure dates will be approximately October 15 to May 1, and maternity closure dates will be April 15 to September 30.

Objective SMA – 5a: Manage the Redmond Caves parcel to protect and maintain the resources found there, including biologic, cultural, and geologic features. Provide for recreational use that is consistent with management of these cave resources.

Allocations/Allowable Uses:

1. **Vegetative Treatments:** Emphasize restoration/enhancement projects to improve native plant and animal communities. Where feasible, vegetation maintenance will be designed to emulate natural processes.
2. **Recreation:** The following activities that are not allowed within significant/ nominated caves will also not be allowed in all of the 40-acre Redmond Caves Parcel:
   a. Motorized and mechanized vehicles.
   b. Campfires.
   c. Overnight use, except under permit.
   d. Geocaching.
   e. Paintball use.
   f. All firearm discharge.
3. **Minerals:** Rockhounding and the collection of decorative stone will not be allowed within the 40-acre Redmond Caves Parcel.

Guidelines:

1. In partnership with the City of Redmond, continue to pursue the development of the 40 acre parcel into a "natural" community park.
2. Fence the area and designate a parking area.
3. Provide for marked and signed foot trails.
4. Work with the City of Redmond, local Tribes, and interested parties to develop the interpretive component of the future community park.
5. If portions of the Redmond Caves lava tube system are found to be suitable habitat for Townsend's big-eared bat, consider excluding human uses from some portion of caves.

Objective SMA – 5b: Manage Pictograph (Stout) Cave to protect scientific values and cave resources (including habitat for bats), and to meet the requirements of the FCRPA. Recreation management will be oriented toward interpretive and educational opportunities.

Allocations/Allowable Uses:

1. Recreation:
   a. Bolted climbing routes will not be allowed.
   b. Pictograph Cave will be closed seasonally (October 15 – May 1) for bat hibernacula.

Guidelines:

1. Manage cave access for hike-in visitation only. No developed or designated roads or trails will be built to provide access to the cave site. No designated parking area will be provided.
2. Place signs at the cave informing visitors of cave management policy.
3. Remove all existing bolts and climbing hardware and manage the cave under Leave No Trace principles.

Land Uses

Livestock Grazing

Objective LG - 1: Promote healthy sustainable rangelands, provide for continued livestock grazing, and limit conflicts between livestock grazing and other uses and values of public land and adjacent private land.

Rationale:

BLM planning manuals direct BLM to reduce threats to public health, safety, and property as well as provide guidance for grazing management.

FLPMA, Public Rangeland Improvement Act (PRIA), Taylor Grazing Act, and other acts, direct the management of public land for multiple use and sustained yield; and, among other things, to provide for improved forage conditions to benefit wildlife, watershed protection and livestock production. Desired outcomes may take social and economic values into consideration (p. III-5, BLM H-1601-1 Land Use Planning Handbook). FLPMA directs the BLM to improve forage conditions, with resulting benefits to wildlife, watershed protection, and livestock production.

Prineville District BLM policy, based on the Emergency Fire Rehabilitation Handbook (BLM Manual Handbook H-1742-1), typically calls for exclusion of livestock grazing through the second full growing season after fire.

In 1997 the Oregon/Washington BLM adopted The Standards for Rangeland Health and Guidelines for Grazing Management ("The Standards", USDI 1997), and incorporated the Standards into existing land use plans. The Standards meet the intent of 43 CFR 4180 (the rangeland health regulations). The Standards direct the BLM to modify livestock grazing prior to the start of the next grazing year if livestock are found to be a significant contributing factor to failure to attain a Standard. The Standards address watershed function (upland and riparian), ecological processes, water quality, and habitat for native, T&E and locally important species.

During the planning process, public comments urged the BLM to modify or discontinue grazing in sensitive areas, critical plant/animal habitats, and areas not grazed in many years. Livestock grazing permittees who rely on public lands also expressed continued concerns about the difficulty of managing allotments in areas adjacent to resorts and residential areas, and in areas of high recreation uses. BLM management direction is to reduce threats to public health, safety, and property as well as to provide guidance for grazing management.